Quality Measures: Diabetes A1c Testing and Breast Cancer Screening

Medicare Fee for Service, Medicaid, Commercial and Medicare Advantage Claims, 2013-2017, 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 specifications[1] 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. Information at the individual county level is available by downloading the County-Based Quality Measures Report.

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

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[1] *The quality measures used in this report are endorsed by the National Qualify Forum – NQF (breast cancer screening NQF 2372; Diabetes Hemoglobin A1c screening NQF 0057).*

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.

<div align="center">Diabetes A1c Testing (Statewide)</div>

All Payers	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	135444	107752	79.55%	79.37%	79.73%
2014	163766	128365	78.38%	78.22%	78.55%
2015	193317	146789	75.93%	75.77%	76.09%
2016	208734	160984	77.12%	76.97%	77.28%
2017	216341	171315	79.19%	79.04%	79.33%
Medicare FFS	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	54212	44916	82.85%	82.59%	83.12%
2014	55202	45923	83.19%	82.93%	83.45%
2015	56734	47452	83.64%	83.38%	83.89%
2016	59762	50123	83.87%	83.62%	84.12%
2017	60656	50902	83.92%	83.67%	84.16%
Commercial	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	34249	29323	85.62%	85.31%	85.93%
2014	41432	34451	83.15%	82.85%	83.45%
2015	51776	42327	81.75%	81.47%	82.03%
2016	55951	46696	83.46%	83.20%	83.72%
2017	57714	48499	84.03%	83.78%	84.28%
Medicaid	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	20737	12988	62.63%	62.08%	63.18%
2014	38221	25394	66.44%	66.04%	66.84%
2015	44298	30585	69.04%	68.68%	69.41%
2016	49208	36854	74.89%	74.57%	75.22%
2017	52606	39514	75.11%	74.80%	75.42%
Medicare Advantage	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	20737	12988	62.63%	62.08%	63.18%
2014	28911	22597	78.16%	77.76%	78.56%
2015	40509	26425	65.23%	64.84%	65.62%
2016	43813	27311	62.34%	61.95%	62.72%
2017	45365	32400	71.42%	71.07%	71.77%

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 2017, 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	Proportion	90% CI (lower, upper)	
2013	117780	93921	79.74%	79.55%	79.94%
2014	142685	111976	78.48%	78.30%	78.66%
2015	168899	127988	75.78%	75.61%	75.95%
2016	181861	140179	77.08%	76.92%	77.24%
2017	188553	149769	79.43%	79.28%	79.58%
	188553	149769	79.43%	79.28%	79.58%
Rural					
Year	Denominator	Numerator	Proportion	90% CI (lower, upper)	
2013	17664	13831	78.30%	77.79%	78.81%
2014	21081	16389	77.74%	77.27%	78.21%
2015	24418	18801	77.00%	76.55%	77.44%
2016	26873	20805	77.42%	77.00%	77.84%
2017	27788	21546	77.54%	77.13%	77.95%

Medicare FFS					
Rural					
Year	Denominator	Numerator	Proportion	90% CI (lower, upper)	
2013	10818	8881	82.09%	81.49%	82.70%
2014	11165	9241	82.77%	82.18%	83.36%
2015	11548	9545	82.66%	82.08%	83.23%
2016	12443	10410	83.66%	83.12%	84.21%
2017	12433	10437	83.95%	83.40%	84.49%
Urban					
Year	Denominator	Numerator	Proportion	90% CI (lower, upper)	
2013	43394	36035	83.00%	82.70%	83.30%
2014	44037	36682	83.00%	82.71%	83.29%

2015	45186	37907	84.00%	83.72%	84.28%
2016	47319	39713	84.00%	83.72%	84.28%
2017	48223	40465	84.00%	83.73%	84.27%

Medicaid					
Rural					
Year	Denominator	Numerator	Proportion	90% CI (lower, upper)	
2013	2659	1948	73.26%	71.85%	74.67%
2014	4899	3685	75.22%	74.20%	76.23%
2015	5808	4315	74.29%	73.35%	75.24%
2016	6441	4715	73.20%	72.30%	74.11%
2017	6937	5025	72.44%	71.56%	73.32%
Urban					
Year	Denominator	Numerator	Proportion	90% CI (lower, upper)	
2013	24343	19253	79.09%	78.66%	79.52%
2014	26944	21252	78.87%	78.47%	79.28%
2015	38206	24938	65.27%	64.87%	65.67%
2016	41640	25963	62.35%	61.96%	62.74%
2017	43056	30895	71.76%	71.40%	72.11%

Commercial					
Rural					
Year	Denominator	Numerator	Proportion	90% CI (lower, upper)	
2013	2284	1730	75.74%	74.27%	77.22%
2014	3050	2118	69.44%	68.07%	70.81%
2015	4759	3454	72.58%	71.51%	73.64%
2016	5816	4332	74.48%	73.54%	75.42%
2017	6109	4579	74.95%	74.04%	75.87%
Urban					
Year	Denominator	Numerator	Proportion	90% CI (lower, upper)	
2013	31965	27593	86.32%	86.01%	86.64%
2014	38382	32333	84.24%	83.93%	84.55%
2015	47017	38873	82.68%	82.39%	82.97%
2016	50135	42364	84.50%	84.23%	84.77%
2017	51605	43920	85.11%	84.85%	85.37%

Medicare Advantage					
Rural					
Year	Denominator	Numerator	Proportion	90% CI (lower, upper)	
2013	1903	1272	66.84%	65.07%	68.62%
2014	1967	1345	68.38%	66.65%	70.10%
2015	2303	1487	64.57%	62.93%	66.21%
2016	2173	1348	62.03%	60.32%	63.75%
2017	2309	1505	65.18%	63.55%	66.81%
Urban					
Year	Denominator	Numerator	Proportion	90% CI (lower, upper)	
2013	18078	11040	61.07%	60.47%	61.67%
2014	33322	21709	65.15%	64.72%	65.58%
2015	38490	26270	68.25%	67.86%	68.64%
2016	42767	32139	75.15%	74.81%	75.49%
2017	45669	34489	75.52%	75.19%	75.85%

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. Higher percentages are better and reflect more people receiving screenings. 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 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)	
2013	331660	202450	61.04%	60.90%	61.18%
2014	386287	219356	56.79%	56.65%	56.92%
2015	457957	259528	56.67%	56.55%	56.79%
2016	478641	275512	57.56%	57.44%	57.68%
2017	487356	287119	58.91%	58.80%	59.03%
Medicare FFS	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	115429	67529	58.50%	58.26%	58.74%
2014	120481	69983	58.09%	57.85%	58.32%
2015	127094	73660	57.96%	57.73%	58.18%
2016	133705	78203	58.49%	58.27%	58.71%
2017	137535	81479	59.24%	59.02%	59.46%

Commercial	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	136293	89481	65.65%	65.44%	65.86%
2014	152499	93219	61.13%	60.92%	61.33%
2015	181258	108963	60.11%	59.93%	60.30%
2016	186319	114138	61.26%	61.07%	61.45%
2017	187461	117914	62.90%	62.72%	63.08%
Medicaid	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	21869	9207	42.10%	41.55%	42.65%
2014	51361	19394	37.76%	37.41%	38.11%
2015	62413	27251	43.66%	43.34%	43.99%
2016	67366	30407	45.14%	44.82%	45.45%
2017	70513	32289	45.79%	45.48%	46.10%
Medicare Advantage	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	58069	36233	62.40%	62.07%	62.73%
2014	61946	36760	59.34%	59.02%	59.67%
2015	87192	49654	56.95%	56.67%	57.22%
2016	91251	52764	57.82%	57.55%	58.09%
2017	91847	55437	60.36%	60.09%	60.62%

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					
Rural					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	45162	25380	56.20%	55.81%	56.58%
2014	54652	27927	51.10%	50.75%	51.45%
2015	64196	33242	51.78%	51.46%	52.11%
2016	70411	37328	53.01%	52.71%	53.32%
2017	72208	39092	54.14%	53.83%	54.44%

Urban					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	286498	177070	61.80%	61.66%	61.95%
2014	331635	191429	57.72%	57.58%	57.86%
2015	393761	226286	57.47%	57.34%	57.60%
2016	408230	238184	58.35%	58.22%	58.47%
2017	415148	248027	59.74%	59.62%	59.87%

Medicare FFS					
Rural					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	23977	13841	57.73%	57.20%	58.25%
2014	25403	14494	57.06%	56.55%	57.57%
2015	27013	15329	56.75%	56.25%	57.24%
2016	29337	16612	56.62%	56.15%	57.10%
2017	30515	17440	57.15%	56.69%	57.62%
Urban					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	91452	53688	58.71%	58.44%	58.97%
2014	95078	55489	58.36%	58.10%	58.62%
2015	100081	58331	58.28%	58.03%	58.54%
2016	104368	61591	59.01%	58.76%	59.26%
2017	107020	64039	59.84%	59.59%	60.08%

Medicaid					
Rural					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	3036	1145	37.71%	36.27%	39.16%
2014	7920	2558	32.30%	31.43%	33.16%
2015	9804	3741	38.16%	37.35%	38.96%
2016	10786	4436	41.13%	40.35%	41.91%
2017	11373	4874	42.86%	42.09%	43.62%
Urban					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	18833	8062	42.81%	42.21%	43.40%
2014	43441	16836	38.76%	38.37%	39.14%
2015	52609	23510	44.69%	44.33%	45.04%
2016	56580	25971	45.90%	45.56%	46.25%
2017	59140	27415	46.36%	46.02%	46.69%

Commercial					
Rural					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	13795	8236	59.70%	59.31%	60.69%
2014	16649	8820	52.98%	52.36%	53.64%
2015	21981	11623	52.88%	52.45%	53.55%
2016	25074	13810	55.08%	54.48%	55.52%
2017	25152	14353	57.07%	56.49%	57.51%
Urban					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	122498	81245	66.32%	65.78%	66.22%
2014	135850	84399	62.13%	61.78%	62.22%
2015	159277	97340	61.11%	60.80%	61.20%
2016	161245	100328	62.22%	61.80%	62.20%
2017	162309	103561	63.80%	63.80%	64.20%

Medicare Advantage					
Rural					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	4354	2158	49.56%	48.75%	51.25%
2014	4680	2055	43.91%	42.81%	45.19%
2015	5398	2549	47.22%	45.88%	48.12%
2016	5214	2470	47.37%	45.86%	48.14%
2017	5168	2425	46.92%	45.86%	48.14%
Urban					
Year	Denominator	Numerator	Percentage	90% CI (lower, upper)	
2013	53715	34075	63.44%	62.66%	63.34%
2014	57266	34705	60.60%	60.66%	61.34%
2015	81794	47105	57.59%	57.72%	58.28%
2016	86037	50294	58.46%	57.72%	58.28%
2017	86679	53012	61.16%	60.73%	61.27%