

Quality Measures: Diabetes A1c Testing and Breast Cancer Screening Medicare Fee for Service, Medicaid, Commercial and Medicare Advantage Claims, 2014-2018, Colorado All Payer Claims Database

Using Medicare Fee for Service (FFS), Medicaid, Commercial and Medicare Advantage claims data from the Colorado All Payer Claims Database (CO APCD), the Center for Improving Value in Health Care (CIVHC) produced two quality measures based on nationally endorsed specifications¹ and used by national and state-sponsored programs: One preventive care measure (Breast Cancer Screening), and one measure of appropriate treatment (Diabetes A1c testing).

This report includes summary tables of these two quality measures for the state of Colorado and for Urban and Rural regions.

When viewing this report, keep in mind:

- This information is based on claims data for the vast majority of insured Coloradans, but does not reflect self-pay, the uninsured, some people covered by self-insured employer plans, or those covered under Federal programs like the VA, TRICARE, or Indian Health Services.
- Values in this report reflect services and tests that have been paid for by health insurance payers. These claims-based quality measures may look different from other publicly reported quality measures based on survey results of self-reported information and conducted with population-based samples, regardless of coverage status.

Diabetes A1c Testing Overview and Methods

Managing chronic conditions appropriately is an important part of health care quality because it prevents further complications in populations living with a condition like Diabetes. **Diabetes A1c testing** is calculated as the percentage of patients 18 to 75 years old, with primary Diabetes Types I or II who received the HbA1c test in a clinical encounter during the previous year.

The following tables describe the percentage of population with diabetes (denominator) who received A1c testing at least once during the measurement year (numerator) for the state of Colorado. Higher percentages are better and reflect more people receiving appropriate care. The table also includes 90% lower and upper confidence intervals which indicates that there is a 90% probability that the quality measure for a given year and payer will fall between those lower and upper percentage values. This

¹ The quality measures used in this report are endorsed by the National Quality Forum – NQF (breast cancer screening NQF 2372; Diabetes Hemoglobin A1c screening NQF 0057). The logic used to produce these HEDIS® measure results has not been certified by NCQA. The results can be used for reference only.

measure includes Medicare FFS, Medicaid, Commercial and Medicare Advantage claims and is displayed for All Payers and each payer type separately in the table below.

Diabetes A1c Testing (Statewide)

All Payers	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	94235	74254	78.80%	78.58%	79.02%
2014	112871	87133	77.20%	76.99%	77.40%
2015	132855	103326	77.77%	77.59%	77.96%
2016	139342	110092	79.01%	78.83%	79.19%
2017	145009	121085	83.50%	83.34%	83.66%
2018	144997	123269	85.01%	84.86%	85.17%
Medicare FFS	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	35134	30087	85.63%	85.33%	85.94%
2014	36406	31130	85.51%	85.20%	85.81%
2015	36510	31453	86.15%	85.85%	86.45%
2016	36548	31555	86.34%	86.04%	86.63%
2017	37003	32177	86.96%	86.67%	87.25%
2018	37251	32441	87.09%	86.80%	87.37%
Commercial	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	20293	18085	89.12%	88.76%	89.48%
2014	24006	19728	82.18%	81.77%	82.59%
2015	31339	26492	84.53%	84.20%	84.87%
2016	34475	29549	85.71%	85.40%	86.02%
2017	36112	31403	86.96%	86.67%	87.25%
2018	36528	31894	87.31%	87.03%	87.60%
Medicaid	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	11554	7791	67.43%	66.71%	68.15%
2014	20662	14540	70.37%	69.85%	70.89%
2015	26265	19530	74.36%	73.91%	74.80%
2016	28772	22621	78.62%	78.22%	79.02%
2017	31359	24627	78.53%	78.15%	78.91%
2018	29716	23292	78.38%	77.99%	78.77%
Medicare Advantage	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	23874	15546	65.12%	64.61%	65.62%
2014	26697	17593	65.90%	65.42%	66.38%
2015	30678	20470	66.73%	66.28%	67.17%
2016	31427	19783	62.95%	62.50%	63.40%
2017	33152	26609	80.26%	79.90%	80.62%
2018	34449	29571	85.84%	85.53%	86.15%

Diabetes A1c Testing Urban and Rural Populations

The following tables show the percentage of population with diabetes receiving an A1c test, who resided in urban and rural areas between 2013 and 2018, for all payers and each payer type separately. The rural and urban groupings are based on the U.S. Office of Management and Budget county-level designation. Counties which are part of a Metropolitan Statistical Area are considered “urban”, and all other counties, whether frontier or rural, are considered “rural” in the Summary Tables. To obtain more detail about how population is assigned to rural or urban categories, please review the Methodology document.

This measure includes Medicare FFS, Medicaid, Commercial and Medicare Advantage claims and is displayed for All Payers and each payer type separately.

Diabetes A1c Testing (Urban/Rural)

All Payers					
Urban					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	82230	74254	78.80%	78.58%	79.02%
2014	112871	87133	77.20%	76.99%	77.40%
2015	132855	103326	77.77%	77.59%	77.96%
2016	139342	110092	79.01%	78.83%	79.19%
2017	145009	121085	83.50%	83.34%	83.66%
2018	144997	123269	85.01%	84.86%	85.17%
Rural					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	12005	9631	80.22%	79.63%	80.82%
2014	14606	11494	78.69%	78.14%	79.25%
2015	16561	13197	79.69%	79.17%	80.20%
2016	17588	14019	79.71%	79.21%	80.21%
2017	18194	14610	80.30%	79.82%	80.79%
2018	18254	14788	81.01%	80.53%	81.49%

Medicare FFS					
Urban					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	27848	23978	86.10%	85.76%	86.44%
2014	28851	24756	85.81%	85.47%	86.14%
2015	28872	24998	86.58%	86.25%	86.91%
2016	28843	24974	86.59%	86.26%	86.92%
2017	29254	25504	87.18%	86.86%	87.50%
2018	29376	25672	87.39%	87.07%	87.71%
Rural					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	7286	6109	83.85%	83.14%	84.55%
2014	7555	6374	84.37%	83.68%	85.06%
2015	7638	6455	84.51%	83.83%	85.19%
2016	7705	6581	85.41%	84.75%	86.07%
2017	7749	6673	86.11%	85.47%	86.76%
2018	7875	6769	85.96%	85.31%	86.60%

Commercial					
Urban					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	19009	17055	89.72%	89.36%	90.08%
2014	22007	18455	83.86%	83.45%	84.27%
2015	28632	24479	85.50%	85.15%	85.84%
2016	30839	26789	86.87%	86.55%	87.18%
2017	32323	28500	88.17%	87.88%	88.47%
2018	32664	28808	88.19%	87.90%	88.49%
Rural					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	1284	1030	80.22%	78.39%	82.05%
2014	1999	1273	63.68%	61.91%	65.45%
2015	2707	2013	74.36%	72.98%	75.74%
2016	3636	2760	75.91%	74.74%	77.07%
2017	3789	2903	76.62%	75.49%	77.75%
2018	3864	3086	79.87%	78.80%	80.93%

Medicaid					
Urban					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	9965	6545	65.68%	64.90%	66.46%
2014	17871	12260	68.60%	68.03%	69.17%
2015	22535	16605	73.69%	73.20%	74.17%
2016	24826	19594	78.93%	78.50%	79.35%
2017	27205	21443	78.82%	78.41%	79.23%
2018	25737	20318	78.94%	78.53%	79.36%
Rural					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	1589	1246	78.41%	76.72%	80.11%
2014	2791	2280	81.69%	80.49%	82.90%
2015	3730	2925	78.42%	77.31%	79.53%
2016	3946	3027	76.71%	75.60%	77.82%
2017	4154	3184	76.65%	75.57%	77.73%
2018	3979	2974	74.74%	73.61%	75.88%

Medicare Advantage					
Urban					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	22339	14545	65.11%	64.59%	65.63%
2014	24949	16417	65.80%	65.31%	66.30%
2015	28842	19190	66.53%	66.08%	66.99%
2016	29836	18721	62.75%	62.29%	63.21%
2017	31463	25409	80.76%	80.39%	81.12%
2018	32712	28259	86.39%	86.08%	86.70%
Rural					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	1535	1001	65.21%	63.21%	67.21%
2014	1748	1176	67.28%	65.43%	69.12%
2015	1836	1280	69.72%	67.95%	71.48%
2016	1591	1062	66.75%	64.81%	68.69%
2017	1689	1200	71.05%	69.23%	72.86%
2018	1737	1312	75.53%	73.84%	77.23%

Breast Cancer Screening Overview and Methods

Preventive care is an important part of health care quality that helps populations remain healthy. This report includes **Breast Cancer screening**, calculated as the percentage of women 50 to 74 years old who had a mammogram to screen for breast cancer during the previous two years.

The following tables describe the percentage of women 50 to 74 years old (denominator), who received a mammogram in the last 24 months during the measurement year (numerator) in the state of Colorado, between 2014 and 2018. Higher percentages are better and reflect more women receiving timely screenings. The tables also include 90% lower and upper confidence intervals which indicates that there is a 90% probability that the quality measure for a given year and payer type will fall between those lower and upper percentage values. This measure includes Medicare FFS, Medicaid, Commercial and Medicare Advantage claims and is displayed for All Payers and each payer type separately.

Breast Cancer Screening (Statewide)

All Payers	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2014	244260	147371	60.33%	60.17%	60.50%
2015	265938	167813	63.10%	62.95%	63.26%
2016	319938	203185	63.51%	63.37%	63.65%
2017	334049	215202	64.42%	64.29%	64.56%
2018	349669	229297	65.58%	65.44%	65.71%
Medicare FFS	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2014	73696	43165	58.57%	58.27%	58.87%
2015	76474	46118	60.31%	60.01%	60.60%
2016	78621	48691	61.93%	61.65%	62.22%
2017	80333	50527	62.90%	62.62%	63.18%
2018	82964	52784	63.62%	63.35%	63.90%
Commercial	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2014	76294	55428	72.65%	72.39%	72.92%
2015	83362	59362	71.21%	70.95%	71.47%
2016	104581	72697	69.51%	69.28%	69.75%
2017	108823	76109	69.94%	69.71%	70.17%
2018	118117	82551	69.89%	69.67%	70.11%
Medicaid	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2014	10368	4856	46.84%	46.03%	47.64%
2015	12476	5741	46.02%	45.28%	46.75%
2016	31339	14496	46.26%	45.79%	46.72%
2017	35250	15900	45.11%	44.67%	45.54%
2018	34996	15511	44.32%	43.89%	44.76%

Medicare Advantage	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2014	55036	26554	48.25%	47.90%	48.60%
2015	60671	35746	58.92%	58.59%	59.25%
2016	62656	40390	64.46%	64.15%	64.78%
2017	65262	44421	68.07%	67.77%	68.37%
2018	66849	48216	72.13%	71.84%	72.41%

Breast Cancer Screening Urban and Rural Populations

The following tables show the percentage of women receiving a mammogram as indicated, who reside in urban and rural areas between 2013 and 2017, for all payer and each payer type separately. The rural and urban groupings are originally based on the U.S. Office of Management and Budget county-level designation: counties which are part of a Metropolitan Statistical Area are considered “urban”, all other counties, whether frontier or rural, are considered “rural” in the Summary Tables. To obtain more detail about how population is assigned to rural or urban categories, please review the Methodology document.

This measure includes Medicare FFS, Medicaid, Commercial and Medicare Advantage claims and is displayed for All Payers and each payer type separately.

Breast Cancer Screening (Urban/Rural)

All Payers					
Urban					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2014	213058	129652	60.85%	60.68%	61.03%
2015	232332	148374	63.86%	63.70%	64.03%
2016	277273	178656	64.43%	64.28%	64.58%
2017	288546	188523	65.34%	65.19%	65.48%
2018	301144	200527	66.59%	66.45%	66.73%
Rural					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2014	31202	17719	56.79%	56.33%	57.25%
2015	33606	19439	57.84%	57.40%	58.29%
2016	42665	24529	57.49%	57.10%	57.89%
2017	45503	26679	58.63%	58.25%	59.01%
2018	48525	28770	59.29%	58.92%	59.66%

Medicare FFS					
Urban					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2014	57197	33776	59.05%	58.71%	59.39%
2015	59146	36011	60.88%	60.55%	61.21%
2016	60874	38173	62.71%	62.39%	63.03%
2017	62078	39589	63.77%	63.46%	64.09%
2018	63905	41274	64.59%	64.28%	64.90%
Rural					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2014	16499	9389	56.91%	56.27%	57.54%
2015	17328	10107	58.33%	57.71%	58.94%
2016	17747	10518	59.27%	58.66%	59.87%
2017	18255	10938	59.92%	59.32%	60.51%
2018	19059	11510	60.39%	59.81%	60.97%

Commercial					
Urban					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2014	68835	50671	73.61%	73.34%	73.89%
2015	75571	54381	71.96%	71.69%	72.23%
2016	92892	65317	70.31%	70.07%	70.56%
2017	96066	67839	70.62%	70.38%	70.86%
2018	103760	73256	70.60%	70.37%	70.83%
Rural					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2014	7459	4757	63.78%	62.86%	64.69%
2015	7791	4981	63.93%	63.04%	64.83%
2016	11689	7380	63.14%	62.40%	63.87%
2017	12757	8270	64.83%	64.13%	65.52%
2018	14357	9295	64.74%	64.09%	65.40%

Medicaid					
Urban					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2014	8916	4281	48.01%	47.14%	48.89%
2015	10610	4974	46.88%	46.08%	47.68%
2016	26275	12331	46.93%	46.42%	47.44%
2017	29570	13342	45.12%	44.64%	45.60%
2018	29325	12947	44.15%	43.67%	44.63%
Rural					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2014	1452	575	39.60%	37.49%	41.71%
2015	1866	767	41.10%	39.23%	42.98%
2016	5064	2165	42.75%	41.61%	43.90%
2017	5680	2558	45.04%	43.95%	46.12%
2018	5671	2564	45.21%	44.13%	46.30%

Medicare Advantage					
Urban					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2014	52027	25135	48.31%	47.95%	48.67%
2015	57302	34021	59.37%	59.03%	59.71%
2016	59376	38650	65.09%	64.77%	65.42%
2017	61884	42611	68.86%	68.55%	69.16%
2018	63480	46379	73.06%	72.77%	73.35%
Rural					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2014	3009	1419	47.16%	45.66%	48.66%
2015	3369	1725	51.20%	49.79%	52.62%
2016	3280	1740	53.05%	51.62%	54.48%
2017	3378	1810	53.58%	52.17%	54.99%
2018	3369	1837	54.53%	53.12%	55.94%