APPENDIX

Methodology

2018 MINNESOTA HEALTH CARE QUALITY REPORT

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MN Community MEASUREMENT
Measure Up To Better Health

METHODS

The measures in this report are collected from two separate data sources: clinics and health plans. Direct Data Submission (DDS) measures use data from clinics. This data enables reporting of results by clinic location as well as by medical group. In contrast, the Healthcare Effectiveness Data and Information Set (HEDIS) measures use data from health plans. This data enables reporting of results by medical group only.

Table 1 shows the number of patients included in each measure. HEDIS measures include patients enrolled in commercial health insurance products, Medicare managed care or Medicaid managed care programs. Patients who are uninsured, or those served by a Medicaid/Medicare fee-for-service program are not included. The number of patients eligible for these measures is further narrowed by criteria specifying a minimum amount of time a member/patient must be continuously enrolled in a health plan to be eligible for the measure.

In contrast, DDS measures rely on data from clinics across Minnesota to identify the number of patients eligible for the measure. All eligible clinic patients are reflected regardless of insurance coverage type and duration. As a result, DDS measures have a larger number of eligible patients for the measures.

TABLE 1: Number of Patients Included in Quality Measures

	QUALITY MEASURE	Data Source	Age Range	Number of Patients Eligible for Measure*	Number of Patients in Measure Denominator
PREVENTIVE HEALTH	Breast Cancer Screening	Health Plan	50–74	319,185	319,185
	Cervical Cancer Screening**	Health Plan	21–64	463,570	11,775
	Colorectal Cancer Screening	DDS	50–75	1,207,960	1,209,760
	Chlamydia Screening in Women	Health Plan	16–24	81,167	81,167
	Childhood Immunization Status (Combo 10)**	Health Plan	Age 2 and under	26,359	5,479
	Immunizations for Adolescents (Combo 2)**	Health Plan	By age 13	29,577	5,038
CHRONIC CONDITIONS	Optimal Diabetes Care	DDS	18–75	307,158	307,158
	Diabetes Eye Exam	Health Plan	18–75	152,396	152,396
	Optimal Vascular Care	DDS	18–75	177,822	177,822
	Controlling High Blood Pressure**	Health Plan	18–85	310,498	15,454
	Optimal Asthma Control – Adults	DDS	18–50	133,714	133,714
	Optimal Asthma Control – Children	DDS	5–17	72,158	72,158
	Use of Spirometry Testing in the Assessment and Diagnosis of COPD	Health Plan	40+	12,210	12,210

(Table 1 continued on the next page)

*Includes patients who meet measure denominator criteria, continuous enrollment criteria (HEDIS measures only), and are attributed to a medical group.

** These HEDIS measures use the hybrid method of data collection; the number of patients in the measure denominator is a sample.

Table 1 *continued*

QUALITY MEASURE		Data Source	Age Range	Number of Patients Eligible for Measure*	Number of Patients in Measure Denominator
DEPRESSION	Adolescent Mental Health and/or Depression Screening	DDS	12–17	142,940	142,940
	PHQ-9 Utilization	DDS	18+	208,931	208,931
	PHQ-9 Follow-Up at 6 Months	DDS	18+	110,534	110,534
	PHQ-9 Follow-Up at 12 Months	DDS	18+	110,534	110,534
	Depression Response at 6 Months	DDS	18+	110,534	110,534
	Depression Response at 12 Months	DDS	18+	110,534	110,534
	Depression Remission at 6 Months	DDS	18+	110,534	110,534
	Depression Remission at 12 Months	DDS	18+	110,534	110,534
OTHER	Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis	Health Plan	18–64	15,324	15,324
	Follow-Up Care for Children Prescribed ADHD Medication	Health Plan	6–12	4,891	4,891
SPINE SURGERY LUMBAR FUSION	Patients assessed functional status before AND after surgery using Oswestry Disabiltiy Index (ODI) tool	DDS	18+	2,607	2,607
	Patients assessed quality of life before AND after surgery using Promis Global Health 10 tool	DDS	18+	2,607	2,607
	Patients assessed for back pain before AND after surgery using Visual Analog Scale (VAS) tool	DDS	18+	2,607	2,607
	Patients assessed for leg pain before AND after surgery using Visual Analog Scale (VAS) tool	DDS	18+	2,607	2,607
	Average change in functional status at one year after surgery	DDS	18+	2,607	1,078
	Average change in patient reported quality of life (physical health status) at one year after surgery	DDS	18+	2,607	728
	Average change in patient reported quality of life (mental health status) at one year after surgery	DDS	18+	2,607	728
	Average change in patient reported back pain at one year after surgery	DDS	18+	2,607	893
	Average change in patient reported leg pain at one year after surgery	DDS	18+	2,607	883
TOTAL KNEE REPLACEMENT	Patients assessed functional status before AND after surgery using Oxford Knee Score (OKS) tool	DDS	18+	12,622	12,622
	Patients assessed quality of life before AND after surgery using Promis Global Health 10 tool	DDS	18+	12,622	12,622
	Average change in functional status at one year after surgery	DDS	18+	12,622	3,480
	Average change in patient reported quality of life (physical health status) at one year after surgery	DDS	18+	12,622	3,066
	Average change in patient reported quality of life (mental health status) at one year after surgery	DDS	18+	12,622	3,066

*Includes patients who meet measure denominator criteria, continuous enrollment criteria (HEDIS measures only), and are attributed to a medical group.

** These HEDIS measures use the hybrid method of data collection; the number of patients in the measure denominator is a sample.

DIRECT DATA SUBMISSION (DDS) MEASURES

DDS measures use data submitted directly to MNCM by medical groups and clinics. Most of these measures are developed and maintained by MNCM.

Data Collection

Data submission requirements are specified by MN Community Measurement in our 2018 DDS guides. These guides provide detailed steps and instructions to ensure clinics submit data in a standard format.

Data are reported at two levels: by clinic site and medical group. Clinics are defined as single locations where patients received care. Medical groups usually consist of multiple clinics. Often, the medical group provides centralized administrative functions for multiple clinics.

Clinic abstractors collect data from medical records either by extracting the data from an electronic medical record (EMR) via data query or from abstraction of paper-based medical records. Medical groups complete numerous quality checks before data submission. Detailed instructions for medical groups/clinics conducting quality checks are provided in the 2018 DDS Guides. All appropriate Health Insurance Portability and Accountability (HIPAA) requirements are followed.

MNCM staff conduct an extensive validation process including pre-submission data certification, post submission data quality checks of all files, and audits of the data source for selected clinics. For medical record audits, MNCM uses NCQA's "8 and 30" File Sampling Procedure, developed in 1996 in consultation with Johns Hopkins University. For a detailed description of this procedure, see *www.ncqa.org*. Audits are conducted by trained MNCM auditors who are independent of medical groups and/or clinics. The validation process ensures the data are reliable, complete and consistent.

Eligible Population Specifications

The eligible population for each measure is identified by a medical group on behalf of their individual clinics. MNCM's 2018 DDS Guides provide technical specifications for the standard definitions of the eligible population, including elements such as age.

Numerator Specifications

For DDS measures, the numerator is the number of patients identified from the eligible population who meet the numerator criteria. The criteria are specified by MNCM in the 2018 DDS Guides and technical specifications. Clinical quality data the medical group submits is used to calculate the numerator; this data is verified through MNCM's validation process.

Calculating Rates

Due to the dynamic nature of patient populations, rates and 95 percent confidence intervals are calculated for each measure for each medical group/clinic regardless of whether the full population or a sample is submitted. Rates are first calculated

for each medical group/clinic and then a statewide average rate is calculated. The statewide average rate is displayed when comparing a single medical group/clinic to the performance of all medical groups/clinics to provide context. The statewide average is calculated using all data submitted to MNCM – this includes data primarily from Minnesota clinics but may include some data from clinics located in surrounding communities.

Risk Adjustment

Risk adjustment is a technique used to enable fair comparisons of clinics/medical groups by adjusting for the differences in risk among specific patient groups. MN Community Measurement uses an "Actual to Expected" methodology for risk adjustment. This methodology does not alter a clinic/medical group's result; the actual rate remains unchanged. Instead, each clinic/medical group's rate is compared to an "expected rate" for that clinic/medical group based on the specific characteristics of patients seen by the clinic/medical group, compared to the total patient population.

All expected values for DDS measures are calculated using a logistic regression model including the following variables: health insurance product type (commercial, Medicare, Medicaid, uninsured, unknown), patient age, and deprivation index. The deprivation index was added in 2018 and includes ZIP code level average of poverty, public assistance, unemployment, single female with child(ren), and food stamps (SNAP) converted to a single index that is a proxy for overall socioeconomic status.

A population proportions test is used to determine whether there is a statistically significant difference between the expected and actual rates by each clinic/medical group. This method tests the proportion of optimally managed patients attributed to a clinic/medical group compared to an expected rate. The expected rate is calculated considering the overall state rate and adjusting for risk factors specific to the measure. The methodology uses a 95 percent test of significance.

The tables for the risk-adjusted measures include the following information:

- Medical group/clinic name
- Performance = Rating of medical group/clinic displayed on MNHealthScores.org:
  - Above = Clinic or medical group's actual rate is significantly above its expected rate
  - Expected = Clinic or medical group's actual rate is equivalent to its expected rate
  - Below = Clinic or medical group's actual rate is significantly below its expected rate
- Patients = Number of patients at a medical group/clinic site that meet the denominator criteria for the measure.
- Actual Rate = Actual percentage of patients meeting criteria (unadjusted rate).
- Expected Rate = Expected percentage of patients meeting criteria based on the clinic's/medical group's mix of patient risk (adjusted rate).

» Actual to Expected Ratio = Actual percentage of patients meeting criteria divided by the expected percentage of patients meeting criteria for the clinic's/medical group's mix of patient risk.

Thresholds for Public Reporting

MNCM has established minimum thresholds for public reporting to ensure statistically reliable rates. Only medical groups and clinics that meet these thresholds are reported. For DDS measures included in this report, a minimum threshold of 30 patients per clinic is required.

HEDIS MEASURES

Measures Reported

HEDIS measures are a widely used set of performance measures in the managed care industry, developed and maintained by the National Committee for Quality Assurance (NCQA). There are two types of data collection methods for HEDIS measures: (1) the administrative method that uses only health care claims data; and (2) the hybrid method that uses health care claims data plus medical record review data). The Definitions section in the 2018 Health Care Quality Report includes of list of HEDIS measures by data collection method.

Data Collection

HEDIS technical specifications provide standard definitions for the eligible population for each measure including data elements such as age and continuous enrollment. Continuous enrollment is the minimum amount of time a person must be enrolled in a health plan before becoming eligible for a measure. It ensures that the health plan has enough time to render services. Using continuous enrollment criteria is necessary to standardize measurement, but it can reduce the number of individuals represented in the measure.

For administrative measures, the entire eligible population is the denominator. For the hybrid measures, the eligible population serves as the frame from which to draw a random sample of patients for chart audit and is used as the reference for weighting results.

Eligible Population Specifications

The eligible populations for the administrative and hybrid measures are identified by each participating health plan using its respective administrative claims database. Health plans assign patients to a medical group using a standard medical group definition based on a tax identification number (TIN). Administrative billing codes determine the frequency of a patient's visit to a medical group. For most measures, patients are assigned to the medical group they visited most frequently during the measurement period. Patients who visited two or more medical groups with the same frequency are attributed to the medical group visited most recently in the measurement period. The TIN is used as the common identifier for aggregating data across health plans.

Numerator Specifications

For HEDIS administrative measures, the numerator is the number of patients from the eligible population who met the numerator criteria. For HEDIS hybrid measures, the numerator is the number of patients from the sample who met numerator criteria.

Calculating Rates

HEDIS administrative and hybrid measures are reported at a medical group level and are expressed as percentages. Rates calculated for administrative measures are straightforward; however, rates calculated for hybrid measures require weighting because of sampling procedures. Rates and 95-percent asymmetrical confidence intervals are calculated for each measure for each medical group. Asymmetrical confidence intervals are used to avoid confidence interval lower bound values less than zero and upper bound values greater than on hundred. Medical group rates are first calculated for each medical group and then a medical group average is calculated. The medical group average is used to compare medical groups for the performance ratings. The statewide average includes attributed and unattributed patients and is displayed in the charts.

HEDIS measures are not risk adjusted. The tables for the HEDIS measures include all the columns noted for risk-adjusted measures except Rate and Actual to Expected Ratio. Columns for Lower and Upper 95% Confidence Intervals are included. HEDIS measures are rated on the following scale:

- Above = Clinic or medical group's actual rate is significantly above the medical group average
- Average = Clinic or medical group's actual rate is equivalent to the medical group average
- Below = Clinic or medical group's actual rate is significantly below the medical group average

Thresholds for Public Reporting

MNCM has established minimum thresholds for public reporting to ensure statistically reliable rates. Only medical groups that meet these thresholds are reported. For the HEDIS administrative measures in this report, a minimum threshold of 30 patients per medical group is required. For the HEDIS hybrid measures in this report, a minimum threshold of 60 patients per medical group is required.

Limitations

Data used to calculate rates for the HEDIS measures reflect patients insured through 10 health plans doing business in Minnesota. Patients who are uninsured, self-pay, or who are served by Medicaid/Medicare fee-for-service are not reflected in the HEDIS results.