APPENDIX

Methodology

2018 PREVENTIVE HEALTH MEASURES

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METHODS

Table 1 shows the number of patients represented in each measure. Five of the six preventive health measures listed below (all except Colorectal Cancer Screening) use claims data from 10 participating health plans to identify the number of patients eligible for the measure. Patients who are enrolled in commercial health insurance products, Medicare managed care, or Medicaid managed care programs are reflected in these results. Patients who are uninsured, or who are served by a Medicaid/Medicare fee-for-service program are not reflected. The number of patients eligible for these measures is further narrowed by criteria that specifies a minimum amount of time for a member/patient to be continuously enrolled in a health plan to be eligible for the measure.

In contrast, the Colorectal Cancer Screening measure uses 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, measures that use data from clinics have a larger number of eligible patients for the measure.

Table 1: Number of Patients Represented in Preventive Health Measures

MEASURE	Age Range	*Number of Patients Eligible for Measure	Number of Patients in Measure Denominator (Total population or sample of eligible patients)
Breast Cancer Screening	50–74	319,185	319,185
Cervical Cancer Screening**	21–64	463,570	11,775
Colorectal Cancer Screening	51–75	1,207,960	1,207,960
Chlamydia Screening	16–24	81,167	81,167
Childhood Immunization Status (Combo 10)**	Age 2 and under	26,359	5,479
Immunizations for Adolescents (Combo 2)**	13	29,577	5,038

*Includes patients who meet measure denominator criteria, continuous enrollment criteria (applies to all measures except Colorectal Cancer Screening) 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 smaple.

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. So, clinic level results are only reported for DDS measures but not for HEDIS measures. In addition, in this report, only DDS measures are reported by geography, age, gender, race, Hispanic ethnicity, language and country of origin.

DIRECT DATA SUBMISSION (DDS) MEASURES

Measures Reported

The Colorectal Cancer Screening measure uses data submitted directly to MNCM by medical groups and clinics. This measure was developed and is maintained by the National Committee for Quality Assurance (NCQA). MNCM adapts this measure for the DDS process.

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 that 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.

An extensive validation process is conducted by MNCM staff 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 that the data are reliable, complete and consistent.

Eligible Population Specifications

The eligible population for this 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 technical specifications. Clinical quality data that 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 primarily includes data 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. The process is intended to isolate the clinic/medical group's true impact on patients' health and allow them to be compared more fairly.

The risk adjustment calculation employed by MN Community Measurement uses an "Actual to Expected" methodology. 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 at that clinic/medical group, compared to the total patient population.

All expected values for the Colorectal Cancer Screening measure are calculated using a logistic regression model with 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.

To test whether there is a statistically significant difference between the expected and actual rates by each clinic/medical group, a population proportions test is used. This method is employed to test the proportion of optimally managed patients attributed

to a clinic/medical group compared to an expected rate that is calculated taking into account the overall state rate and adjusted 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

Not all medical groups and clinics are listed individually in the online appendix to this report. MNCM established minimum thresholds for public reporting to ensure statistically reliable rates. Only medical groups and clinics that meet these thresholds are reported. For the DDS measures included in this report, a minimum threshold of 30 patients per clinic is required.

Geographic Analyses

Patient zip code was used to determine geographic location and then merged with the Rural-Urban Commuting Area (RUCA) version 2.0 zip code data to determine location type. RUCA is determined at the ZIP code level; however, to provide a general sense of each category, locations are listed below:

» **RUCA codes 1-3:** Metropolitan area, population of 50,000+
This includes the counties that are part of metropolitan statistical areas as defined by the U.S. Census Bureau: Minneapolis-St. Paul-Bloomington, Duluth, St. Cloud, Rochester, Mankato-North Mankato, La Crosse-Onalaska, Grand Forks, Fargo.

» **RUCA codes 4-6:** Micropolitan area, population of 10,000-49,000
This includes the counties that are part of micropolitan statistical areas as defined by the U.S. Census Bureau: Albert Lea, Alexandria, Austin, Bemidji, Brainerd, Faribault-Northfield, Fergus Falls, Hutchinson, Marshall, New Ulm, Owatonna, Red Wing, Wahpeton, Willmar, Winona, Worthington.

» **RUCA codes 7-10:** Small town/rural area, population less than 10,000
Encompasses the balance of the state (counties that are neither metropolitan or micropolitan).

Race, Ethnicity, Preferred Language and Country of Origin (REL) Analyses

The REL charts displayed in this report provide rate comparisons for each REL data category (race, Hispanic ethnicity, preferred language and country of origin) for MNCM measures at a statewide level. These charts utilize the REL data submitted by medical groups through MNCM's DDS process. Please refer to the MNCM *Handbook on the Collection of Race/Ethnicity/Language Data in Medical Groups* for more information about the REL data collection.

Best Practices for Clinical Measures

REL data collection undergoes a unique validation process to ensure that clinics collect REL data elements from patients using best practices. Best practices are defined as:

1. Patients self-report their race, Hispanic ethnicity, country of origin and preferred language.

2. Patients can select one or more categories for race (i.e., medical groups/clinics did not collect data using a multi-racial category).

3. Medical groups/clinics can capture and report more than one race as reported by the patient.

A medical group/clinic must meet all the criteria for an REL data element to achieve best practice status and to have their data for that element included in the rate calculation. Only validated REL data that has been collected using best practices are used to calculate REL rates.

HEDIS MEASURES

Measures Reported

The 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 HEDIS measures: Administrative method (use only health care claims data) and hybrid method (use health care claims data plus medical record review data). The remaining HEDIS measures in this report (Cervical Cancer Screening, Childhood Immunization Status – Combo 10, and Immunizations for Adolescents – Combo 2) use the hybrid method. The immunization measures also use data from the Minnesota Immunization Information Connection (MIIC) – a statewide system that stores electronic immunization records. The Breast Cancer Screening and Chlamydia Screening measures use the administrative method.

Data Collection

NCQA's HEDIS Technical Specifications provide standard definitions for the eligible population for each measure, which include data elements such as age, continuous enrollment, and anchor date requirements. 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 databases. 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 (Expected) and Actual to Expected Ratio. Columns for Lower and Upper 95% Confidence Intervals are included. Additionally, 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

Not all medical groups are listed individually in the online appendix to this report. MNCM 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.