2. Potentially Inappropriate Anticholinergic Drug Use in the Elderly Treated for Dementia

Rationale:
Alzheimers Disease is an age-related cognitive disorder that presently affects an estimated 4.5 million Americans, with estimates of a four-fold increase in prevalence by the year 2050. Considering the additional impact of other less common dementias (vascular dementia, dementia with Lewy bodies) and those affected by mild cognitive impairment (MCI), the dementias collectively have a profound and growing impact on the quality of life of American seniors (and Part D beneficiaries), being major contributors to lost employment, institutionalization, and mortality in the elderly.[1]

While the dementias may be caused by a variety of pathophysiologic factors (neuritic plaques, infarction, etc), contemporary pharmacologic treatment of cognitive symptoms is primarily based on the actual increase in central cholinergic activity through the use of cholinesterase inhibitors (e.g. donepezil) and through the relative increase in cholinergic activity through the use of glutamate antagonists (memantine).[2-4] Unfortunately, these agents are capable of only modest improvements in symptoms, and their benefits are generally short-lived.[5] In addition, a number of potentially inappropriate drugs with antagonistic effects (i.e. anticholinergics) are commonly prescribed in the elderly and may either worsen patient cognition or diminish the benefits of the dementia agents.[6-8]

The Beers List was developed by an expert panel of geriatricians and includes a variety of medications considered to be generally inappropriate for use in elderly due to their lack of efficacy, unacceptable side effects profile, and the availability of superior agents.[9] Interestingly, a large number of the Beers List medications also demonstrate appreciable anticholinergic activity, making them capable of impairing cognition in the elderly, and of antagonizing the effects of available dementia drugs. Being that these agents are considered inappropriate for seniors in general, and that they may also be of particular concern in those treated for dementia, the anticholinergic Beers list medications are well suited for inclusion in this measure assessing quality of care in elderly beneficiaries treated for dementia.

A similar HEDIS™ measure has recently been developed and introduced by NCQA, the “Potentially Harmful Drug-Disease Interactions in the Elderly” measure.[10] This measure includes as a sub-component the prevalence of use of anticholinergic drugs in patients with dementia, with dementia being identified by diagnostic code or the use of available dementia drugs. While the list of anticholinergic drugs included by NCQA does include a large number of those identified by Beers, additional agents are also present.

Building on the earlier work based on the Beers List and by NCQA, the present measure seeks to assess the quality of prescribing for beneficiaries with dementia by measuring the proportion of patients receiving drug therapy for dementia who also receive potentially inappropriate anticholinergic drugs. Through proper measurement and the implementation of effective interventions, it may be possible to improve patient quality of life and to improve clinical outcomes.

Measure Domain: Patient Safety

Measure Type: Process

Eligible Population: Medicare Part D enrollees

Measurement Period: Six months

Risk Adjustment: No

Data Source(s):
Prescription drug claims (PDEs)

Exclusion criteria:
- Claim utilized non- standard format
- Claims for medical supplies or durable medical equipment
- Dispensed date falls outside of measurement period
- Drugs not covered by the Part D plan
- Claim for compounded prescription
- Quantity dispensed is null, non-numeric, or <1
- Partially filled prescription
- Claim is duplicative or reversed
- Beneficiary <65 years of age at beginning of measurement period
- Drug product dispensed: NDC matches with comprehensive drug database (Lexicon by Multum; Denver, CO)

Definition of Terms

Medications Used to Treat Dementia

FDA-approved cholinesterase inhibitors (donepezil, galantamine, and rivastigmine, and tacrine) and the glutamate antagonist memantine are included in the measure. While previously available agents may have limited utility for the treatment of dementia, they are rarely prescribed, and they may also be utilized in other conditions, precluding their inclusion in the present measure.

Potentially Inappropriate Anticholinergic Drugs

All drugs identified in the Table 1 of the Beers Criteria (ref, 2002 Criteria for Potentially Inappropriate Medication Use in Older Adults: Independent of Diagnoses or Conditions)[9] that have known anticholinergic properties as well as additional anticholinergic agents identified Table C or F in the NCQA measure Potentially Harmful Drug-Disease Interactions in the Elderly (DDE)[10] are included in the measure. These include:

Drug	Drug	Drug	Drug	Drug
Amitriptyline	Clemastine	Disopyramide	Metaxalone	Propantheline
Amoxapine	Clidinium	Doxepin	Methocarbamol	Protriptyline
Atropine	Clomipramine	Flavoxate	Methscopolamine	Scopolamine
Azatadine	Cyclizine	Glycopyrrolate	Nortriptyline	Tolterodine
Belladonna	Cyclobenzaprine	Homatropine	Orphenadrine	Trihexyphenidyl
Benztropine	Cyproheptadine	Hydroxyzine	Oxybutynin IR	Trimethobenzamide
Brompheniramine	Dexchlorpheniramine	Hyoscyamine	Oxybutynin ER	Trimipramine
Carisoprodol	Dicyclomine	Imipramine	Perphenazine	Tripelennamine
Chlorpheniramine	Dimenhydrinate	l-hyoscyamine	Prochlorperazine	Triprolidine
Chlorzoxazone	Diphenhydramine	Meclizine	Promethazine	

IR= immediate release; ER= extended release; PIAD calculation does not include products intended for nasal, ophthalmic, topical, or vaginal dosage routes of administration.

Potentially Inappropriate Anticholinergic Drug Use in the Elderly Treated for Dementia

Description: The percentage of Medicare Part D beneficiaries receiving prescription drug therapy for dementia with ≥1 potentially inappropriate anticholinergic drugs (PIADs) in the measurement period.

Numerator Statement:
The number of Part D enrollees treated for dementia with ≥1 PDE for listed anticholinergic agent during the measurement period.

Denominator Statement:
The total number of Part D enrollees with one or more complete PDE claims for dementia drugs during the measurement period.

IPRO

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