

APPENDIX

Methodology

DEPRESSION CARE IN MINNESOTA

2018 REPORT

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METHODS

Data Collection

All data elements were specified by MN Community Measurement in our 2018 Direct Data Submission (DDS) guides. These guides provide detailed steps and instructions to ensure that clinics submitted data in a standard format.

Data were reported at two levels: by clinic site and medical group. Clinics were 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.

For the adolescent mental health and/or depression screening measure, medical groups/clinics had the option to submit data on a clinic's total patient population (preferred) or a representative random sample of the clinic's patient population. For the adult depression measures, medical groups were required to submit their total population.

Clinic abstractors collected 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 completed numerous quality checks before data was submitted to MNCM. Detailed instructions for medical groups/clinics conducting quality checks were provided in the 2018 DDS Guides. All appropriate HIPAA requirements were followed.

An extensive validation process conducted by MNCM staff included 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 used the National Committee for Quality Assurance's (NCQA) "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 were conducted by trained MNCM auditors who were independent of medical groups and/or clinics. The validation process ensures that the data are reliable, complete and consistent.

Eligible Population Specifications

The eligible populations for the measures reported through the DDS process to MNCM by medical groups and clinics were identified by a medical group on behalf of their individual clinics. MNCM's 2018 Direct Data Submission (DDS) Guides provided technical specifications for the standard definitions of eligible population for each measure, which included elements such as age, appropriate diagnosis codes, and number of visits needed in the measurement time frame.

Numerator Specifications

For DDS measures, the numerator was the number of patients identified from the eligible population who met the numerator criteria. The criteria were 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 MNMCM – 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 easily. Risk adjustment is applied to outcome measures submitted directly by providers; process measures are not risk adjusted.

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 that is based on the specific characteristics of patients seen at that clinic/medical group, compared to the total patient population.

All expected values for the depression measures are calculated using a logistic regression model with the following variables: insurance product type (commercial, Medicare, Medicaid, uninsured, unknown), initial PHQ-9 severity bands (moderate, moderately severe, and severe), patient age, and deprivation index. The deprivation index was added in 2018 and includes patient ZIP code level averages 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 was 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.

The tables for the non-risk-adjusted measures (e.g., adolescent mental health and/or depression screening) include all the columns noted for risk-adjusted measures except Expected Rate and Actual to Expected Ratio. Columns for Lower and Upper 95% Confidence Intervals are included. Additionally, non-risk-adjusted measures are rated on the following scale:

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

Thresholds for Public Reporting

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

Geographic analyses

Patient zip code was used to determine geographic location and then merged with RUCA version 2.0 zip code data to determine location type:

- » RUCA codes 1-3: Metropolitan area, population of 50,000+
- » RUCA codes 4-6: Micropolitan area, population of 10,000-49,000
- » RUCA codes 7-10: Small town/rural area, population less than 10,000

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, country of origin and preferred language) for MNMCM measures at a statewide level. These charts utilize the REL data submitted by medical groups through MNMCM's Direct Data Submission (DDS) process. Please refer to the MNMCM [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.

