

Data Byte

Health Care Utilization and Cost: Comparing Practices Participating in CPC Classic and CPC+ with Non-Participating Practices

Oregon, 2017

Supplemental Information and Complete Results

Background

Comprehensive Primary Care Plus (CPC+) is a federal initiative that seeks to strengthen primary care through care delivery transformation and multi-payer payment reform¹. Oregon was one of 18 regions selected by the Centers for Medicare & Medicaid Services (CMS) to join the program, which began in 2017. CPC+ builds upon the Comprehensive Primary Care Initiative (CPCi, or CPC Classic), in which Oregon participated². CPC+ is consistent with many of Oregon's initiatives, which include delivery system transformation, investment in primary care, and an emphasis on providing value-based care and shifting participating practices to value-based payment models. In Oregon, the 14 participating health plans have come together as the Oregon CPC+ Payer Group to explore areas of alignment within the CPC+ program as well as other value-based payment programs.

To demonstrate success, the CPC+ program must show, among other improvements, increased quality and reduced costs, or at least one of these improved with the other held constant. CMS has completed a full evaluation of the CPC Classic program and an analysis of the first year of CPC+ and found little evidence among the Medicare FFS population to support significantly improved quality³, a finding which is not unexpected in an evaluation of the first year of a five-year program. The CMS evaluations did not examine other lines of business in their evaluation, therefore we chose to conduct an analysis across all lines of business.

Comagine Health holds two contracts in support of the CPC+ program:

1. Comagine Health is one of the conveners of the Oregon CPC+ Payer Group, a multi-payer collaborative supporting the CPC+ program in Oregon.

¹ <https://innovation.cms.gov/initiatives/comprehensive-primary-care-plus/>

² <https://innovation.cms.gov/initiatives/comprehensive-primary-care-initiative/>

³ <https://www.mathematica-mpr.com/news/first-annual-report-from-the-comprehensive-primary-care-plus-evaluation-points-to-early-progress>

- Comagine Health is the data aggregator for CPC+ in Oregon, providing data intake, aggregation and reporting services.

The two contracts are fulfilled by different staff and are managed separately.

CPC+ Payer Group members were interested in examining the impact of participation in CPC Classic and CPC+ on adult health care utilization and costs across lines of business. The analysis was funded by the Payer Group and was conducted by Comagine Health’s data aggregation and analytics staff.

Methodology

Comagine Health examined the 61 Oregon primary care practices that participated in CPC Classic and continued on with the CPC+ program in 2017. Comagine Health compared these with Oregon primary care practices that did not participate in both programs (*i.e.*, either participated in only one of the programs, or did not participate in either). Utilization measures include commercial, Medicaid, Medicare Advantage and Medicare fee-for-service data; cost measures include commercial data only. Medicare fee-for-service data is available through Comagine Health’s participation in the Medicare Qualified Entity program.

All data are from calendar year 2017. For each measure, we took the average of all practices in each group where the practice had at least 30 attributed primary care patients in the measure denominator.

Utilization measures

All utilization measures are limited to patients age 18 and over.

Measure	Measure Steward	Specification Year	Notes
Outpatient visits	HEDIS	2016	<ul style="list-style-type: none"> Includes provider office visits and facility clinic visits Includes professional visit charges using CPT codes that indicate Evaluation & Management visit services (not office procedures). Multiple visits with same practitioner on same date of service are counted as a single visit. Visits with different practitioners on the same day are counted separately. Services are counted based on billing codes without regard to practitioner type, training or licensing. Excludes mental health and chemical dependency services.

Measure	Measure Steward	Specification Year	Notes
Emergency department visits	HEDIS	2016	<ul style="list-style-type: none"> Counts each visit to an ED that does not result in an inpatient encounter Multiple ED charges on the same date of service count as one visit. Excludes ED visits billed on the same day as an inpatient admission. Excludes mental health and chemical dependency services.
Avoidable emergency department visits	OHA	2018	<ul style="list-style-type: none"> Avoidable emergency department visits are ED visits with a primary diagnosis code that appears on Medi-Cal's list of potentially avoidable ED visits. ED visits are identified as in the measure above. Avoidable visits are those with a primary diagnosis that matches a list of ICD-9 (mapped to ICD-10) diagnosis codes defined by the California Department of Health Services for Medi-Cal.

Note that mental health and chemical dependency services are excluded from utilization measures, including (HEDIS 2016 specifications):

- Any encounter with principal diagnosis of mental health or chemical dependency
- Psychiatry
- Electroconvulsive therapy
- Alcohol or drug rehabilitation or detoxification

Cost measures

The Total Cost of Care (TCOC) measures used were developed by HealthPartners®, a large nonprofit integrated health care organization based in Minnesota and have been in use for over ten years.

The reported cost measures include:

- The risk-adjusted per member per month allowed amount, which consists of payments from the health plan and the member combined.
- Claims-based costs only. Alternative payment methodologies are not reflected due to lack of a validated process to measure them.
- Facility costs only. Related professional charges are not included.

- Commercial payer types only; our Total Cost of Care methodology is not validated for Medicaid or Medicare Advantage and we are not permitted to report Medicare fee-for-service costs publicly.
- Commercial members aged 18-64
- Members with nine or more months of eligibility in the measurement year.
- Individual member costs were truncated at \$125,000

The services included in the cost reporting are:

- Inpatient services include facility cost claims from hospitals and other facilities (*e.g.*, skilled nursing facilities)
- Outpatient services include facility cost (all non-inpatient) claims from hospitals and other facilities
- Emergency services include all facility costs on outpatient claims that included an ED charge

Cost results are risk adjusted using the [Johns Hopkins ACG risk adjuster](#). The ACG System is a morbidity adjuster that enables analysis across “normalized” populations. Specifically, “the ACG System explains and predicts how health care resources are delivered and consumed. It identifies persons who are likely to become high-resource users or to become hospitalized, provides important clinical context to aid in managing patient care, and makes available customized models unique to each organization.”⁴ The ACG System calculates a population’s average risk score based on disease patterns, age and gender using diagnoses found in claims data.

Statistical analysis

We used Generalized Linear Model regression to compare utilization rate scores and the cost rates per member per month scores by CPC program participation status (participating vs. comparison) for the selected measures. Statistical significance was set at $P < 0.05$. Mean values were generated by measure for each CPC status. All analyses were conducted using SAS Software 4.0 (SAS Institute Inc., Cary, NC, USA).

Additional resources regarding CPC+:

<https://innovation.cms.gov/Files/reports/CPC+2017-Summary.pdf>

<https://innovation.cms.gov/Files/x/cpcplus-practiceslidepres.pdf>

Click [here](#) for more information about Comagine Health and [here](#) for more information about Comagine Health’s data aggregation program, the Oregon Data Collaborative. Click [here](#) to learn more about the Oregon CPC+ Payer Group.

⁴ <https://www.healthy.works/acg-system/>

Complete Results: Utilization Measures

Payers	Measure	CPC Participation	Number of Practices	Mean	Unit	Standard Deviation	P-Value
All	Ambulatory Care - Avoidable ED Visits	None	516	41.14	Rate per 1000 member-years	27.10	0.0023
All	Ambulatory Care - Avoidable ED Visits	Plus+Classic	61	30.27	Rate per 1000 member-years	16.47	0.0023
All	Ambulatory Care - Emergency Department Visits	None	516	410.38	Rate per 1000 member-years	215.63	0.0129
All	Ambulatory Care - Emergency Department Visits	Plus+Classic	61	340.09	Rate per 1000 member-years	125.71	0.0129
All	Ambulatory Care - Outpatient Visits	None	516	5037.76	Rate per 1000 member-years	1751.19	0.0001
All	Ambulatory Care - Outpatient Visits	Plus+Classic	61	6135.80	Rate per 1000 member-years	1344.18	0.0001
All	Prevention Quality Acute Composite	None	516	378.99	Rate per 100,000 member-years	523.28	0.3167
All	Prevention Quality Acute Composite	Plus+Classic	61	447.89	Rate per 100,000 member-years	347.63	0.3167
All	Prevention Quality Chronic Composite	None	516	809.68	Rate per 100,000 member-years	872.27	0.3348
All	Prevention Quality Chronic Composite	Plus+Classic	61	920.16	Rate per 100,000 member-years	564.11	0.3348
All	Prevention Quality Overall Composite	None	516	1188.67	Rate per 100,000 member-years	1218.32	0.2641
All	Prevention Quality Overall Composite	Plus+Classic	61	1368.06	Rate per 100,000 member-years	850.88	0.2641
Commercial	Ambulatory Care - Avoidable ED Visits	None	455	18.04	Rate per 1000 member-years	18.06	0.0766
Commercial	Ambulatory Care - Avoidable ED Visits	Plus+Classic	61	13.83	Rate per 1000 member-years	11.60	0.0766
Commercial	Ambulatory Care - Emergency Department Visits	None	455	182.44	Rate per 1000 member-years	83.17	0.0199
Commercial	Ambulatory Care - Emergency Department Visits	Plus+Classic	61	156.93	Rate per 1000 member-years	51.54	0.0199
Commercial	Ambulatory Care - Outpatient Visits	None	455	3851.27	Rate per 1000 member-years	1016.36	0.0251
Commercial	Ambulatory Care - Outpatient Visits	Plus+Classic	61	4149.82	Rate per 1000 member-years	568.91	0.0251
Commercial	Prevention Quality Acute Composite	None	455	37.61	Rate per 100,000 member-years	135.00	0.3832
Commercial	Prevention Quality Acute Composite	Plus+Classic	61	53.10	Rate per 100,000 member-years	84.97	0.3832
Commercial	Prevention Quality Chronic Composite	None	455	100.02	Rate per 100,000 member-years	295.29	0.2689
Commercial	Prevention Quality Chronic Composite	Plus+Classic	61	143.28	Rate per 100,000 member-years	210.32	0.2689
Commercial	Prevention Quality Overall Composite	None	455	137.63	Rate per 100,000 member-years	323.80	0.1709
Commercial	Prevention Quality Overall Composite	Plus+Classic	61	196.38	Rate per 100,000 member-years	229.03	0.1709
Medicaid	Ambulatory Care - Avoidable ED Visits	None	431	69.60	Rate per 1000 member-years	36.60	0.1489
Medicaid	Ambulatory Care - Avoidable ED Visits	Plus+Classic	57	62.29	Rate per 1000 member-years	29.72	0.1489
Medicaid	Ambulatory Care - Emergency Department Visits	None	431	652.06	Rate per 1000 member-years	257.76	0.5321
Medicaid	Ambulatory Care - Emergency Department Visits	Plus+Classic	57	630.01	Rate per 1000 member-years	182.41	0.5321
Medicaid	Ambulatory Care - Outpatient Visits	None	431	4283.44	Rate per 1000 member-years	1331.06	0.0001
Medicaid	Ambulatory Care - Outpatient Visits	Plus+Classic	57	5099.91	Rate per 1000 member-years	1273.50	0.0001

Medicaid	Prevention Quality Acute Composite	None	431	159.18	Rate per 100,000 member-years	319.66	0.3043
Medicaid	Prevention Quality Acute Composite	Plus+Classic	57	204.87	Rate per 100,000 member-years	278.70	0.3043
Medicaid	Prevention Quality Chronic Composite	None	431	611.95	Rate per 100,000 member-years	1239.34	0.3076
Medicaid	Prevention Quality Chronic Composite	Plus+Classic	57	783.86	Rate per 100,000 member-years	762.86	0.3076
Medicaid	Prevention Quality Overall Composite	None	431	771.13	Rate per 100,000 member-years	1293.14	0.2176
Medicaid	Prevention Quality Overall Composite	Plus+Classic	57	988.73	Rate per 100,000 member-years	857.29	0.2176
Medicare	Ambulatory Care - Avoidable ED Visits	None	420	40.72	Rate per 1000 member-years	27.84	0.0356
Medicare	Ambulatory Care - Avoidable ED Visits	Plus+Classic	61	33.06	Rate per 1000 member-years	14.53	0.0356
Medicare	Ambulatory Care - Emergency Department Visits	None	420	459.25	Rate per 1000 member-years	235.50	0.0465
Medicare	Ambulatory Care - Emergency Department Visits	Plus+Classic	61	398.01	Rate per 1000 member-years	113.31	0.0465
Medicare	Ambulatory Care - Outpatient Visits	None	420	7194.21	Rate per 1000 member-years	1930.19	0.0001
Medicare	Ambulatory Care - Outpatient Visits	Plus+Classic	61	8279.35	Rate per 1000 member-years	2024.70	0.0001
Medicare	Prevention Quality Acute Composite	None	420	834.73	Rate per 100,000 member-years	820.26	0.9409
Medicare	Prevention Quality Acute Composite	Plus+Classic	61	842.75	Rate per 100,000 member-years	526.25	0.9409
Medicare	Prevention Quality Chronic Composite	None	420	1717.74	Rate per 100,000 member-years	1300.01	0.6569
Medicare	Prevention Quality Chronic Composite	Plus+Classic	61	1641.46	Rate per 100,000 member-years	848.57	0.6569
Medicare	Prevention Quality Overall Composite	None	420	2552.47	Rate per 100,000 member-years	1747.65	0.7683
Medicare	Prevention Quality Overall Composite	Plus+Classic	61	2484.21	Rate per 100,000 member-years	1214.75	0.7683

Notes

- Statistically significant results (p<0.05) are shaded in green with green text.

Complete Results: Cost Measures

Payers	Service	Measure	CPC Participation	Number of Practices	Mean	Standard Deviation	P-Value
Commercial	ALL	Adjusted allowed PMPM	None	462	\$502.12	\$121.78	0.2507
Commercial	ALL	Adjusted allowed PMPM	Plus+Classic	61	\$483.85	\$63.59	0.2507
Commercial	ALL	Adjusted TCRRV	None	462	\$403.44	\$98.04	0.9145
Commercial	ALL	Adjusted TCRRV	Plus+Classic	61	\$402.07	\$42.18	0.9145
Commercial	ALL	Raw allowed PMPM	None	462	\$480.42	\$199.79	0.218
Commercial	ALL	Raw allowed PMPM	Plus+Classic	61	\$512.69	\$116.84	0.218
Commercial	ER	Adjusted allowed PMPM	None	462	\$31.79	\$16.44	0.0009
Commercial	ER	Adjusted allowed PMPM	Plus+Classic	61	\$24.65	\$8.82	0.0009
Commercial	ER	Adjusted TCRRV	None	462	\$12.30	\$6.58	0.0272
Commercial	ER	Adjusted TCRRV	Plus+Classic	61	\$10.39	\$3.70	0.0272
Commercial	ER	Raw allowed PMPM	None	462	\$29.32	\$16.00	0.1371
Commercial	ER	Raw allowed PMPM	Plus+Classic	61	\$26.17	\$10.83	0.1371
Commercial	ER	Visits per 1,000 member-years	None	462	155.38	69.68	0.0581
Commercial	ER	Visits per 1,000 member-years	Plus+Classic	61	137.94	46.61	0.0581
Commercial	IP	Adjusted allowed PMPM	None	426	\$79.70	\$45.68	0.0321
Commercial	IP	Adjusted allowed PMPM	Plus+Classic	61	\$66.88	\$23.59	0.0321
Commercial	IP	Adjusted TCRRV	None	426	\$65.96	\$38.75	0.0657
Commercial	IP	Adjusted TCRRV	Plus+Classic	61	\$56.66	\$17.98	0.0657
Commercial	IP	Raw allowed PMPM	None	426	\$78.50	\$54.39	0.3335
Commercial	IP	Raw allowed PMPM	Plus+Classic	61	\$71.58	\$32.40	0.3335
Commercial	IP	Visits per 1,000 member-years	None	426	42.27	33.49	0.2828
Commercial	IP	Visits per 1,000 member-years	Plus+Classic	61	37.59	15.22	0.2828
Commercial	OP	Adjusted allowed PMPM	None	462	\$148.57	\$73.34	0.0331
Commercial	OP	Adjusted allowed PMPM	Plus+Classic	61	\$128.02	\$43.94	0.0331
Commercial	OP	Adjusted TCRRV	None	462	\$72.71	\$42.05	0.3229
Commercial	OP	Adjusted TCRRV	Plus+Classic	61	\$67.28	\$21.89	0.3229
Commercial	OP	Raw allowed PMPM	None	462	\$140.92	\$74.06	0.6004
Commercial	OP	Raw allowed PMPM	Plus+Classic	61	\$135.77	\$55.63	0.6004
Commercial	OP	Visits per 1,000 member-years	None	462	1541.14	821.58	0.0874
Commercial	OP	Visits per 1,000 member-years	Plus+Classic	61	1734.88	896.92	0.0874

Notes

- Statistically significant results ($p < 0.05$) are shaded in green with green text.
- Raw allowed PMPM = Total allowed amount (payments from the health plan and the member combined) paid to the practices in the CPC participation or comparison group for all attributed patients, divided by the number of member months. Annual per member costs are capped at \$125,000.
- Adjusted allowed PMPM = The risk-adjusted PMPM allowed amount, normalized to the Oregon average. Risk adjusted PMPM = Raw PMPM / Risk Score.
- TCRRV = Total Cost Relative Resource Value. Part of HealthPartners' Total Cost of Care measurement method. Used to quantify resource use for all procedures and services in a health care system.