

**Quality ID #238 (NQF 0022): Use of High-Risk Medications in Older Adults**

– National Quality Strategy Domain: Patient Safety

– Meaningful Measure Area: Medication Management

**2021 COLLECTION TYPE:**

**MIPS CLINICAL QUALITY MEASURES (CQMS)**

**MEASURE TYPE:**

Process – High Priority

**DESCRIPTION:**

Percentage of patients 65 years of age and older who were ordered at least two of the same high-risk medications.

**INSTRUCTIONS:**

This measure is to be submitted a minimum of **once per performance period** for patients seen during the performance period. There is no diagnosis associated with this measure. This measure may be submitted by Merit-based Incentive Payment System (MIPS) eligible clinicians who perform the quality actions described in the measure based on the services provided and the measure-specific denominator coding.

**NOTE:** Patient encounters for this measure conducted via telehealth (e.g., encounters coded with GQ, GT, 95, or POS 02 modifiers) are allowable.

**Measure Submission Type:**

Measure data may be submitted by individual MIPS eligible clinicians, groups, or third party intermediaries. The listed denominator criteria are used to identify the intended patient population. The numerator options included in this specification are used to submit the quality actions as allowed by the measure. The quality-data codes listed do not need to be submitted by MIPS eligible clinicians, groups, or third party intermediaries that utilize this modality for submissions; however, these codes may be submitted for those third party intermediaries that utilize Medicare Part B claims data. For more information regarding Application Programming Interface (API), please refer to the Quality Payment Program (QPP) website.

**DENOMINATOR:**

Patients 65 years and older who had a visit during the measurement period

**Denominator Criteria:**

Patients aged  $\geq$  65 years on date of encounter

**AND**

**Patient encounter during performance period (CPT or HCPCS):** 92002, 92004, 92012, 92014, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99315, 99316, 99318, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350, 99385\*, 99386\*, 99387\*, 99395\*, 99396\*, 99397\*, G0438, G0439

**AND NOT**

**DENOMINATOR EXCLUSION:**

**Patients who use hospice services any time during the measurement period:** G9741

**NUMERATOR:**

Patients with at least two orders for the same high-risk medication on different days during the measurement period

**Definitions:**

The intent of the numerator is to assess if the patient has either been prescribed at least two of the same high-risk medication in Table 1, received two or more prescriptions on different days, where the sum of days supply exceeds 90 days, for medications in the same medication class in Table 2. The intent of the measure is to assess if the submitting provider ordered the high-risk medication(s). If the patient had a high-risk medication previously prescribed by another provider, they would not be counted towards the

numerator unless the submitting provider also ordered a high-risk medication for them.

**Cumulative Medication Duration** – an individual’s total number of medication days over a specific period; the period counts multiple prescriptions with gaps in between, but does not count the gaps during which a medication was not dispensed.

To determine the cumulative medication duration, determine first the number of the Medication Days for each prescription in the period: the number of doses divided by the dose frequency per day. Then add the Medication Days for each prescription without counting any days between the prescriptions.

For example, there is an original prescription for 30 days with 2 refills for thirty days each. After a gap of 3 months, the medication was prescribed again for 60 days with 1 refill for 60 days. The cumulative medication duration is  $(30 \times 3) + (60 \times 2) = 210$  days over the 10 month period.

**Table 1 - High-Risk Medications at any dose or duration**

Description	Prescription	
Anticholinergics, first-generation antihistamines	Brompheniramine Carbinoxamine Chlorpheniramine Clemastine Cyproheptadine Dexbrompheniramine Dexchlorpheniramine Dimenhydrinate	Diphenhydramine (oral) Doxylamine Hydroxyzine Meclizine Orphenadrine Promethazine Pyrilamine Triprolidine
Anticholinergics, anti-Parkinson agents	Benztropine (oral)	Trihexyphenidyl
Antispasmodics	Atropine (exclude ophthalmic) Belladonna alkaloids Chlordiazepoxide-clidinium  Dicyclomide	Hyoscyamine Methscopolamine Propantheline Scopolamine
Antithrombotics	Dipyridamole, oral short-acting (does not apply to the combination with aspirin)	
Cardiovascular, alpha agonists, central	Methyldopa	Guanfacine
Cardiovascular, other	Disopyramide	Nifedipine, immediate release
Central nervous system, antidepressants	Amitriptyline Hydrochloride Clomipramine Amoxapine Desipramine	Imipramine Trimipramine Nortriptyline Paroxetine Protriptyline
Central nervous system, barbiturates	Amobarbital Butabarbital Butalbital	Pentobarbital Phenobarbital Secobarbital

Description	Prescription	
Central nervous system, vasodilators	Ergot mesylates	Isoxsuprine
Central nervous system, other		Meprobamate
Endocrine system, estrogens with or without progestins; include only oral and topical patch products	Conjugated estrogen Etopipate	Estradiol Esterified estrogen
Endocrine system, sulfonylureas, long- duration	Chlorpropamide Glimepiride	Glyburide
Endocrine system, other	Desiccated thyroid	Megestrol
Pain medications, skeletal muscle relaxants	Carisoprodol Chlorzoxazone Cyclobenzaprine	Metaxalone Methocarbamol Orphenadrine
Pain medications, other	Indomethacin Meperidine	Ketorolac, includes parenteral

\*The registry version of the measure specifications only indicates the classes of drugs that are considered high-risk and do not include the specific coding of RxNorm. However, this measure aligns with the eCQM measure (CMS 156) and providers may review the RxNorm codes in the applicable eCQM value sets for submission.

**Table 2 - High-Risk Medications With Days Supply Criteria**

Description	Prescription		Days Supply Criteria
Anti-Infectives, other	Nitrofurantoin Nitrofurantoin macrocrystals	Nitrofurantoin macrocrystals-monohydrate	>90 days
Nonbenzodiazepine hypnotics	Eszopiclone Zaleplon	Zolpidem	>90 days

**NUMERATOR NOTE:** Some high-risk medications are not included in this specific measure but should be avoided above a specified average daily dose. These medications are listed in Table 3. To calculate an average daily dose multiply the quantity of pills ordered by the dose of each pill and divide by the days supply. For example, a prescription for a 30-days supply of digoxin containing 15 pills, 0.250 mg each pill, has an average daily dose of 0.125 mg.

**Table 3 - DAE-C: High-Risk Medications With Average Daily Dose Criteria**

Description	Prescription	Average Daily Dose Criteria
Alpha agonists, central	Reserpine	>0.1 mg/day
Cardiovascular, other	Digoxin	>0.125 mg/day
Tertiary TCAs (as single agent or as part of combination products)	Doxepin	>6 mg/day

**Numerator Instructions:**

**INVERSE MEASURE** - A lower calculated performance rate for this measure indicates better clinical care or control. The "Performance Not Met" numerator option for this measure is the representation of the better clinical quality or control. Submitting that numerator option will produce a performance rate that trends closer to 0%, as quality increases. For inverse measures a rate of 100% means all of the denominator eligible

patients did not receive the appropriate care or were not in proper control.

A high-risk medication is identified by either of the following:

- A prescription for medications classified as high risk at any dose and for any duration listed in Table1
- Prescriptions for medications classified as high risk at any dose with greater than a 90 day cumulative medication duration listed in Table2

**Numerator Options:**

***Performance Met:***

At least two orders for the same high-risk medication  
**(G9367)**

**OR**

***Performance Not Met:***

At least two orders for the same high-risk medications not  
ordered **(G9368)**

**RATIONALE:**

Certain medications (MacKinnon & Hepler, 2003) are associated with increased risk of harm from drug side-effects and drug toxicity and pose a concern for patient safety. There is clinical consensus that these drugs pose increased risks in older adults (Kaufman, Brodin, & Sarafian, 2005). Potentially inappropriate medication use in older adults has been connected to significantly longer hospital stay lengths and increased hospitalization costs (Hagstrom et al., 2015) as well as increased risk of death (Lau et al. 2004).

Older adults receiving inappropriate medications are more likely to report poorer health status at follow-up, compared to those who receive appropriate medications (Lau et al. 2004). A study of the prevalence of potentially inappropriate medication use in older adults found that 40 percent of individuals 65 and older filled at least one prescription for a potentially inappropriate medication and 13 percent filled two or more (Fick et al. 2008). While some adverse drug events are unavoidable, studies estimate that between 30 and 80 percent of adverse drug events in older adults are preventable (MacKinnon and Hepler 2003).

Reducing the number of inappropriate prescriptions can lead to improved patient safety and significant cost savings. Conservative estimates of extra costs due to potentially inappropriate medications in older adults average \$7.2 billion a year (Fu et al. 2007). Medication use by older adults will likely increase further as the U.S. population ages, new drugs are developed, and new therapeutic and preventive uses for medications are discovered (Rothberg et al. 2008). The annual direct costs of preventable adverse drug events (ADEs) in the Medicare population have been estimated to exceed \$800 million (IOM, 2007). By the year 2030, nearly one in five U.S. residents is expected to be aged 65 years or older; this age group is projected to more than double in number from 38.7 million in 2008 to more than 88.5 million in 2050. Likewise, the population aged 85 years or older is expected to increase almost four-fold, from 5.4 million to 19 million between 2008 and 2050. As the older adult population continues to grow, the number of older adults who present with multiple medical conditions for which several medications are prescribed will continue to increase, resulting in polypharmacy concerns (Gray and Gardner 2009).

**CLINICAL RECOMMENDATION STATEMENTS:**

The measure is based on recommendations from the American Geriatrics Society Beers Criteria for Potentially Inappropriate Medication Use in Older Adults (2019). The criteria were developed through key clinical expert consensus processes by Beers in 1997, Zahn in 2001 and an updated process by Fick in 2003, 2012, 2015 and 2019. The Beers Criteria identifies lists of drugs that are potentially inappropriate for all older adults and drugs that are potentially inappropriate in older adults based on various high-risk factors such as dosage, days' supply and underlying diseases or conditions.

NCQA's Geriatric Measurement Advisory Panel recommended a subset of drugs that should be used with caution in older adults for inclusion in the proposed measure based upon the recommendations in the Beers Criteria.

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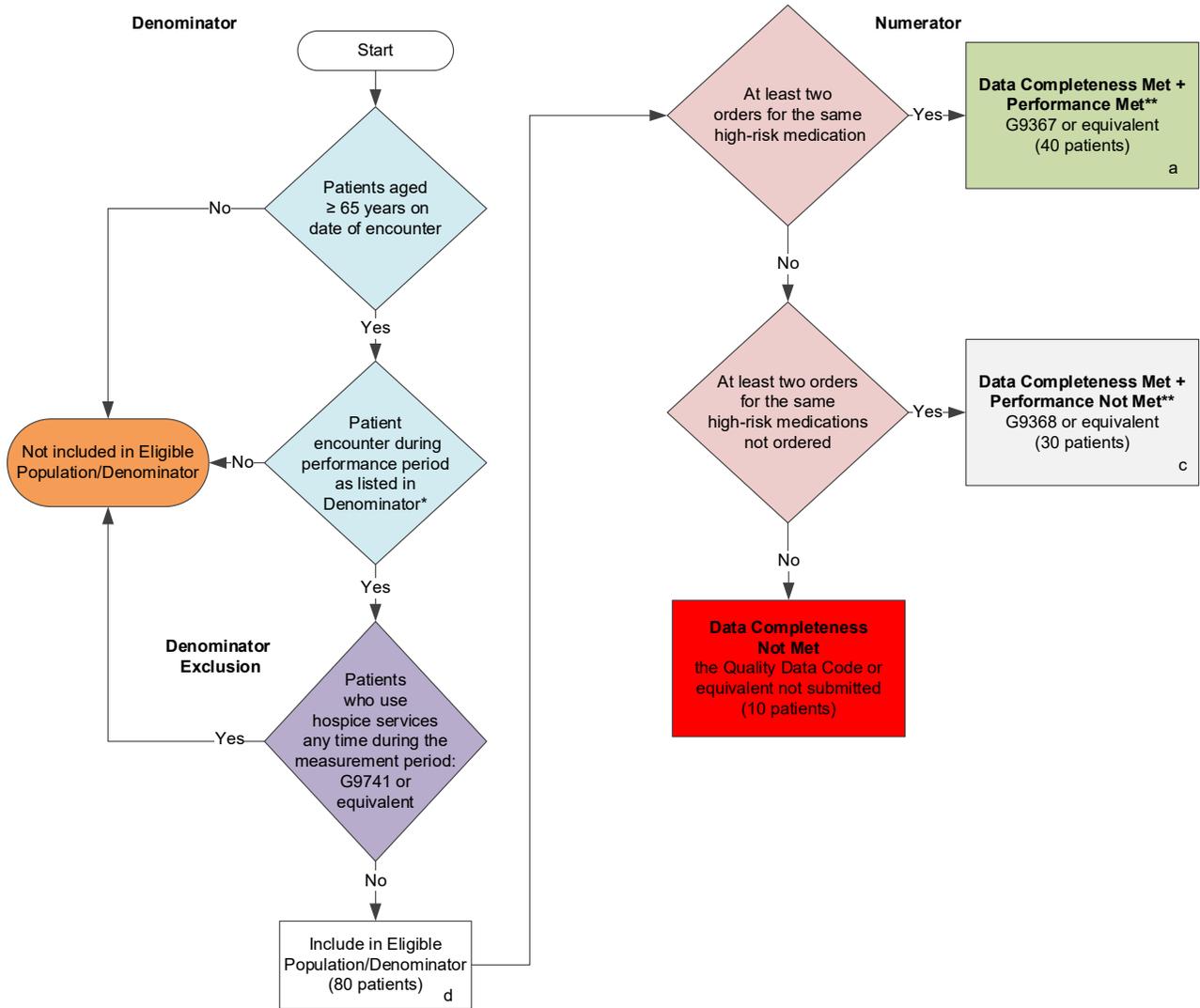
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## 2021 Clinical Quality Measure Flow for Quality ID #238 (NQF 0022): Use of High-Risk Medications in Older Adults

*Disclaimer: Refer to the measure specification for specific coding and instructions to submit this measure.*



### SAMPLE CALCULATIONS

**Data Completeness=**

$$\frac{\text{Performance Met (a=40 patients) + Performance Not Met (c=30 patients)}}{\text{Eligible Population / Denominator (d=80 patients)}} = \frac{70 \text{ patients}}{80 \text{ patients}} = 87.50\%$$

**Performance Rate\*\*=**

$$\frac{\text{Performance Met (a=40 patients)}}{\text{Data Completeness Numerator (70 patients)}} = \frac{40 \text{ patients}}{70 \text{ patients}} = 57.14\%$$

\* See the posted measure specification for specific coding and instructions to submit this measure.

\*\*A lower calculated performance rate for this measure indicates better clinical care or control.

NOTE: Submission Frequency: Patient-Process

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**2021 Clinical Quality Measure Flow Narrative for Quality ID #238 (NQF 0022):  
Use of High-Risk Medications in the Elderly**

**Disclaimer:** Refer to the measure specification for specific coding and instructions to submit this measure.

1. Start with Denominator
2. Check *Patients aged greater than or equal to 65 years of age on date of encounter*.
  - a. If *Patients aged greater than or equal to 65 years of age on date of encounter* equals No, do not include in *Eligible Population/Denominator*. Stop processing.
  - b. If *Patients aged greater than or equal to 65 years of age on date of encounter* equals Yes, proceed to check *Patient encounter during performance period as listed in Denominator\**.
3. Check *Patient encounter during performance period as listed in Denominator\**:
  - a. If *Patient encounter during performance period as listed in Denominator\** equals No, do not include in *Eligible Population/Denominator*. Stop processing.
  - b. If *Patient encounter during performance period as listed in Denominator\** equals Yes, proceed to check *Patients who use hospice services any time during the measurement period*.
4. Check *Patients who use hospice services any time during the measurement period*:
  - a. If *Patients who use hospice services any time during the measurement period* equals Yes, do not include in *Eligible Population/Denominator*. Stop processing.
  - b. If *Patients who use hospice services any time during the measurement period* equals No, include in *Eligible Population/Denominator*.
5. Denominator Population:
  - Denominator Population is all Eligible Patients in the Denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d equals 80 patients in the Sample Calculation.
6. Start Numerator
7. Check *At least two orders for the same high-risk medication*:
  - a. If *At least two orders for the same high-risk medication* equals Yes, include in *Data Completeness Met and Performance Met\*\**.
    - *Data Completeness Met and Performance Met\*\** letter is represented as Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a equals 40 patients in Sample Calculation.
  - b. If *At least two orders for the same high-risk medication* equals No, proceed to check *At least two orders for the same high-risk medications not ordered*.
8. Check *At least two orders for the same high-risk medications not ordered*:

- a. If *At least two orders for the same high-risk medications not ordered* equals Yes, include in *Data Completeness Met and Performance Not Met\*\**.
    - *Data Completeness Met and Performance Not Met\*\** letter is represented as Data Completeness in the Sample Calculation listed at the end of this document. Letter c equals 30 patients in the Sample Calculation.
  - b. If *At least two orders for the same high-risk medications not ordered* equals No, proceed to check *Data Completeness Not Met*.
9. Check *Data Completeness Not Met*:
- a. If *Data Completeness Not Met*, the Quality Data Code or equivalent was not submitted. 10 patients have been subtracted from Data Completeness Numerator in the Sample Calculation.

**Sample Calculations:**

Data Completeness equals Performance Met (a equals 40 patients) plus Performance Not Met (c equals 30 patients) divided by Eligible Population / Denominator (d equals 80 patients). All equals 70 patients divided by 80 patients. All equals 87.50 percent.

Performance Rate equals Performance Met (a equals 40 patients) divided by Data Completeness Numerator (70 patients). All equals 40 patients divided by 70 patients. All equals 57.14 percent.

\* See the posted measure specification for specific coding and instructions to submit this measure.

\*\*A lower calculated performance rate for this measure indicates better clinical care or control.

NOTE: Submission Frequency: Patient-Process

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