Use of Opioids at High Dosage or from Multiple Providers in Persons Without Cancer

We describe 3 measures that examine high dosage opioid use from multiple providers, among individuals 18 years and older without cancer. Patients in hospice also are excluded. The denominator includes individuals with two or more prescription claims for opioids filled on at least two separate days, for which the sum of the days supply is ≥ 15 during the treatment period.

Three measures are described herein that examine the quality of opioid use. Each of the following numerators will be considered:

Measure 1: Use of Opioid at High Dosage in Persons Without Cancer (OHD): The proportion (XX out of 1,000) of individuals from the denominator receiving prescriptions for opioids with a daily dosage greater than 120 morphine milligram equivalents (MME) for 90 consecutive days or longer. *NQF endorsement anticipated 3/2017. #2940*

Measure 2: Use of Opioids from Multiple Providers in Persons Without Cancer (OMP): The proportion (XX out of 1,000) of individuals from the denominator receiving prescriptions for opioids from four (4) or more prescribers AND four (4) or more pharmacies. *NQF endorsement anticipated 3/2017. #2950*

Measure 3: Use of Opioids at High Dosage and from Multiple Providers in Persons Without Cancer (OHDMP): The proportion (XX out of 1,000) of individuals from the denominator receiving prescriptions for opioids with a daily dosage greater than 120 morphine milligram equivalents (MME) for 90 consecutive days or longer, AND who received opioid prescriptions from four (4) or more prescribers AND four (4) or more pharmacies. *NQF endorsement anticipated 3/2017. #2951*

Measurement Year	The time period when the measure is assessed, generally the calendar year.
Opioid	Also include tramadol and tapentadol (See Table Opioid-A)
Morphine Milligram Equivalent (MME)	Oral morphine milligram equivalent. The MME conversion factor used to retrospectively calculate daily MME to inform analyses of risks associated with opioid prescribing (See Appendix A for conversions – separate attachment)

The purpose of quality measurement is to improve quality, inform consumers, reduce risk to patients and influence payment. At this time, the goal is to develop measure concepts that are indicative of potential improvements in or to our healthcare system so that evidence-based patient care can be provided and patient outcomes can be achieved, in consideration of costs and, ultimately, value.

Towards this end, we propose 3 measures related to opioid use that are indicative of the quality of care for these medications. We propose these measures to examine the quality of use related to the dose of the medications over time, access to the medications and the combination of both of these criteria.

Claims data from commercially insured patients indicate that approximately 8% of opioid prescriptions for acute pain and 12% for chronic pain specify a daily dosage of 120 morphine milligram equivalents (MME) or more.[1] The proportion of patients being treated at this dosage for more than 90 days has not been described. However, one study of veterans treated with 180 MME/day or more for 90+ days[2] found that this group was characterized by high rates of psychiatric and substance abuse disorders and frequently did not receive care consistent with clinical guidelines. Other studies have suggested the people at high opioid dosage are at greater risk of overdoses and fractures.[3,4,5] The Washington State Agency Medical Directors Group has suggested 120 MME as a dosage level that should not be exceeded without special consideration.[6]

Prescription drug monitoring programs, which track the use of multiple providers by patients, indicate that such use is typically found among a small proportion of patients, with the proportion declining as the number of providers increases. In Massachusetts in 2006, considering only Schedule II opioids, 0.5% of patients saw 4+ prescribers and 4+ pharmacies.[7] A national study found that 13% of patients had overlapping prescriptions from two or more different prescribers during an 18-month period. Of these, 0.5% used 4+ prescribers and 4+ pharmacies.[8] People who see multiple prescribers or use multiple pharmacies are more likely to die of drug overdoses.[4] Data from the California PDMP indicates that people with higher daily dosages are more likely to see multiple prescribers or go to multiple pharmacies.[9]

The data above suggest that prevention of opioid overdose deaths should focus on strategies that target (1) high-dose opioid users as well as (2) persons who seek care from multiple doctors and pharmacies. The data suggest that these criteria can be considered separately, as measures related to prescribed opioids for legitimate uses versus diverted uses. Thus, we propose 3 measures: one for each criteria and one that is the intersection of both criteria. This approach will also assist health plans in managing the number of patients who meet the measure criteria and planning their respective interventions, so that a balance of identification and intervention can be determined.

Age	18 years and older as of the first day of the measurement year.
Treatment Period	The patient's treatment period begins on the date of the first fill of the target medication (i.e., index date) and extends through the last day of the measurement year or until death or disenrollment. For Measure 1 (OHD) and Measure 3 (OHDMP), the treatment period must be 90 or more days.
Benefit	Pharmacy.
Continuous Enrollment …using enrollment data	Subjects should be continuously enrolled during the treatment period.
Allowable Gap for Medicaid	No more than one gap in continuous enrollment of up to 45 days during the treatment period. To determine continuous enrollment for a Medicaid beneficiary for whom enrollment is verified monthly, the enrollee may not have more than a 1-month gap in coverage (i.e., an enrollee whose coverage lapses for 2 months [60 consecutive days] is not considered continuously enrolled).
Stratification	Commercial, Medicaid, Medicare (report each product line separately) Low income subsidy (LIS) population (report rates for LIS population and non-LIS population separately
Intended Use	Health Plans
Data Source	Medical claims, Pharmacy claims, Prescription Drug Hierarchical Condition Categories (RxHCCs), ICD-9/ICD-10

Measure 1: Use of Opioid at High Dosage in Persons Without Cancer (OHD)

Denominator	Any member with two or more prescription claims for opioids filled on at least two separate days, for which the sum of the days supply is ≥ 15
Numerator	Any member in the denominator with greater than 120 MME for ≥ 90 consecutive days*
Rate	The rate is to be reported as a proportion: XX out of 1,000 individuals who meet the denominator criteria.

Measure 2: Use of Opioids from Multiple Providers in Persons Without Cancer (OMP)

Denominator Any member with two or more prescription claims for opioids filled on at least two separate days, for which the sum of the days supply is ≥ 15.

Numerator Any member in the denominator who received opioids from 4 or more prescribers AND 4 or more pharmacies.

Rate The rate is to be reported as a proportion: XX out of 1,000 individuals who meet the denominator criteria.

Measure 3: Use of Opioids at High Dosage and from Multiple Providers in Persons Without Cancer (OHDMP)

Denominator Any member with two or more prescription claims for opioids filled on at least two separate days, for which the sum of the days supply is ≥ 15

Numerator Any member in the denominator with greater than 120 MME for ≥ 90 consecutive days* AND who received opioid prescriptions from 4 or more prescribers AND 4 or more pharmacies.

Rate The rate is to be reported as a proportion: XX out of 1,000 individuals who meet the denominator criteria.

Denominator Exclusions (all 3 measures) Denominator exclusion: Any member with or a hospice indicator from the enrollment database or a cancer diagnosis.

A cancer diagnosis is defined as having Prescription Drug Hierarchical Condition Categories (RxHCCs) 8, 9, 10, 11 for Payment Year 2015; or RxHCCs 15, 16, 17, 18, 19 for Payment Year 2016, or having at least one claim for the ICD-9 or ICD-10 codes, based on the American Medical Association-convened Physician Consortium for Performance Improvement Cancer value sets (*See* ICD-9 and/or ICD-10 diagnosis codes in the excel file, *ICD Codes Measure Manual*, tab Opioid Measures – *Table Cancer Exclusion*).

Payment Year 2015

RxHCC 8	Chronic Myeloid Leukemia
RxHCC 9	Multiple Myeloma and Other Neoplastic Disorders
RxHCC 10	Breast, Lung, and Other Cancers and Tumors
RxHCC 11	Prostate and Other Cancers and Tumors

Payment Year 2016

RxHCC 15	Chronic Myeloid Leukemia
RxHCC 16	Multiple Myeloma and Other Neoplastic Disorders
RxHCC 17	Secondary Cancers of Bone, Lung, Brain and Other Specified Sites; Liver Cancer
RxHCC 18	Lung, Kidney, and Other Cancers
RxHCC 19	Breast and Other Cancers and Tumors

http://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/downloads/Advance2014.pdf
https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Risk-Adjustors.html

Calculating Daily MME To identify members with prescription opioids that exceeded the MME threshold, each claim is to be converted into the MME using the appropriate conversion factor associated with the opioid product of that prescription claim (the conversion factor is listed in the NDC file for this measure). The MME for each day's claims then are summed to determine the total MME for that day.

For each member in the denominator:

1. Calculate the MME for each opioid prescription claim during the treatment period, using the following equation: [Strength * (Quantity Dispensed / Days Supply)] * MME conversion factor = MME/day
2. Sum the daily MMEs of all opioid claims for each day to arrive at a total daily MME for each member.
3. Identify the days where the MME threshold is exceeded.

Any member, for whom the MME threshold is exceeded for 90 consecutive days or longer, meets the criteria for the MME component of the numerator.

Example Calculation of Morphine Milligram Equivalents Per Day:

[Strength * (Quantity Dispensed / Days Supply)] * MME conversion factor = MME/day

The “Quantity Dispensed” and "Days Supply" comes from the prescription. Strength and MME conversion factor is determined by the NDC code and provided in the NDC code file.

Example: 10 mg oxycodone tablets X (120 tablets / 30 days) X 1.5 = 60 MME/day
Example: 25 µg/hr fentanyl patch X (10 patches / 30 days) X 7.2 = 60 MME/day

Table Opioid-A: Opioid Medications[a]

buprenorphine[b]	hydrocodone	morphine	oxymorphone
butorphanol	hydromorphone	opium	pentazocine
codeine	levorphanol	oxycodone	tapentadol
dihydrocodeine	meperidine		tramadol
fentanyl[c]	methadone		

[a] Excludes injectable formulations and opioid cough and cold products

[b] Excludes single-agent and combination buprenorphine products used to treat opioid use disorder (i.e., buprenorphine sublingual tablets, Probuphine® Implant kit subcutaneous implant, and all buprenorphine/naloxone combination products).

[c] Excludes Ionsys® (fentanyl transdermal patch), as it is only for inpatient use and is only available through a restricted program under a Risk Evaluation and Mitigation Strategy (REMS).

Notes on Selected MME Conversion Factors (source reference below):

1. A special adjustment was made to permit use of the above formula with fentanyl and buprenorphine patches to account for the fact that such patches are described in units of micrograms per hour rather than milligrams and are used for more than one day.

    a. The MME conversion factor for fentanyl patches is based on the assumption that one milligram of parenteral fentanyl is equivalent to 100 milligrams of oral morphine and that one patch delivers the dispensed micrograms per hour over a 24 hour day.

    Example: 25 ug/hr fentanyl patch X 24 hrs = 600 ug/day fentanyl = 60 mg/day oral morphine milligram equivalent.

    In other words, the conversion factor not accounting for days of use would be 60/25 or 2.4.

    However, since the fentanyl patch remains in place for 3 days, we have multiplied the conversion factor by 3 (2.4 X 3 = 7.2). In this example, MME/day for ten 25 µg/hr fentanyl patches dispensed for use over 30 days would work out as follows:

    Example: 25 ug/hr fentanyl patch X (10 patches/30 days)X 7.2 = 60 MME/day

    Please note that because this allowance has been made based on the typical dosage of one fentanyl patch per 3 days, you should first change all Days Supply in your prescription data to follow this standard, i.e., Days Supply for fentanyl patches= # of patches X 3.

b. The MME conversion factor for buprenorphine patches is based on the assumption that one milligram of parenteral buprenorphine is equivalent to 75 milligrams of oral morphine and that one patch delivers the dispensed micrograms per hour over a 24 hour day.

   Example: 5 ug/hr buprenorphine patch X 24 hrs = 120 ug/day buprenorphine = 0.12 mg/day = 9 mg/day oral morphine milligram equivalent.

   In other words, the conversion factor not accounting for days of use would be 9/5 or 1.8.

   However, since the buprenorphine patch remains in place for 7 days, we have multiplied the conversion factor by 7 (1.8 X 7 = 12.6). In this example, MME/day for four 5 µg/hr buprenorphine patches dispensed for use over 28 days would work out as follows:

   Example: 5 ug/hr buprenorphine patch X (4 patches/28 days)X 12.6 = 9 MME/day

   Please note that because this allowance has been made based on the typical dosage of one buprenorphine patch per 7 days, you should first change all Days Supply in your prescription data to follow this standard, i.e., Days Supply for buprenorphine patches= # of patches x 7.

2. The MME conversion factor for fentanyl buccal tablets, sublingual tablets, and lozenges/troche is 0.13. This conversion factor should be multiplied by the number of micrograms in a given tablet or lozenge/troche.
3. A special adjustment was made to permit use of the MME formula with Lazanda (fentanyl nasal spray). The opioid strength for Lazanda was multiplied by 8 in the PQA NDC file because it is dispensed as “1” but there are 8 sprays/bottle.
4. A special adjustment was made to permit use of the MME formula with Subsys (fentanyl sublingual spray). The opioid strength for Subsys wss multiplied by 2 in the PQA NDC file because it is dispensed as “1” but the dose is 2 sprays.

The MME conversion factor is intended only for analytic purposes where prescription data is used to retrospectively calculate daily MME to inform analyses of risks associated with opioid prescribing. This value does not constitute clinical guidance or recommendations for converting patients from one form of opioid analgesic to another. Please consult the manufacturer’s full prescribing information for such guidance. Use of this file for the purposes of any clinical decision-making warrants caution. This is particularly true with regard to methadone. Calculating MME for methadone in clinical practice often involves a sliding-scale approach whereby the conversion factor increases with increasing dose. The conversion factor of 3 for methadone presented in this file would underestimate MME for a given patient.

Source Reference: National Center for Injury Prevention and Control. CDC compilation of benzodiazepines, muscle relaxants, stimulants, zolpidem, and opioid analgesics with oral morphine milligram equivalent conversion factors, 2016 version. Atlanta, GA: Centers for Disease Control and Prevention; 2016.
Available at www.cdc.gov/drugoverdose/media/ DataFiles: Oral MMEs – Excel Data File