

Quality Partners Online

DEC 2009 - DRUG SAFETY

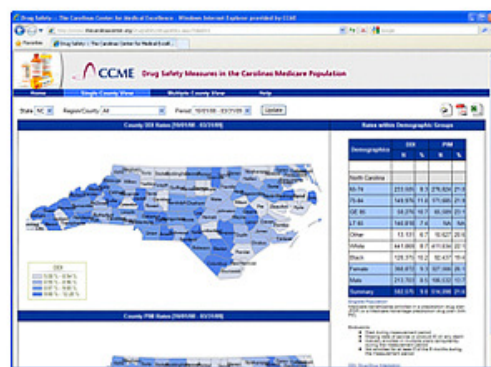
Medication Errors Common in the Carolinas

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CCME's interactive website promotes awareness and education and helps to improve drug safety across diverse provider settings in the Carolinas.

Medication errors are among the most common medical mistakes, harming at least 1.5 million people every year.¹ According to a report from the [Institute of Medicine \(IOM\)](#), the extra medical costs of treating drug-related injuries conservatively amounts to \$3.5 billion a year in hospitals alone.² The [Centers for Medicare & Medicaid Services \(CMS\)](#) responded to this problem with a national drug safety initiative implemented at the state level by its [Medicare Quality Improvement Organizations \(QIOs\)](#).

The [Carolinas Center for Medical Excellence \(CCME\)](#), the QIO for North and South Carolina, has joined with Medicare managed care plans in the Carolinas in a Medicare-sponsored patient safety program focusing on medication prescribing errors. CCME works closely with physicians, pharmacists, and prescription drug plans throughout the Carolinas providing information and resources to reduce medication errors.



Medication errors occur commonly in the elderly population and among Medicare beneficiaries across all medical settings. CMS and CCME monitor rates of potentially inappropriate medication (PIM) use in older Medicare beneficiaries and potential drug-drug interactions (DDI) in the entire Medicare population. Data are obtained using Medicare Part D administrative claims. In South Carolina, 24.8% (PIM) of persons 65 years of age and older were using potentially inappropriate medications, and 8.8% (DDI) were taking multiple potentially interacting medications from April to September 2008. In North Carolina, 22.6% (PIM) of persons 65 years of age and older were using potentially inappropriate medications, and 9.1% (DDI) were taking multiple potentially interacting medications from April to September 2008.

Causes of inappropriate medication use are numerous and not completely understood. They are frequently the result of poorly coordinated and fragmented medical care delivered to patients seen in multiple settings by multiple physicians. The persistence and prevalence of PIM and DDI in the Medicare population support the need for quality improvement projects to improve drug safety.

Medications can be considered inappropriate in the elderly when their risks outweigh their benefits. The Beers list³ identifies medications that should be avoided in persons 65 years of age or older because they are ineffective, pose an unnecessarily high risk, or because a safer alternative is available.

The elderly population generally uses more prescription medications, placing them at a higher risk of drug-drug interactions. The estimated incidence of drug interactions rises from 6% in patients taking two medications a day to as high as 50% in patients taking five medications a day.⁴ Inappropriate prescribing is common in the ambulatory setting, in nursing homes, and in emergency departments. Exposure to

inappropriate medications is associated with increased risk of adverse drug reactions and hospitalization⁵

The CCME drug safety program helps to reduce medication errors through physician education and reminders. Data from administrative claims are used to identify physicians prescribing PIM and DDI. There are many classes of drugs involved in DDI and PIM. Drug-specific rates were reviewed by a team of pharmacists and physicians. Specific drugs with especially high impact were selected as the focus of this program. The team identified two drugs frequently prescribed with risks that typically exceed benefits: propoxyphene and clonidine.

Studies have suggested that propoxyphene is no more effective than acetaminophen or aspirin in reducing pain, and in most studies it was less effective. Propoxyphene's side effects include dizziness, sedation, drowsiness and confusion, potentially leading to falls and hip fractures.⁶ Propoxyphene's active metabolite has a cardiotoxic and arrhythmic effect. Its long half-life of 30–36 hours poses a high risk of accumulation if given repeatedly, especially in the elderly who are prone to increased serum concentration levels or reduced elimination of propoxyphene. Clonidine, in combination with a beta blocker, can have synergistic effects possibly resulting in AV block, bradycardia and hypotension. Hypertensive crisis and death can result on abrupt withdrawal of clonidine or beta-blocker when this combination is used.

Physicians prescribing these medications were reminded of their potential adverse actions in letters that included a list of patients filling these prescriptions. The letters requested that physicians review the needs of their patients prescribed propoxyphene or clonidine and consider alternate therapy if possible. There are a number of other drugs currently being considered for the next round of letters. This type of intervention has been performed in other states with great success. The success of this program in North and South Carolina will be evaluated using prescription claims data associated with physicians receiving the letters.

CCME's interactive website, [Drug Safety Measures in the Carolinas Medicare Population](#), provides access to comprehensive reports of DDI and PIM within demographic groups for Medicare Part D enrollees at the county, regional, and state level in North and South Carolina. CCME's website also offers quality improvement tools, prescription safety information, and materials related to the topics of DDI and PIM for older adults. To visit the site, please go to www2.thecarolinascenter.org/drugsafety.

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