

2016 Updates: MSSP Savings Estimates

Program Financial Performance 2013-2016

Submitted to:

National Association of ACOs

Submitted by:

Dobson | DaVanzo

Allen Dobson, Ph.D.

Sarmistha Pal, Ph.D.

Alex Hartzman, M.P.A., M.P.H.

Luis Arzaluz, M.S.

Kimberly Rhodes, M.A.

Joan E. DaVanzo, Ph.D., M.S.W.

December 7, 2018

PY2016 MSSP ACO Savings Update

Dobson | DaVanzo

Results

This memo presents Medicare Shared Savings Program (MSSP) Performance Year 2016 Accountable Care Organization (ACO) savings estimates as an update to *Estimates of Savings by Medicare Shared Savings Program Accountable Care Organizations: Program Financial Performance 2013-2015*, released September 2018.

Building upon reported PY2013-2015 savings estimates, we utilized 2016 data on ACO beneficiary assignment, provider participation, and expenditures for assigned and unassigned beneficiaries to estimate program savings from PY2013 to PY2016 (CMS Data Use Agreement number 28643). No substantial model or design changes were made from the prior analyses, except for the incorporation of 2016 data which affects PY2013-2015 savings estimates by adding another post treatment comparison year, as well as extending the control variables Hospital Referral Region (HRR) interacted with time to 2016.

Exhibit 1: Difference-in-Differences Regression Estimation of PMPY Spending Reduction (Savings) From ACOs vs. Comparison Group¹

Performance Year	DID PMPY Estimate (\$)	95% Confidence Interval (\$)	P-Value
2013	-113.37	(-127.09, -99.66)	< 0.0001
2014	-123.25	(-136.25, -110.25)	< 0.0001
2015	-111.49	(-123.41, 99.56)	< 0.0001
2016	-111.98	(-124.46, -99.50)	< 0.0001

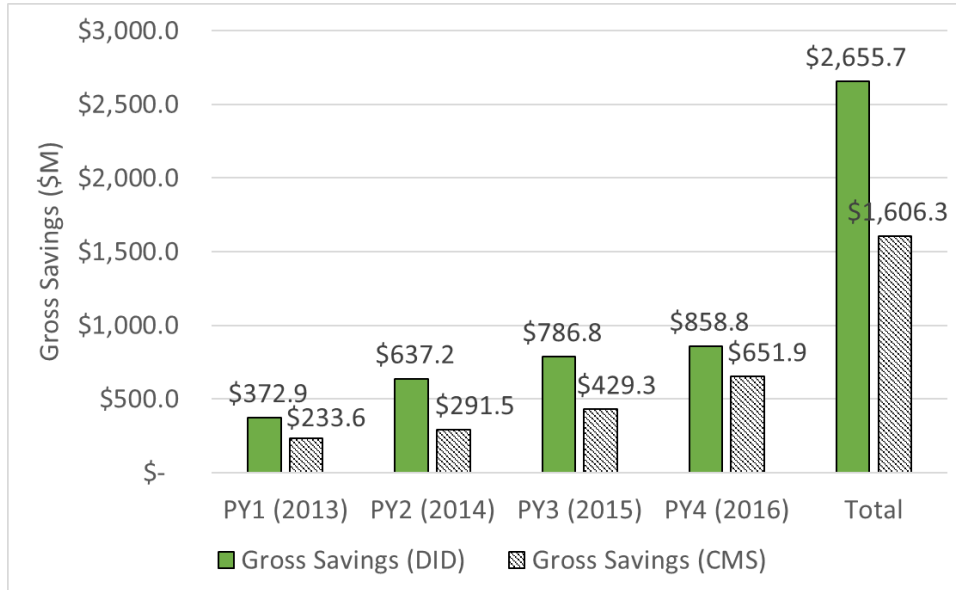
Source: Dobson | DaVanzo analysis of ACO RIF Data, CMS DUA 28643

With the addition of 2016 data, we estimate MSSP ACOs saved CMS \$2.66B from 2013 to 2016 with net savings of \$665.8M after accounting for incentive payments made by and to the program. Once again, these findings stand in contrast to the CMS savings calculation based on programmatic benchmarks, demonstrated in Exhibits 2 and 3.

¹ Updated estimates for PY2013-2014 vary slightly from the previous report. These estimates have changed due to the addition of the 2016 post year treatment and comparison groups. PY2013 has slightly a slightly higher PMPY savings estimate, whereas PY2014 and PY2015 have slightly lower PMPY savings estimates.

PY2016 MSSP ACO Savings Update

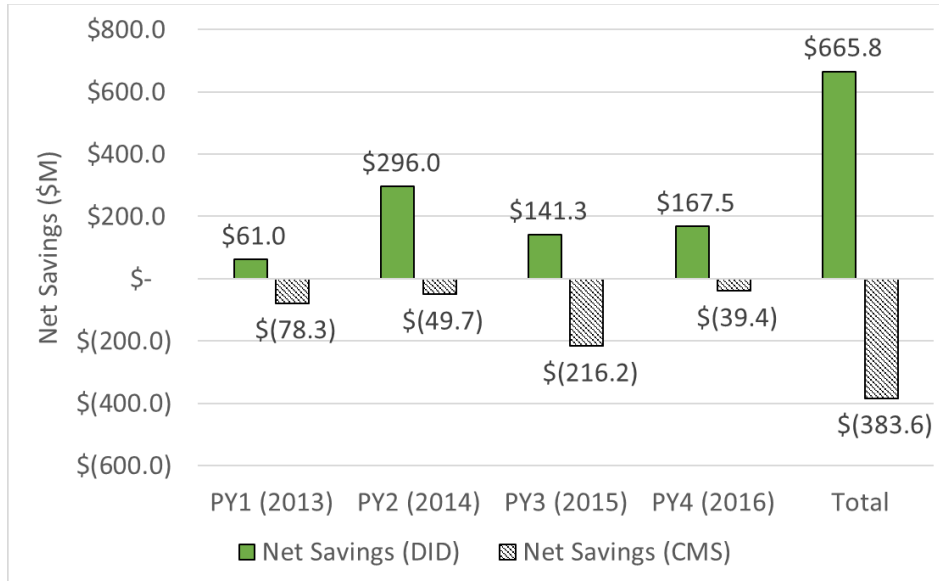
**Exhibit 2: Gross Federal Savings in the Medicare Shared Savings Program for 2013-2016:
Dobson | DaVanzo Analysis compared to CMS Benchmark Approach**



Source: Dobson | DaVanzo analysis of ACO RIF Data, CMS DUA 28643 and CMS MSSP Public Use Files, 2013-2016

**Exhibit 3: Net Federal Savings in the Medicare Shared Savings Program for 2013-2016:
Dobson | DaVanzo Analysis compared to CMS Benchmark Approach**

PY2016 MSSP ACO Savings Update



Source: Dobson | DaVanzo analysis of ACO RIF Data, CMS DUA 28643 and CMS MSSP Public Use Files, 2013-2016

Conclusion

This analysis extends our prior work on MSSP ACO cost savings from 2012 to 2015. Consistent with that work, we find the savings trend for MSSP continues into 2016. Using an as-treated difference-in-difference design, we estimate \$2.66 billion savings since the program started.

Difference-in-Differences Regression Estimation Methodology

The Difference-in-Differences (DID) estimator is defined as the difference in average outcome in the treatment group before and after program intervention *minus* the difference in average outcome in the comparison group before and after program intervention. This approach yields the per member per year (PMPY) spending reduction of the treatment group compared to the comparison group (or savings estimates) due to the ACO program intervention. To calculate the total savings estimates, we multiplied these difference-in-differences coefficients with the number of ACO assigned beneficiaries (adjusted person years) in each respective performance year. More detailed information on our updated regression specification is included in the Appendix.

We have used robust variance estimators to account for the data's clustered nature. Exhibits 4 and 5 compare the results of DID OLS estimation versus robust estimation.

Exhibit 4: Differential change of PMPY Spending for ACOs vs Control Group

$$Y_{it} = \beta_0 + \beta_1 * Treat_{it} + \beta_2 * After_t + \beta_3 * After_t * Treat_{it} + \beta_4 * X_{it} + \beta_5 * HRR * Year_t + \varepsilon_{it}$$

PY2016 MSSP ACO Savings Update

Dobson | DaVanzo

Performance Years	DID Estimates(\$)	Standard Errors(\$)	p-values	95% Confidence Intervals (\$)
PY-2013	-113.37	6.999	<0.0001	(-127.09,-99.66)
PY-2014	-123.25	6.633	<0.0001	(-136.25,-110.25)
PY-2015	-111.49	6.085	<0.0001	(-123.41,-99.56)
PY-2016	-111.98	6.368	<0.0001	(-124.46,-99.50)

Source: Dobson | DaVanzo analysis of ACO RIF Data, CMS DUA 28643

Exhibit 5: Robust Estimation of Difference-in-Differences Regression Model

Performance Years	DID Estimates(\$)	Standard Errors(\$)	p-values	95% Confidence Intervals (\$)
PY-2013	-113.37	7.569	<0.0001	(-128.21,-98.54)
PY-2014	-123.25	7.023	<0.0001	(-137.02,-109.49)
PY-2015	-111.49	7.012	<0.0001	(-125.23,-97.75)
PY-2016	-111.98	7.372	<0.0001	(-126.43,-97.53)

Source: Dobson | DaVanzo analysis of ACO RIF Data, CMS DUA 28643

Total estimated savings over the four performance years is close to \$2.66 billion.

Sensitivity Analysis

As a sensitivity analysis, we also estimated the following Difference-in-Differences regression model, in which we did not break up the main coefficient of interest into four performance years. Instead, we estimated PMPY savings on average over the four performance years as a single consolidated post-period. We applied this simpler model as an alternative to see whether results were consistent with primary findings in terms of direction and magnitude.

Here, the main coefficient of interest is β_3 , derived from the interaction between the dummy variables “Treat” (i.e. ACO assigned beneficiaries) and “After” (post contract period). As aforementioned, β_3 measures the changes in PMPY spending among the treatment group beneficiaries (relative to the control group) due to ACO intervention. Specifically, in the above model used for sensitivity analysis, coefficient β_3 is the average PMPY savings throughout the period from performance year one to performance year four, 2013-2016.

To get the total savings, we have multiplied this coefficient with the number of ACO assigned beneficiaries adjusted person years over the four performance years.

PY2016 MSSP ACO Savings Update

Dobson|DaVanzo

In this sensitivity analysis specification, we find that overall total savings is close to \$2.4 billion, which is consistent with primary findings in terms of direction and magnitude. With corresponding PMPY savings estimates of \$101.51 (Confidence Interval ranges between -110.889 and -92.125). This result is also statistically significant at 1% (p-value < 0.0001).

Appendix: Regression Model Specification and File Construction

The regression model is estimated using ordinary least squares (OLS) regression and takes the following basic specification:

$$Y_{itc} = \beta_0 + \beta_1 * Treat_{it} + \beta_2 * After_t + \beta_3 * After_t * Treat_{it} + \beta_4 * X_{itc} + \beta_5 * HRR * Year_t + \varepsilon_{it}$$

Here, Y_{itc} is per member per year total Parts A and B expenditures for beneficiary “i” in year “t” and residing in county “c”.

$Treat_{it}$ indicates whether individual “i” is assigned to an ACO in time period “t” or not; and $After_t$ is a dummy variable indicating the post contract period of the ACO. This ‘post contract’ period depends on when beneficiaries were assigned to that ACO.

- Specifically, the $After_t$ variables indicate the following: $After_{2013}$ is a dummy variable and equals 1 if performance year is 2013 (zero otherwise), i.e. the ACO must have started in 2013 or in prior years, hence we are able to measure spending effects in PY2013.
- Similarly, $After_{2014}$ is a dummy variable and equals 1 if performance year is 2014 (zero otherwise), $After_{2015}$ is a dummy variable and equals 1 if performance year is 2015 (zero otherwise), and $After_{2016}$ is a dummy variable and equals 1 if performance year is 2016 (zero otherwise).

The main coefficient of interest in the model is parameter estimate, β_3 , corresponding to the interaction of the ACO treatment dummy and the post-intervention (post contract period) dummy variable. To get the PMPY savings estimate for each of the performance years (PY) separately, we have included four such dummy variable interaction terms in the model. More specifically, the model includes $Treat_{it} * After_{2013}$, $Treat_{it} * After_{2014}$, $Treat_{it} * After_{2015}$, and $Treat_{it} * After_{2016}$ to obtain the PMPY savings estimates for each of the four performance years (2013, 2014, 2015 and 2016) separately. Here, each of the $Treat$ dummy variables correspond to the four performance years and include exactly the same number of ACO assigned beneficiaries participating in the program in each of the performance years, that is, the total number of ACO beneficiary years we calculated closely matches the ACO public use file. ACO assigned beneficiaries included in the ACO beneficiary file, but whose information is not included in the Master Beneficiary Summary File and/or the claims files are not used in our analysis. Overall, nearly 0.01% (PY4), 0.005% (PY3) and 0.006% (PY1 and PY2) of ACO assigned beneficiaries are not used in our regression analysis.

PY2016 MSSP ACO Savings Update

Dobson | DaVanzo

If the MSSP program generates any savings, we would expect a negative sign corresponding to the DID main coefficients of interest, denoted by β_3 , (i.e., the interaction between the “*Treat*” dummy and “*After*” dummy variables).

Finally, the vector X_{itc} includes all beneficiary level demographic information (age, gender, race, and Medicare dual eligibility), health status or severity of individuals (HCC scores), as well as the original reason for beneficiary Medicare eligibility, i.e. End Stage Renal Disease (ESRD), disability. The coefficients corresponding to each hospital referral region (HRR) with year interaction determine the difference in average PMPY spending for an HRR from the omitted HRR. This entails fixed effects for each HRR in each year to compare each beneficiary attributed to an ACO with beneficiaries in the control group (not assigned) living in the same area (HRR). This effectively adjusts for HRR and time-specific changes in healthcare spending or quality between treatment and comparison groups.

Data and File Construction

The data for this analysis was derived from the National Association of ACOs data warehouse, a comprehensive repository of all MSSP ACO claims and a larger sample of those eligible for MSSP assignment, but not assigned. Specific data sets include the following:

- Master Beneficiary File
- ACO Beneficiary level Research Identifiable File
- ACO Provider Research Identifiable File
- Outpatient
- Inpatient
- Carrier (Physician/Supplier Part B)
- Skilled Nursing Facility (SNF)
- Home Health Agency (HHA)
- Durable Medical Equipment (DME)
- Hospice

Data Sources [For geographic location indicator Hospital Referral Region (HRR)]:

- The Dartmouth Atlas of Healthcare website

Years used in the research: 2011, 2012, 2013, 2014, 2015, 2016

DATABASE CONSTRUCTION:

Sample: The unit of observation of the database is the patient. The database includes information on both ACO assigned beneficiaries and unattributed, assignable beneficiaries.

PY2016 MSSP ACO Savings Update

For this analysis, individuals were included if they were enrolled in Medicare Parts A and B and not Part C during the study period and either assigned to an ACO, or eligible to be assigned to an ACO and residing in an ACO service area (defined by county of ACO assigned beneficiary residence).

Cost: For the analysis, we calculated per member per year (PMPY) expenditures defined as total Part A and Part B allowed amounts. As a quality check, we compared ACO level PMPY expenditures from the RIF with ACO level PMPY expenditures from the Public Use Files (PUFs).

Covariates: The models also included patient level demographic information (age, gender, and race, Medicare dual eligibility) and health status or severity of beneficiaries (HCC scores), as well as whether the beneficiary has ESRD and whether disability is the original reason for Medicare eligibility. We have also HRRs corresponding to each beneficiary to control for market effects. We have also compared ACO level demographic information with ACO level PUF files for a quality check. The following table (Exhibit 6) shows the comparison of PMPY spending between ACO PUF and RIF calculations:

Exhibit 6: Benchmarking PMPY spending Between RIF and ACO Public Use File

	PY-2013	PY-2014	PY-2015	PY-2016
ACO-PUF	\$9,991	\$10,173	\$10,326	\$10,525
RIF	\$9,977	\$10,167	\$10,318	\$10,521

Source: Dobson | DaVanzo analysis of ACO RIF Data, CMS DUA 28643 and CMS MSSP Public Use Files, 2013-2016

Detailed description of demographic variables construction is given in Section A. Using version 22 CMS-HCC Risk adjustment model, we have calculated HCC scores at the patient level for each year. We have used CMS's 2014 model software to calculate HCC scores for each year (except the year 2016, where we used CMS's 2016 model to calculate HCC scores). Finally, using the Dartmouth Atlas of Healthcare Website, we have used the zip code and HRR cross walk information in each year and incorporated it in our database. We have created HRR dummy variables in our database. We have also constructed year dummy variables and the interaction between year and HRR dummy variables.

Time: To design the pre- and post- period database for our regression analysis we have pulled data from 2011 to 2016. The post-contract period depends on when beneficiaries were assigned to that ACO. For example, for an individual who is assigned to an ACO in 2013, the post periods are 2013-2016 for all years the beneficiary is assigned to an ACO. Similarly, for a new individual who is assigned to an ACO in 2015, the post periods are

PY2016 MSSP ACO Savings Update

2015 and 2016. Another example for treat group is the following: for an individual in 2012, who is assigned to an ACO in 2012, the post periods are 2013, 2014, 2015, and 2016 (2012 is not included in post years as it is not a full performance year for MSSP ACOs). Since beneficiaries may join or exit the program in different time periods, we have restricted our comparison group to only those beneficiaries who had never been finally assigned to an ACO in any particular time period

We have constructed dummy variables called, “*After*” to indicate the pre- and post-period for a beneficiary. Since the ACOs start in two different periods in 2012 (April 1st and July 1st), we have considered 2012 as a neutral period for those beneficiaries who joined the ACOs in 2012. We have also constructed a dummy variable called “*treat*” to indicate treatment versus comparison group beneficiaries. Treatment group includes all the finally assigned ACO beneficiaries and the comparison group includes the ACO assignable beneficiaries from the counties from where the ACO assigned beneficiaries come from. We excluded treatment and control group beneficiaries from counties that had 5 or fewer ACO assigned beneficiaries. We have also constructed dummy variables like “*After13*”, “*After14*”, “*After15*” and “*After16*” to indicate the ACO assigned beneficiaries versus comparison group for each performance year.

The following sections describe the specification for demography and expenditure variables construction.

DEMOGRAPHIC VARIABLES

1. **ACO Assigned Beneficiary Identification:** Using ACO Beneficiary level RIF File, identify the beneficiaries who are assigned to an ACO using “FINAL_ASSIGN” variable. This variable is an indicator variable and its value is “1” if a beneficiary is assigned in the final reconciliation period. Use this variable to identify ACO assigned beneficiaries in 2013, 2014, 2015, and 2016. For 2012, assigned beneficiaries the ACO assigned criteria will be different since there is no 2012 ACO beneficiary level RIF file (rather the combined 2012-2013 performance year assignment is included in the 2013 ACO beneficiary RIF). Use the following proxy methods to identify 2012 ACO assigned beneficiaries.
 - (i) Use the variable “Final_ASSIGN” from ACO beneficiary level RIF file and ACO start date information in 2013 to identify 2012 ACO starter beneficiaries for sensitivity analysis.
- Number of assigned beneficiaries in performance year is identified from this step and the variable “N_AB” (as appeared in ACO PUF file) is constructed from this step.

PY2016 MSSP ACO Savings Update

- Identify Month of Eligibility:** We need to identify month of eligibility for annualizing PMPY expenditures. Compute the fraction of months each beneficiary is enrolled in Medicare Parts A and B using the variable “FINAL_AB_ELIG_MONTHS” from ACO beneficiary level RIF file for ACO assigned beneficiaries. This variable represents the number of months of Parts A and B eligibility for the 12 month period used for the final reconciliation period. Generate a variable called “adjmo”.

adjmo= FINAL_AB_ELIG_MONTHS/12

- Number of assigned beneficiaries in performance year adjusted downwards for beneficiaries less than a full 12 month of eligibility (the number of person months divided by 12) is identified from this step. Using second step of the methodology we can calculate the variable “N_AB_YEAR_PY” as appeared in ACO PUF.
- For unattributed beneficiaries starting from 2011 to 2016, construct the fraction of month of eligibility variable from their respective Master Beneficiary Files.

Generate a variable called, “adjmo” to define the fraction of month of eligibility for a beneficiary then use the following logic to construct adjmo:

If BENE_SMI_CVRAGE_TOT_MONS > BENE_HI_CVRAGE_TOT_MONS then
adjmo=BENE_SMI_CVRAGE_TOT_MONS

If BENE_SMI_CVRAGE_TOT_MONS < BENE_HI_CVRAGE_TOT_MONS then
adjmo=BENE_HI_CVRAGE_TOT_MONS

If BENE_SMI_CVRAGE_TOT_MONS = BENE_HI_CVRAGE_TOT_MONS then
adjmo=BENE_HI_CVRAGE_TOT_MONS

- Construct Age Categories:** Calculate age of each ACO assigned beneficiary using the date of birth variable called, “BIRTH_DT” from ACO beneficiary level research identifiable files. (For example, Age is calculated as of January 1, 2014 for each beneficiary for 2014 data file). For unattributed beneficiaries use the variable “BENE_BIRTH_DT” from Master beneficiary files (e.g., MBSF_AB_11_R5668 file in 2011) to construct age variable.

PY2016 MSSP ACO Savings Update

Dobson|DaVanzo

- Construct four age dummy variables after constructing “AGE” variable.
AGE_GR1=1 if $0 < \text{AGE} \leq 64$
=0 otherwise
AGE_GR2=1 if $64 < \text{AGE} \leq 74$
=0 otherwise
AGE_GR3=1 if $74 < \text{AGE} \leq 84$
=0 otherwise
AGE_GR4=1 if $\text{AGE} > 84$
=0 otherwise

4. **Construct Gender Dummy Variable:** Use “GNDR_CD” variable from ACO beneficiary level RIF dataset to construct gender dummy variable for ACO assigned beneficiaries. [Note: GNDR_CD=1 for male, GNDR_CD=2 for female and GNDR_CD=0 for unknown]

Use “BENE_SEX_IDENT_CD” variable master beneficiary file (e.g., MBSF_AB_11_R5668 file in 2011) to construct gender dummy variable for unattributed beneficiaries.

- SEX=1 if male
=0 otherwise

5. **Construct Race Dummy Variable :** Use “RACE_CD” variable from ACO beneficiary level RIF file to construct race dummy variables for ACO assigned beneficiaries.

Use “BENE_RACE_CD” variable from Master beneficiary files (e.g., MBSF_AB_11_R5668 file in 2011) to construct race dummy variable.

- WHITE=1 if Race variable =1
=0 otherwise
- BLACK=1 if Race variable =2
=0 otherwise
- ASIAN=1 if Race variable =3
=0 otherwise
- HISPAN=1 if Race variable =4
=0 otherwise
- NATIVE=1 if Race variable =6
=0 otherwise
- OTHERS=1 [For all other cases than above]

PY2016 MSSP ACO Savings Update

=0 otherwise

6. **Construction of Beneficiaries categories:** Use Master beneficiary files (e.g., MBSF_AB_11_R5668 file in 2011) to construct dummy variables for the following beneficiary categories:
- **Identify ESRD Beneficiaries:** ESRD beneficiaries are identified from the Master beneficiary File using the variable "BENE_MDCR_STATUS_CD". ESRD individuals are identified if the beneficiary Medicare status code variable is 11 (Aged with ESRD) or 21 (Disabled with ESRD) or 31 (ESRD only).
 - **Identify DISABLED Beneficiaries:** DISABLED beneficiaries are identified from the Master beneficiary File using the variable "BENE_MDCR_STATUS_CD". DISABLED individuals are identified if the beneficiary Medicare status code variable is 20 (Disabled without ESRD).
 - **Identify DUAL Beneficiaries:** Individual with DUAL status is identified from "FINAL_DUAL_ELIG_MONTHS" variable from SSP ACO beneficiary RIF file for ACO assigned beneficiaries. For unattributed beneficiaries use the variable called "DUAL_ELGBL_MOS_NUM" to define dual status of a beneficiary from master beneficiary file (e.g., MBSF_D11_R5668 file in 2011). CMS generally considers beneficiaries to be full duals if they have values of 02, 04, or 08, and to be partial duals if they have values of 01, 03, 05, or 06. Generate dual indicator variable and its value 1 if a beneficiary is either partially or fully dually eligible

Note: For 2012 database use the master beneficiary file "MBSF_D12_R5668" to construct dual eligibility status for unattributed beneficiaries. For ACO assigned beneficiaries use the following method:

- o From 2013 ACO beneficiary level RIF file identify those beneficiaries corresponding to whom the variable Q1_DUAL_ELIG_MONTHS \neq 0 Q2_DUAL_ELIG_MONTHS \neq 0 or Q3_DUAL_ELIG_MONTHS \neq 0.

Construct dummy variable for each of these categories (ESRD, Disabled and Dual).

7. Use HCC calculation from each year and assign it to the database corresponding to each beneficiary.
8. Include patient level locations [e.g., State ID, County ID, Zipcode] in the database

PY2016 MSSP ACO Savings Update

9. Include HRR and Zipcode crosswalk from Dartmouth Atlas website and assign HRR information corresponding to each beneficiary in each year
10. Include ACO ID and ACO start date in the database
11. Create year dummy variables
12. Create HRR dummy variables
13. Create HRR and Year dummy interaction variables
14. Create all the treatment dummy and post dummy variables

PER MEMBER PER YEAR (PMPY) EXPENDITURE CALCULATION:

- For each beneficiary calculate total Medicare Parts A and B FFS expenditures (payments) from the Inpatient, SNF, Outpatient, Carrier (Physician/Supplier Part B), DME, HHA, and Hospice claims.
- Exclude denied payments and line items from the calculation following table-1.
- Remove capital and operating IME and DSH amounts from inpatient expenditures. We do not apply this exclusion criterion on Maryland because Maryland is outside the inpatient prospective payment system.
- Split the inpatient expenditures into five parts STAC (Short Term Acute Care), LTCH (Long Term Acute Care), IRF (Inpatient Rehab Facilities), IP-Psychiatric and other inpatients.
- Calculate total inpatient expenditures using MSSP methodology as described in Table-1:
- Expenditures at each care setting are annualized and truncated.

Annualization: After summing a beneficiary's expenditures for all care settings (Physicians, SNF, Inpatient, Outpatient, HHA, DME and Hospice), we annualize the expenditures by dividing them (claim payment amounts) by the fraction of months in the year each beneficiary was enrolled in each Medicare enrollment type. In other words, to annualize a beneficiary's expenditures, we divide the total expenditures in the applicable months by the fraction of the year the beneficiary is enrolled ("adjmo" variable).

Truncation: In order to prevent a small number of extremely costly beneficiaries from significantly affecting the ACO's per capita expenditures we have truncated the annualized expenditures at the beneficiary level for each care-setting. We have truncated the expenditures at 99th percentiles after annualization. We have done it at both ends (upper bound and lower bound).

PY2016 MSSP ACO Savings Update

Dobson | DaVanzo

Use Exhibit 7 for exclusion and inclusion criterion following MSSP methodology².

Exhibit 7: Variables used in total beneficiary expenditure calculation

Expenditure Component	Payment is equal to	Claim denied if left justified value is	Line Item denied if	Through Date
SNF (Claim type=20, 30)	Claim payment amount	Any non-blank value for 'Claim Medicare Non-Payment reason code'	Not applicable	Claim through date
Inpatient (Claim type = 60)	Claim payment amount (excluding capital and operating IME and DSH amounts)	Any non-blank value for 'Claim Medicare Non-Payment reason code'	Not applicable	Claim through date
Outpatient (Claim type = 40)	Claim payment amount	Any non-blank value for 'Claim Medicare Non-Payment reason code' Claim Billing Facility Type Code in (4,5)	Not applicable	Claim through date
Home Health (Claim type = 10)	Claim payment amount	Any non-blank value for 'Claim Medicare Non-Payment reason code' Claim Billing Facility Type Code in (4,5)	Not applicable	Claim through date
Carrier (physician/supplier Part B) (Claim type=71, 72)	Line NCH payment amount	'Carrier Claim Payment Denial Code' = '0' or 'D' through 'Y'	Line processing indicator code ≠ A,R, or S	Line latest expense date
DME (Claim type = 81, 82)	Line NCH payment amount	Claim payment Denial Code = '0' or 'D' through 'Y'	Line processing indicator code ≠ A, R, or S	Line latest expense date
Hospice (Claim type=50)	Claim payment amount	Any non-blank value for 'Claim Medicare Non-Payment reason Code'	Not Applicable	Claim through date

Note: Since from our RIF dataset, we do not have month of eligibility information by four types of beneficiary categories (Aged-dual, Aged-non-dual, disabled and ESRD), we do not calculate the PMPY spending for these four categories and adjust the PMPY spending calculation by the weights of these beneficiaries. We have used all the above care setting files to calculate PMPY spending (after annualization and truncation).

² <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharesavingsprogram/Downloads/Shared-Savings-Losses-Assignment-Spec-v2.pdf>