Healthcare Quality Performance

Diabetes Screening for People With Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications

Patterns of Utilization - 2018 Measurement Year

A public report on behalf of the
Centers for Medicare & Medicaid
Services Qualified Entity program

November 11, 2021

Who We Are

Komodo Health is a technology company with a mission of reducing the burden of disease. We combine an in-depth view of patient encounters with innovative algorithms and decades of clinical expertise to power our Healthcare Map™, one of the most robust and representative views of the U.S. healthcare system. Using our Healthcare Map, we offer a suite of powerful software applications that enable healthcare industry stakeholders to understand how healthcare is currently delivered and identify high-value interventions that can improve cost-effectiveness, clinical effectiveness, or equitability.

What Is the Purpose of *This* Report?

Komodo Health uses data to measure and quantify healthcare processes in the United States. Komodo focuses specifically on the ***effectiveness of*** and ***equity of access*** to high-quality and evidence-based healthcare and provides stakeholders with additional and potentially actionable insights relating to variations in quality or effectiveness of care. Komodo Health uses a combination of standard process and outcome measures developed and endorsed by experts over the past decade, and novel/alternative methods that we have been developing to measure and quantify variations in healthcare processes that may impact clinical effectiveness, efficiency, or outcomes for patients. This report presents a summary of our findings on access to/use of specific evidence-based screening practices in 2017 using a standard process measure endorsed by the National Quality Forum.

What Are We Measuring?

Komodo measures and quantifies the extent to which patients in the United States are receiving recommended pharmacological (medication) therapies for chronic and debilitating conditions, and whether they also are being monitored for specific side effects or risks relating to the use of these medication therapies. For this report, Komodo used a Healthcare Effectiveness Data and Information Set (HEDIS®) standard measure that was developed by experts and is endorsed by the National Quality Forum, and is initially reporting on **Measurement Year 2018**. The HEDIS® standard measures included in this report is:

- **NQF 1932:**
  Diabetes Screening for People With Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications (SSD)

Why Is This Measure Important?

Individuals with schizophrenia or bipolar disorder have a higher risk for developing type 2 diabetes mellitus (T2DM) compared to the general population. A combination of factors drives this risk:

- Patient use of specific medications (atypical antipsychotic agents) used to manage symptoms. These agents can disrupt normal serum glucose control.
- Increased likelihood of unhealthy lifestyles
- Reduced access to consistent and effective preventative health services

The T2DM risk and its contribution to increased cardiovascular risk means that, as a group, patients with schizophrenia or bipolar disorder can experience a shorter life expectancy of 10–20 years compared to the general population. Routine screening for T2DM and other cardiovascular risk is an essential foundation for identifying and managing risk in an effort to improve long-term physical health outcomes for patients with serious mental illness.

Despite long-standing evidence of metabolic health risks associated with the use of antipsychotic medications, up to two-thirds of patients who are prescribed these medications do not receive annual screening for diabetes and other metabolic disorders. Moreover, there is growing evidence that screening rates vary systematically by geographical region of the country and by the type of health insurance or healthcare benefit plan in which a patient is enrolled (e.g., public vs. private healthcare benefit, indemnity versus managed care). Structural issues relating to the coordination of physical and behavioral health service delivery also influence the consistency of screening. For example, when a patient receives their medical care in one clinic and their psychiatric care in a different clinic, and the two clinics do not coordinate care or share medical records, providers may miss preventative screening opportunities.

These issues underscore the need for continuous measurement of performance and analysis in order to detect and/or monitor variations. Performance also should be measured and compared on a state-by-state, region-by-region, and insurance-type basis.

What Data Did We Use for Measurement?

Komodo combined its internal data sources with the Centers for Medicare & Medicaid Services (CMS) Medicare fee-for-service dataset. This enabled us to evaluate and measure processes of care across a diverse group of patients. We also were able to look for differences in how care is delivered to patients depending on where a patient lives and whether they enrolled in a private insurance plan (Commercial), the Medicaid program, or the Medicare program.

Komodo Health's substantial all-payer data assets provided us with a sufficiently large population of eligible patients so that we were able to measure screening rates at the national, regional, and local levels, stratified by health plan enrollment category and by rural/urban residency using guidelines established by the Federal Office of Rural Health Policy. The following is a list of U.S. states and territories in which Komodo's combined data produced eligible or relevant patient population cohorts of sufficient size to support measure calculation and reporting:

AK, AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, PR, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY

How Is the Measure Calculated?

Komodo applied the standard HEDIS® measure specification to patients enrolled in any of the following types of health insurance categories: Commercial, Medicaid Managed Care, Medicaid-Medicare Dual, Medicare Advantage, and Medicare Fee-for-Service. Table 1 briefly summarizes the numerator, the denominator, and the exclusions that were applied prior to calculating screening rates. See **Appendix 1** for full details of the HEDIS® measure specifications. Compared to Measurement Year 2017, there are no significant changes to the numerator or denominator definitions for **Measurement Year 2018 (MY2018)**.

Komodo used a combination of enrollment and claims data to assign each patient to a health insurance category. For this analysis, the Commercial-Private category represents a mix of traditional indemnity insurance and managed care product types including PPO, HMO, and EPO. It includes employer-sponsored health plans and qualified health plans available through a state or federal health insurance exchange. The Medicaid-Medicare Dual category represents the program for individuals concurrently ("dually") eligible for Medicare and Medicaid. Medicaid Managed Care,

Table 1. Summary of inclusion and exclusion criteria. See Appendix 1 for full details of measure specification.

Measure Description	The percentage of adult beneficiaries with schizophrenia or bipolar disorder who were dispensed an antipsychotic medication and had a diabetes screening test during the measurement year.
NQF Status	• NQF-Endorsed • Measure ID 1932 • Process Measure Type • **Measurement Year 2018**
Denominator (eligible population)	• All patients 18 years or older ***and*** • Continuously enrolled in a medical and prescription drug health benefit (private or public insurance plan) ***and*** • Diagnosed with schizophrenia or bipolar disorder
Numerator	Patients in the eligible population who had at least one glucose test or an HbA1c test performed during the measurement year, as identified by claim/encounter or automated laboratory data.
Exclusions	• Exclude all patients with existing diagnosis of diabetes • Exclude all patients who were dispensed insulin or oral hypoglycemics/antihyperglycemics

Medicaid-Medicare Dual and Medicare Advantage each are programs in which services are provided under a managed care payment model. Finally, the Medicare Fee-for-Service category represents the traditional Medicare in which services are not provided under a managed care payment model. The Medicare Advantage category excludes Special Needs Plans or SNPs; all patients enrolled in SNPs were assigned to the Medicaid-Medicare category.

If a patient changed health insurance categories during the measurement year, Komodo assigned them to the health insurance category that was active on the date of the first prescription fill event for the antipsychotic medication. If a patient was concurrently enrolled in Medicare and a commercial supplemental benefit, Komodo assigned that patient to their Medicare category (either Medicare Advantage or Medicare Fee-for-Service). If a patient was enrolled in Medicare for medical coverage but concurrently was participating in the Retiree Drug Subsidy (RDS) Program, Komodo assigned that patient to their Medicare category. Komodo assigned each patient in the eligible population exclusively to one state or territory based on their state of residence in January of the measurement year. If the patient's residential state or territory could not be confirmed via an enrollment file, Komodo assigned the patient to the prescriber's state or territory.

What Did We Discover?

Population Overview and Demographics

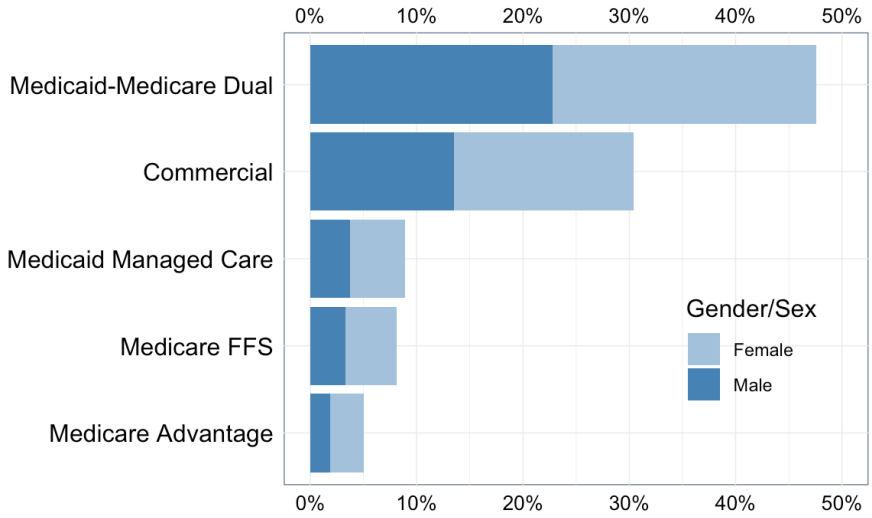
After applying all inclusion and exclusion criteria, Komodo's Healthcare Map yielded 1,623,901 adult patient cases that met the denominator definition and could be evaluated for diabetes screening during the **Measurement period of 2018**. This compares to 873,678 cases identified in Measurement Year 2017. As was the case for the prior measurement year, in this 2018 report, we refer to these 1,623,901 adult patient cases meeting the eligibility inclusion criteria as the *eligible population*. The female-to-male sex/gender ratios observed in the measurement population were slightly biased toward females overall and also within in each of the Commercial, Medicaid Managed Care, Medicare Advantage and Medicare Fee-for-Service categories. The mean and median

Table 2. Demographics of the eligible population for MY2018, segmented by health insurance coverage category.

Health Insurance Category	Eligible	Mean Age	Median Age	Percent Female	Percent Male
Commercial-Private	493,412	40.5	39	55.60%	44.40%
Medicaid Managed Care	144,768	38.7	37	58.36%	41.64%
Medicaid-Medicare Dual	772,969	52.8	53	52.16%	47.84%
Medicare Advantage	81,301	62.2	63	62.50%	37.50%
Medicare Fee-for-Service	131,451	61.6	64	59.36%	40.64%

ages of the individuals in the eligible population varied as a function of the health insurance coverage category as is summarized in Table 2. Patients in the Commercial-Private and Medicaid Managed Care categories were younger, with a mean age of 40.5 years and 38.7 years, respectively. Patients in the Medicaid-Medicare Dual category, Medicare Advantage, and Medicare Fee-for-Service categories were older.

Figure 2. Patients in Medicaid-Medicare Dual healthcare coverage category represented the largest cohort when the measure population was segmented by category of insurance coverage. Across all insurance categories, a significantly larger percentage of patients meeting the inclusion criteria were female.



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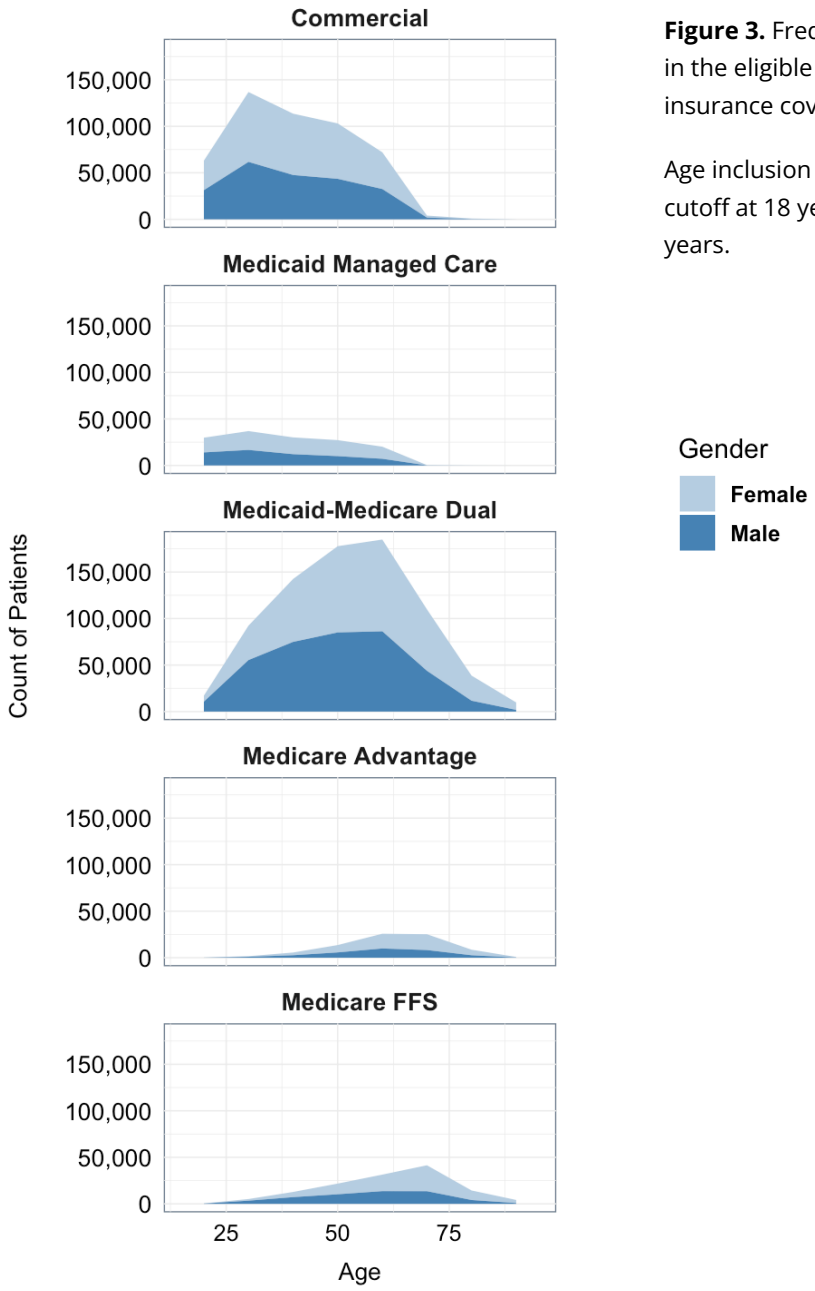


Figure 3. Frequency distribution of patient ages in the eligible population, segmented by health insurance coverage category.

Age inclusion criteria create an abrupt left-sided cutoff at 18 years and a right-sided cutoff at 89 years.

Variations in Screening Rates Based on Health Insurance Category

Komodo found that, overall, approximately 74% of patients with schizophrenia or bipolar disorder who were prescribed atypical antipsychotics were screened for diabetes sometime during the measurement year.[1] This reflects a 2% increase in the overall rate of diabetes screening in the at-risk

[1] Per the measure specification, all patients who had a diagnosis of diabetes 1 year prior to or during the 1-year measurement period were excluded from the analysis.

population compared to Measurement Year 2017, and is a statistically significant difference.[2] Among eligible patients for whom there was no evidence of diabetes screening, 84.8% had been dispensed atypical antipsychotic agents only; 8.6% had been dispensed a combination of atypical and conventional antipsychotic agents; 6.6% had been dispensed conventional antipsychotic agents only. Thus, 93.4% of the unscreened population was at-risk based on their exposure to the atypical antipsychotic class of therapeutic agents. The cohort of patients for which there was evidence of diabetes screening was similar with respect to exposure to the atypical antipsychotic agents: 83.3% had been dispensed atypical antipsychotic agents only; 10.8% had been dispensed a combination of atypical and conventional antipsychotic agents; 5.9% had been dispensed conventional antipsychotic agents only.

While the overall rate of screening for diabetes was high, screening rates varied significantly depending on the type of insurance coverage that a patient had. We have summarized the results in Table 3 and Figure 1 below. The highest increase in the rate of screening was seen in the group of patients in the Commercial-Private category. This represents a +22.9% change in the screening rate in this population compared to MY2017. The lowest rate of screening was seen in the group of patients in the Medicare Advantage category. This represents a -5.8% change in the screening rate in this population compared to MY2017. Compared to MY 2017, screening rates changed by -5.8% in the Medicaid-Medicare Dual population, +3.9% in the Medicare Fee-for-Service population, and were unchanged in the Medicaid Managed Care population.

Table 3. Summary results of HbA1C testing rates in patients with schizophrenia or bipolar disorder who were prescribed atypical antipsychotics. Results are for **Measurement Year 2018**.

Health Insurance Category	Eligible	Screened	Percent (%)	Proportion	Lower Limit	Upper Limit	Change from 2017
Commercial-Private	493,412	367,608	74.50%	0.7450	0.7438	0.7462	↑
Medicaid Managed Care	144,768	106,278	73.41%	0.7341	0.7318	0.7364	↔
Medicaid-Medicare Dual	772,969	578,495	74.84%	0.7484	0.7474	0.7494	↓
Medicare Advantage	81,301	45,575	56.06%	0.5606	0.5572	0.5640	↓
Medicare FFS	131,451	107,875	82.06%	0.8206	0.8186	0.8227	↑

Table Note:
* Confidence Intervals (CIs) = 0.95 for proportions computed using Clopper–Pearson interval method.

[2] Difference in MY2017 rate and MY2018 rate is statistically highly significant with $p < 0.001$ using a two-proportions *z*-test. We can conclude that the proportion of eligible patients who were screened is significantly different between the two years (significantly higher in MY2018).

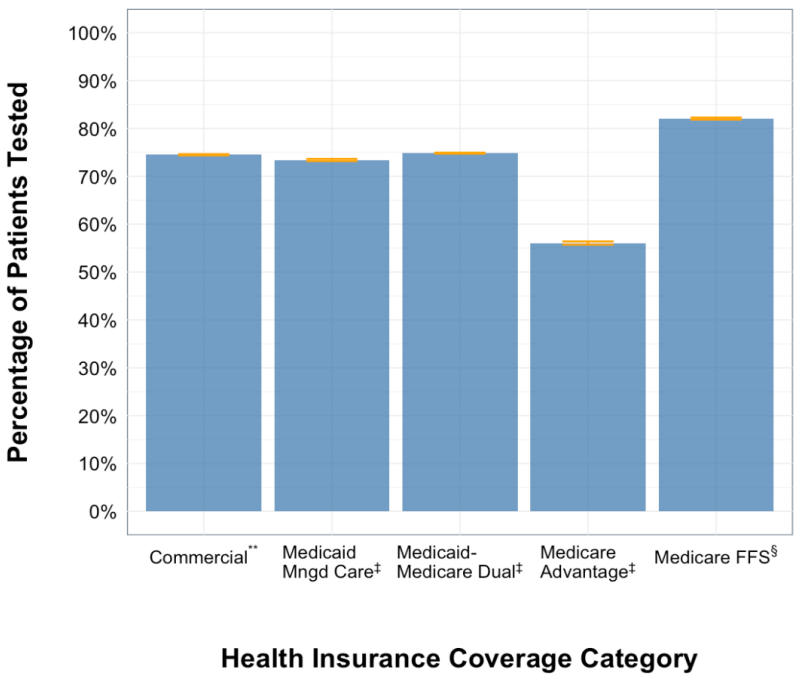


Figure 1. Graphic representation of Table 3 results. HbA1C testing rates for Measurement Year 2017. Orange bars represent confidence intervals.

Notes: See additional report details associated with Table 1
** Signifies a mix of indemnity and managed care product types, including PPO, HMO, and EPO.
‡ Signifies exclusively a managed care product type.
§ Signifies exclusively indemnity product type (not managed care).

In order to estimate the strength of the association between health insurance category and screening and to determine if the variations that we observed were statistically significant, we performed additional analysis. We treated the Medicare Advantage category (lowest rates of screening) as our base reference and did a pairwise comparison of the probability of being screened for diabetes. This pairwise analysis is referred to as the *relative risk* or *risk ratio* and is defined as the ratio of the probability of a specific outcome in one group compared to another group. It attempts to answer the following specific questions:

> *Compared to patients in the the Medicare Advantage category, how much more likely were patients to receive diabetes screening if they were in each of the following groups:*
>
> - *Commercial-Private*
> - *Medicaid Managed Care*
> - *Medicaid-Medicare Dual*
> - *Medicare Fee-for-Service*

Although the use of the term *risk* might suggest that the event or outcome is harmful or undesirable, in this case, the event of interest is successful screening for diabetes. As summarized in Table 4, we found that patients enrolled in a Medicare Fee-for-Service plan were 1.4 times more likely to be screened for diabetes than patients enrolled in the Medicare Advantage insurance plans represented in our Komodo Health all-payer data map; patients enrolled in a Medicaid Managed Care plan, Commercial health plan, or Medicaid-Medicare Dual plan were 1.31 to 1.34 times more likely to be screened for diabetes than patients enrolled in a Medicare Advantage health plan.

Table 4. Risk ratio of diabetes screening comparing Medicare Advantage vs. each of the other coverage categories. Refer to text for detailed explanation and interpretation of risk ratios. Using Commercial-Private as a baseline, all differences between were statistically highly significant with $p < 0.001$.

Health Insurance Category	Risk Ratio Estimate	Lower Limit	Upper Limit	Confidence Level *
Medicare Advantage	1	*NA*	*NA*	0.95
Medicaid Managed Care	1.3096 ‡	1.3007	1.3186	0.95
Commercial-Private	1.3291 ‡	1.3207	1.3375	0.95
Medicaid-Medicare Dual	1.3351 ‡	1.3268	1.3434	0.95
Medicare Fee-for-Service	1.4640 ‡	1.4543	1.4736	0.95

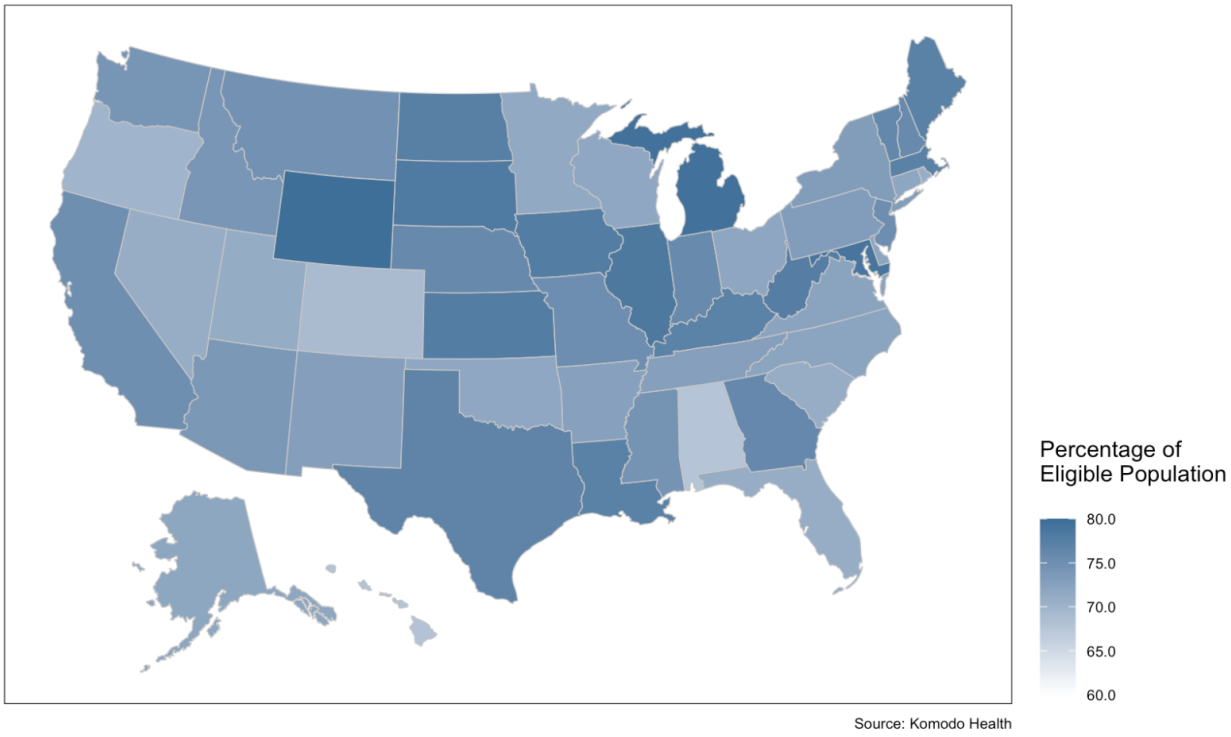
‡ Difference is statistically significant with p-value < 0.001. Test statistic is a z-score (z) defined by the following equation: *z = (p1 - p2) / SE* and used to compare two observed proportions.

Variations in Screening Rates Based on State or Territory of Residence

Screening rates also varied significantly depending on a patient's state or territory of residence. After uniquely assigning each patient to one and only one state or territory of residence, Komodo then grouped patients from all health insurance categories together[3] and recalculated screening rates for each state or territory. We observed a 14.2% difference between the state/territory with the highest screening rate (Wyoming) and the state/territory with the lowest screening rate (Puerto Rico). We determined that sample size for each state and territory was sufficiently large to detect significant differences in proportion using methods of Fleiss, Tytun, and Ury. Results are summarized in Figures 2 and 3 below. Rates for each state are summarized in Table 5.

[3] A set of patients grouped together from all health insurance categories is referred to as an *all payer* cohort.

Figure 2. Heatmap representation of HbA1C testing rates by state-territory. Patients from all health insurance categories were aggregated. Power and sample size for each state were assessed retrospectively and determined to be sufficiently large to detect significant differences in proportion. Note: Puerto Rico is not displayed on the heatmap but results are reported in Figure 3.



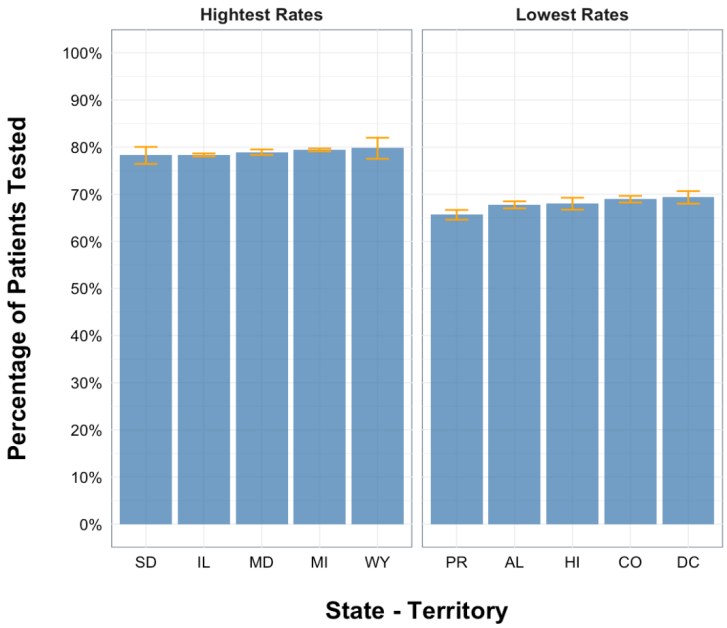


Figure 3. Graphic representation of HbA1C testing rates by state-territory. Patients from all health insurance categories were aggregated. The ten states-territories with the highest screening rates are compared to the ten states-territories with lowest screening rates. Orange bars represent confidence.

Table 5: Complete list of HbA1C testing rates by state-territory. Patients from all health insurance categories were aggregated. Cohort size from U.S. territories was not sufficiently powered to support analysis. Results for **Measurement Year 2018.**

State - Territory	Screening Rate *	State - Territory	Screening Rate	State - Territory	Screening Rate
Alaska	71.80%	Louisiana	77.16%	Oklahoma	71.75%
Alabama	67.74%	Massachusetts	77.17%	Oregon	69.91%
Arkansas	72.73%	Maryland	78.92%	Pennsylvania	73.11%
Arizona	73.84%	Maine	77.13%	Puerto Rico	65.63%
California	75.10%	Michigan	79.40%	Rhode Island	70.79%
Colorado	68.95%	Minnesota	71.49%	South Carolina	70.91%
Connecticut	71.93%	Missouri	75.28%	South Dakota	78.27%
District of Columbia	69.34%	Mississippi	74.37%	Tennessee	72.83%
Delaware	72.01%	Montana	74.66%	Texas	76.80%
Florida	70.90%	North Carolina	72.13%	Utah	71.09%
Georgia	76.08%	North Dakota	77.38%	Virginia	72.23%
Hawaii	67.99%	Nebraska	76.01%	Vermont	76.21%
Iowa	77.81%	New Hampshire	75.91%	Washington	74.10%
Idaho	74.08%	New Jersey	75.26%	Wisconsin	71.72%
Illinois	78.34%	New Mexico	72.94%	West Virginia	77.59%
Indiana	75.86%	Nevada	70.95%	Wyoming	79.81%
Kansas	77.72%	New York	73.19%		
Kentucky	77.05%	Ohio	71.89%		

Discussion of Findings

Komodo Health uses its comprehensive all-payer data assets to measure important indicators of clinical effectiveness, cost-effectiveness, and equity of access to high-quality and evidence-based healthcare across a diverse set of patients, providers, and healthcare systems. Our objectives are to provide stakeholders with additional and potentially actionable insights relating to variations in quality or effectiveness of care. In the analysis reported here, we evaluated Diabetes Screening for People With Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications (SSD), an important indicator of quality and the use of evidence-based healthcare processes for patients with serious and chronic behavioral health conditions. Three factors enabled us to conduct a unique comparative analysis and detect important variations across regions and payer types. First, Komodo was able to evaluate a relatively large number of patients for whom we had a complete longitudinal record of clinical encounters and prescription drug use. Second, the number of evaluable patients in each of the Commercial, Medicaid, and Medicare health insurance coverage categories was sufficiently large that the results of the payer segmented analysis were statistically supported. Finally, the national coverage was complete and the number of evaluable patients in each of the individual states, Puerto Rico, and the District of Columbia was sufficiently large that the results of the state-segmented analysis were statistically supported.

Our analysis initially revealed important demographic characteristics in the eligible population. We observed a higher female-to-male sex/gender ratio in the eligible population that was evaluated. The sex/gender ratios that we observed may reflect a complex combination of structural and epidemiological factors at play in this large all-payer cohort. Based on the results of the *National Health Interview Survey, 2018* released by the National Center for Health Statistics, female adults were more likely than male adults to have some form of health insurance coverage in 2018. Since this analysis relies on claims data, this factor could contribute to a higher proportion of females than males in the eligible population for 2018. Because this specific measure revolves around patients diagnosed with schizophrenia or bipolar disorder, there also are clinical and epidemiological factors that might influence female-to-male sex/gender ratios in the final denominator population. Within the schizophrenia diagnosis category, a second peak onset in females around the age of 45 years may contribute to a slightly higher female-to-male ratio in the older Medicare population.

With respect to the diabetes screening, while the overall screening rate in MY2018 increased by 2% compared to MY2017, substantial numbers of patients who are at risk for hyperglycemia and diabetes mellitus by virtue of their exposure to atypical antipsychotics remain unscreened. As was true in 2017, our analysis revealed statistically highly significant variations in screening in association with health insurance categories. For Measurement Year 2018, the rate of screening was lowest in the Medicare Advantage insurance cohort. In contrast, as was true in MY2017, diabetes screening rates were significantly higher for the Medicaid cohorts, including patients covered under a Medicaid Managed Care plan or Medicaid-Medicare Dual plan. There are a number of factors that may be influencing the relatively stronger performance in the Medicaid categories. Over the past five to

seven years, states have begun to integrate behavioral and physical health benefits into their Medicaid Managed Care contracts, requiring managed care organizations to formally measure and track quality and outcomes. Also, beginning in calendar year 2017, CMS finalized revisions to the Physician Fee Schedule with new reimbursement incentives for coordination of care in Medicaid-Medicare Dual and Medicaid Managed Care patients.[4] This alignment of financial reimbursement with cross-disciplinary service coordination may be particularly impactful when patient care is delivered in relatively resource-constrained settings such as Rural Health Clinics (RHC) and Federally Qualified Health Centers (FQHC). Lower rates of screening in the Commercial-Private insurance category may be an indicator of relatively weaker coordination of care between behavioral health providers and primary care/physical health providers. While not directly measurable at this time, there may be an increased propensity for patients enrolled in a Commercial-Private insurance plan to seek or receive treatment by independently practicing behavioral health providers who initiate and manage the pharmacological therapy. Patients in the Commercial-Private insured category who are not enrolled in a managed care product would not require a primary care provider referral to a behavioral health specialist.

There are key differences in the health service delivery models between these groups that may contribute to variations in screening rates. Specifically, all patients in the Medicaid-Medicare Dual category received care from providers under a managed care service model. This is also the case for all patients in the Medicaid Managed Care and Medicare Advantage categories. In contrast, patients who were in the Commercial-Private category were enrolled in either an employer-sponsored health plan or a private qualified health plan that was purchased through a state or federal health insurance exchange. During the measurement year, the majority of these patients were receiving care from providers under a traditional fee-for-service model; a relatively small proportion of these Commercial-Private patients were receiving care from providers under a managed care service model such as a Health Maintenance Organization or HMO product.

Our analysis also revealed statistically significant variations in diabetes screening by state/territory. Variations by state may likely reflect complex combinations of factors, including geographical variations in practice patterns and, in some cases, a relatively stronger influence of care coordination incentive structures for local Medicare and Medicaid Managed Care organizations. One specific finding persists from MY2017 and deserves further analysis and continued monitoring over the next several measurement periods. Specifically, as was the case in MY2017, Komodo observed relatively low screening rates for patients assigned to Puerto Rico. Disruptions to infrastructure and long-term displacement of residents due to a series of environmental catastrophes continue to impact healthcare delivery and health status for residents of this Commonwealth. More comprehensive analyses are warranted given the persistence of this particular quality indicator.

[4] See CY 2017 PFS final rule (81 FR 80225) for details of reimbursement relating to complex chronic care management (CCM) services, general Behavioral Health Integration (BHI) services, and a psychiatric collaborative care model (CoCM).

References

Diabetes Screening and Antipsychotic Medications

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Vancampfort, Davy, et al. “Diabetes Mellitus in People With Schizophrenia, Bipolar Disorder and Major Depressive Disorder: A Systematic Review and Large Scale Meta-Analysis.” *World Psychiatry*, vol. 15, no. 2, 2016, pp. 166–174.

Health Insurance Coverage

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Appendix 1: HEDIS® measure specifications

Standard Measure 2:
Diabetes Screening for People With Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications (SSD)

NQF ENDORSEMENT STATUS: NQF-Endorsed
NQF ID: 1932
MEASURE TYPE: Process

Measure Description	
The percentage of members 18–64 years of age with schizophrenia or bipolar disorder who were dispensed an antipsychotic medication and had a diabetes screening test during the measurement year	
Measurement Period (Year in which utilization events occurred)	
2018	
Eligible Population	
Product lines	Medicaid (Komodo will also compute the measure on Commercial and Medicare and report each product line separately).
Ages	18 years and older as of December 31 of the measurement year.
Continuous enrollment	The measurement year.
Allowable gap	No more than one gap in enrollment of up to 45 days during the measurement year. To determine continuous enrollment for a Medicaid beneficiary for whom enrollment is verified monthly, the member may not have more than a 1-month gap in coverage (i.e., a member whose coverage lapses for 2 months [60 days] is not considered continuously enrolled).
Anchor date	December 31 of the measurement year.
Benefits	Medical and pharmacy.
Event/ diagnosis	***Step 1:*** Identify members with schizophrenia or bipolar disorder as those who met at least one of the following criteria during the measurement year. • At least one acute inpatient encounter, with any diagnosis of schizophrenia or bipolar disorder. Any of the following code combinations meet criteria: – HEDIS BH Stand Alone Acute Inpatient Value Set ***with*** HEDIS Schizophrenia Value Set.

- HEDIS BH Stand Alone Acute Inpatient Value Set ***with*** HEDIS Bipolar Disorder Value Set.
- HEDIS BH Stand Alone Acute Inpatient Value Set ***with*** HEDIS Other Bipolar Disorder Value Set.
- HEDIS BH Acute Inpatient Value Set ***with*** HEDIS BH Acute Inpatient POS Value Set ***with*** HEDIS Schizophrenia Value Set.
- HEDIS BH Acute Inpatient Value Set ***with*** HEDIS BH Acute Inpatient POS Value Set ***with*** HEDIS Bipolar Disorder Value Set.
- HEDIS BH Acute Inpatient Value Set ***with*** HEDIS BH Acute Inpatient POS Value Set ***with*** HEDIS Other Bipolar Disorder Value Set.

- At least two visits in an outpatient, intensive outpatient, partial hospitalization, ED, or non-acute inpatient setting, on different dates of service, with any diagnosis of schizophrenia. Any two of the following code combinations meet criteria:
  - HEDIS BH Stand Alone Outpatient/PH/IOP Value Set ***with*** HEDIS Schizophrenia Value Set.
  - HEDIS BH Outpatient/PH/IOP Value Set ***with*** HEDIS BH Outpatient/PH/IOP POS Value Set ***with*** HEDIS Schizophrenia Value Set.
  - HEDIS ED Value Set ***with*** HEDIS Schizophrenia Value Set.
  - HEDIS BH ED Value Set ***with*** HEDIS ED POS Value Set ***with*** HEDIS Schizophrenia Value Set.
  - HEDIS BH Stand Alone Nonacute Inpatient Value Set ***with*** HEDIS Schizophrenia Value Set.
  - HEDIS BH Non-acute Inpatient Value Set ***with*** HEDIS BH Non-acute Inpatient POS Value Set ***with*** HEDIS Schizophrenia Value Set.

- At least two visits in an outpatient, intensive outpatient, partial hospitalization, ED, or non-acute inpatient setting, on different dates of service, with any diagnosis of bipolar disorder. Any two of the following code combinations meet criteria:
  - HEDIS BH Stand Alone Outpatient/PH/IOP Value Set ***with*** HEDIS Bipolar Disorder Value Set.
  - HEDIS BH Stand Alone Outpatient/PH/IOP Value Set ***with*** HEDIS Other Bipolar Disorder Value Set.
  - HEDIS BH Outpatient/PH/IOP Value Set ***with*** HEDIS BH Outpatient/PH/IOP POS Value Set ***with*** HEDIS Bipolar Disorder Value Set.
  - HEDIS BH Outpatient/PH/IOP Value Set ***with*** HEDIS BH Outpatient/PH/IOP POS Value Set ***with*** HEDIS Other Bipolar Disorder Value Set.
  - HEDIS ED Value Set ***with*** HEDIS Bipolar Disorder Value Set.
  - HEDIS ED Value Set ***with*** HEDIS Other Bipolar Disorder Value Set.
  - HEDIS BH ED Value Set ***with*** ED POS Value Set ***with*** HEDIS Bipolar Disorder Value Set.
  - HEDIS BH ED Value Set ***with*** ED POS Value Set ***with*** HEDIS Other Bipolar Disorder Value Set.
  - HEDIS BH Stand Alone Non-acute Inpatient Value Set ***with*** HEDIS Bipolar Disorder Value Set.

- HEDIS BH Stand Alone Non-acute Inpatient Value Set ***with*** HEDIS Other Bipolar Disorder Value Set.
- HEDIS BH Non-acute Inpatient Value Set ***with*** HEDIS BH Non-acute Inpatient POS Value Set ***with*** HEDIS Bipolar Disorder Value Set.
- HEDIS BH Non-acute Inpatient Value Set ***with*** HEDIS BH Non-acute Inpatient POS Value Set ***with*** HEDIS Other Bipolar Disorder Value Set.

Step 2: Exclude members who met any of the following criteria:

Beneficiaries with diabetes. There are two ways to identify beneficiaries with diabetes: by claim/encounter data and by pharmacy data.

The organization must use both methods to identify members with diabetes, but a member need only be identified by one method to be excluded from the measure. Members may be identified as having diabetes during the measurement year or the year prior to the measurement year.

- *Claim/encounter data.* Beneficiaries who met at any of the following criteria during the measurement year or the year prior to the measurement year (count services that occur over both years).
  - At least two outpatient visits (HEDIS Outpatient Value Set), observation visits (HEDIS Observation Value Set), ED visits (HEDIS ED Value Set), or non-acute inpatient encounters (HEDIS Nonacute Inpatient Value Set) on different dates of service, with a diagnosis of diabetes (HEDIS Diabetes Value Set). Visit type need not be the same for the two visits.
  - At least one acute inpatient encounter (HEDIS Acute Inpatient Value Set) with a diagnosis of diabetes (HEDIS Diabetes Value Set).
- *Pharmacy data.* Members who were dispensed insulin or oral hypoglycemics/ antihyperglycemics during the measurement year or year prior to the measurement year on an ambulatory basis (HEDIS Diabetes Medications List).

Beneficiaries who had no antipsychotic medications dispensed during the measurement year. There are two ways to identify dispensing events: by claim/encounter data and by pharmacy data. The organization must use both methods to identify dispensing events, but an event need only be identified by one method to be counted.

- *Claim/encounter data*. An antipsychotic medication (HEDIS Long-Acting Injections Value Set).
- *Pharmacy data*. Dispensed an antipsychotic medication (HEDIS Antipsychotic Medications List; HEDIS Antipsychotic Combination Medications List) on an ambulatory basis.

Specifications

Denominator	The eligible population
Numerator	***Diabetes Screening:*** Beneficiaries in the eligible population who have at least one glucose test (HEDIS Glucose Tests Value Set) or an HbA1c test (HEDIS HbA1c Tests Value Set)

performed during the measurement year, as identified by claim/encounter or automated laboratory data.

Exclusions

Beneficiaries with diabetes.

There are two ways to identify members with diabetes: by claim/encounter data and by pharmacy data. The organization must use both methods to identify members with diabetes, but a member need only be identified by one method to be excluded from the measure. Beneficiaries may be identified as having diabetes during the measurement year or the year prior to the measurement year.

- *Claim/encounter data.* Beneficiaries who met at any of the following criteria during the measurement year or the year prior to the measurement year (count services that occur over both years).
  - At least two outpatient visits (HEDIS Outpatient Value Set), observation visits (HEDIS Observation Value Set), ED visits (HEDIS ED Value Set) or non-acute inpatient encounters (HEDIS Nonacute Inpatient Value Set) on different dates of service, with a diagnosis of diabetes (HEDIS Diabetes Value Set). Visit type need not be the same for the two visits.
  - At least one acute inpatient encounter (HEDIS Acute Inpatient Value Set) with a diagnosis of diabetes (HEDIS Diabetes Value Set).
- *Pharmacy data.* Members who were dispensed insulin or oral hypoglycemics/antihyperglycemics during the measurement year or year prior to the measurement year on an ambulatory basis (HEDIS Diabetes Medications List).

Beneficiaries who had no antipsychotic medications dispensed during the measurement year.

There are two ways to identify dispensing events: by claim/encounter data and by pharmacy data. The organization must use both methods to identify dispensing events, but an event need only be identified by one method to be counted.

- *Claim/encounter data*. An antipsychotic medication (HEDIS Long-Acting Injections Value Set).
- *Pharmacy data*. Dispensed an antipsychotic medication (HEDIS Antipsychotic Medications List; Antipsychotic Combination Medications List) on an ambulatory basis.

Appendix 2: Glossary of Terms and Abbreviations

CDC. Centers for Disease Control and Prevention.

CMS. Centers for Medicare & Medicaid Services.

Coverage. A term used by healthcare insurers and health plan sponsors to refer to enrollment and continued eligibility for a specific, defined set of healthcare benefits. Coverage can be segmented into *medical benefit coverage*, *prescription drug benefit coverage*, and possible other subsets of healthcare benefits. In the case of employer-sponsored health insurance benefits, eligibility and enrollment is based on employment status with an employer-sponsored and election into a specific benefit. In the case of Medicaid, eligibility and enrollment is based on residency in the state that is sponsoring the health benefit, combined with other criteria such as income, gender, disability status, possibly work status, and other state-specific criteria. In the case of Medicare, eligibility and enrollment is based on age and disability status or end-stage renal disease status; for some benefits, eligibility and enrollment also requires election into and purchase of a specific benefit.

Employer-Sponsored Coverage. Health insurance or a healthcare benefit offered to a person as a benefit relating to their employment status or the employment status of a spouse, parent, or civil partner.

HEDIS.® Healthcare Effectiveness Data and Information Set. A set of standard metrics quantified using data and designed to measure quality across 6 domains of care: Effectiveness of Care, Access/Availability of Care, Experience of Care, Utilization and Risk-Adjusted Utilization, Health Plan Descriptive Information, Measures Collected Using Electronic Clinical Data Systems.

Medicaid. A joint federal- and state-sponsored health insurance program that provides healthcare coverage to eligible low-income adults, children, pregnant women, elderly adults, and people with disabilities. Medicaid is often used to refer to a collection of distinct programs that includes Medicaid Fee-for-Service, Medicaid Managed Care, Medical Assistance, and Children's Health Insurance Plan (CHIP). It also includes patients, referred to as “dual eligibles,” who concurrently qualify for benefits covered under both the Medicare and Medicaid plans.

National Quality Forum. A non-profit membership organization that reviews, validates, and provides expert consensus endorsement of specific healthcare quality metrics. See http://www.qualityforum.org/Home.aspx.

Prevalence. A measure of how common a disease or condition is in the population at a given time.