

NH PIM Report – January 2007, Revised April 2007

This report highlights potentially inappropriate medications (PIMs), as defined in the Beers Criteria, CFMC identified from the collection of medication administration records (MARs) from October 2006. Approximately 39% of residents were receiving at least one PIM in their regularly scheduled medications.

Also incorporated into this report is information from monthly pharmacist reports and physician feedback related to PIMs. Chart review was done in November 2006 to acquire historical pharmacist and physician communications, as available in active charts. Pharmacist reports are incorporated as available. Individual facilities have been de-identified.

The Beers Criteria has many similarities with F-tag 329 Unnecessary Medications. Table 1 displays similarities and differences between the Beers Criteria and the new F-tag 329 (revised December 18, 2006).

Table 1. Beers Criteria vs. F-Tag

Beers criteria	Considering diagnosis or condition	F-Tag recommendations
ASA>325 mg/day	Gastric/duodenal ulcers	Monitor for bleeding if dose >325 mg/day
	Concomitant NSAID/anti-coag tx	Monitor for bleeding with concomitant NSAID/anti-coag tx
Oxaprozin (Daypro)		Omitted from list of long-term use
Fluoxetine		Regular antidepressant monitoring guidelines
Isocarboxazid	Insomnia	Regular MAOI warnings/monitoring
Phenelzine		
Tranlycypromine		
Thioridazine	Decrease seizure threshold	General anti-psychotic warnings/monitoring
Thiothixine		
Clozapine		
Thioridazine	Safer alternatives exist	General anti-psychotic warnings/monitoring
Mesoridazine (Serentil)		

This material was prepared by CFMC, the Medicare Quality Improvement Organization for Colorado, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy. PM-160-152 CO 2006

Beers criteria	Considering diagnosis or condition	F-Tag recommendations
Olanzapine	Obesity	General anti-psychotic warnings/monitoring
Alprazolam	Doses >2 mg/day	Doses >.75mg/day
Lorazepam	Doses >3 mg/day	Doses >2 mg/day
Oxazepam	Doses >60 mg/day	Doses >30 mg/day
Temazepam	Doses >15 mg/day	No listed recommendation
Chlordiazepoxide	Use short-acting BDZ	Doses >20 mg/day
Clorazepate	COPD	Doses >15 mg/day
Diazepam		Doses >5 mg/day
Flurazepam		Doses >15 mg/day
Quazepam		Doses >7.5 mg/day
Doxazosin	Stress incontinence	No mention of stress incontinence
Prazosin		
Terazosin		
Doxazosin	Low risk, but not recommended	No recommendation
Propranolol	COPD	Monitor for bronchospasm
Ethacrynic acid	Low risk, safer alternatives available	No recommendation
Stimulant laxatives	Long-term use may exacerbate bowel dysfunction	No recommendation, only side effects
Dessicated thyroid	Safer alternatives available	No recommendation
Oxybutynin	Poorly tolerated, not effective	Monitor for anticholinergic side effects

Methods

CFMC examined the medication records of nursing home residents in five facilities in November 2006. Of 416 medication records collected, 403 were usable for analysis (residents 65 years of age or older). Medications were separated by regularly scheduled and PRN, and PIMs were identified.

Results

Overall, approximately 39% of the 403 residents were receiving at least one PIM in their regularly scheduled medications, and 59% of the 403 residents had a PIM available for use PRN. These PIM rates are largely due to the use or allowed use of bisacodyl and ipratropium. Bisacodyl was the most frequent PIM in the prior data collection period, July/August 2006.

Individual facilities varied in their rate of regularly scheduled PIMs from approximately 24% to 49%. PRN PIM rates ranged from 46% to 91%. Figure 1 shows the rate of residents receiving at least one PIM, either as a regularly scheduled medication or available for use PRN.

Figure 1. Percent of Residents With a PIM

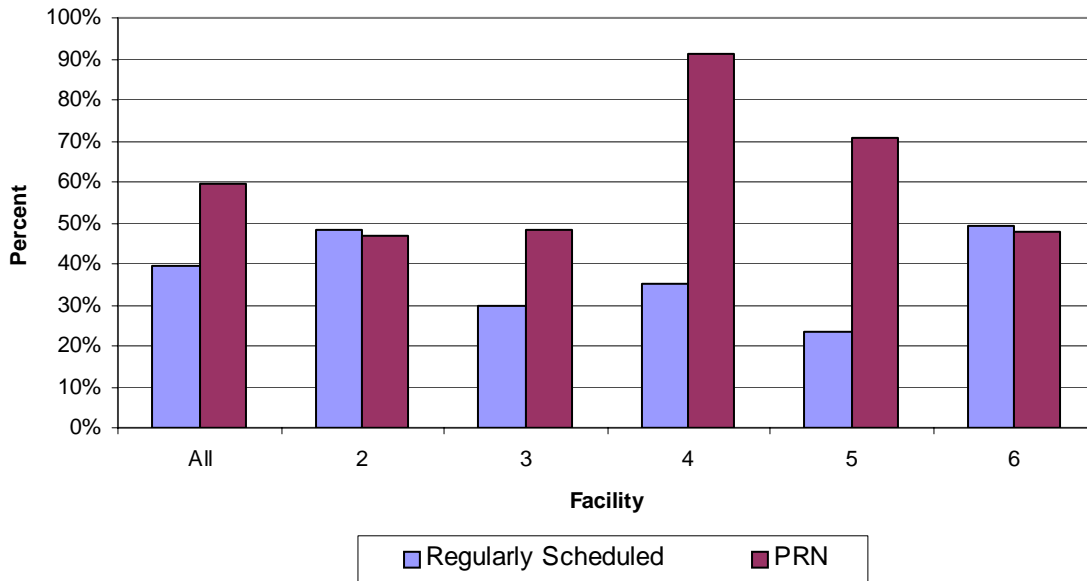


Figure 2 addresses how many PIMs each resident with at least one PIM was receiving. The majority of residents with at least one PIM were receiving only one PIM (65% in regularly scheduled medications, 77% in PRN medications). Some residents were receiving 2 PIMs (27% in regularly-scheduled medications, 17% in PRN medications). Few residents were receiving 3 or more PIMs (8% in regularly-scheduled medications, 6% in PRN medications).

Figure 2. Distribution of PIMs per Resident

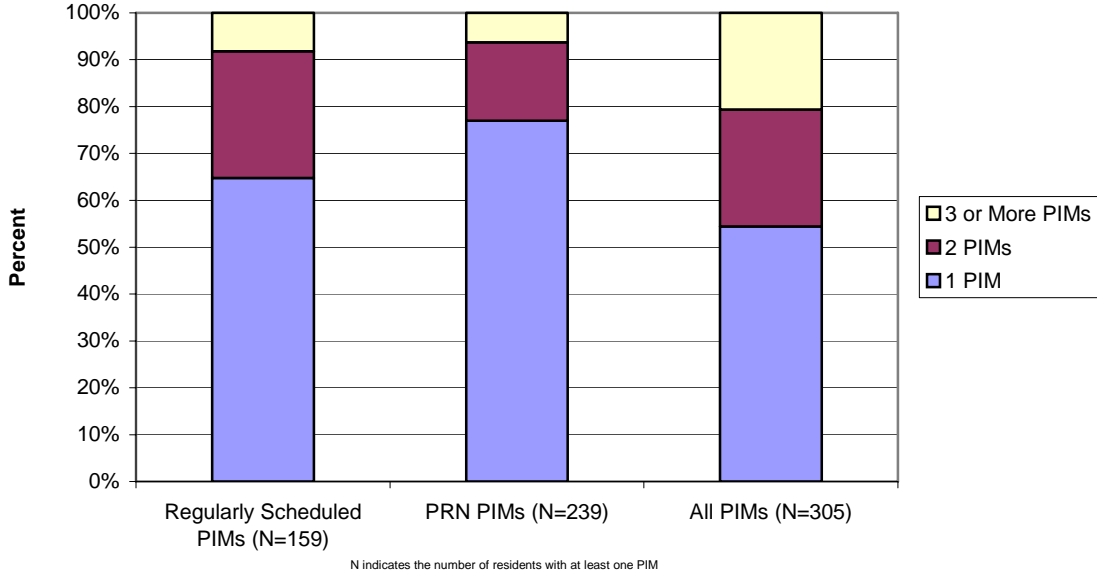


Figure 3 identifies the actual regularly scheduled medications identified as PIMs and the proportion of residents receiving each. For example, of the 159 residents receiving at least one PIM in their regularly scheduled medications, approximately 22% were receiving ipratropium and 18% were receiving bisacodyl. Figure 4 reflects the proportion of PIMs discontinued and/or addressed by the pharmacist or physician as potentially inappropriate. For example, 26% of the residents identified with ipratropium as a PIM have either had this medication discontinued or the pharmacist and physician have communicated about this PIM.

Figure 4. Regularly Scheduled PIMs

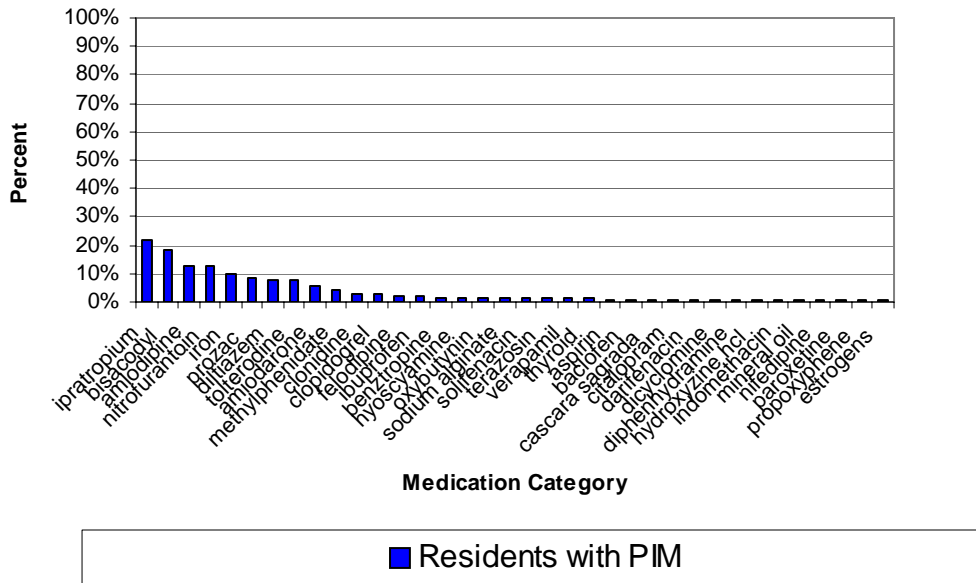


Figure 4. Regularly Scheduled PIMs Addressed

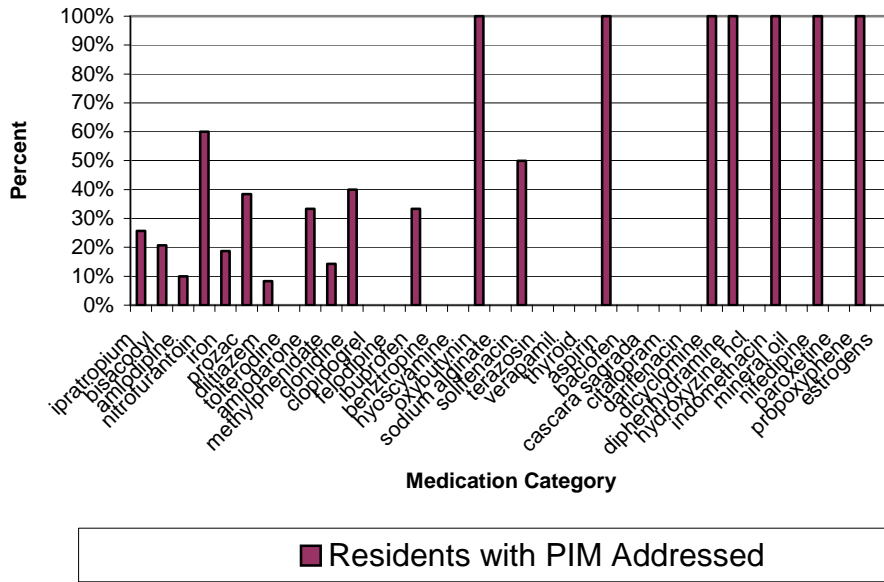


Figure 5 is similar to Figure 3 and Figure 6 is similar to Figure 4, but for PRN medications. Bisacodyl may or may not be inappropriate for PRN use, but it is still reflected in this table. Approximately 73% of the 239 residents receiving at least one PIM in their PRN medications were receiving bisacodyl and 22% were receiving ipratropium. Promethazine and diphenhydramine were each around 8%. One hundred percent of residents receiving propoxyphene PRN have had this medication discontinued or addressed by the pharmacist and/or physician.

Figure 5. PRN PIMs

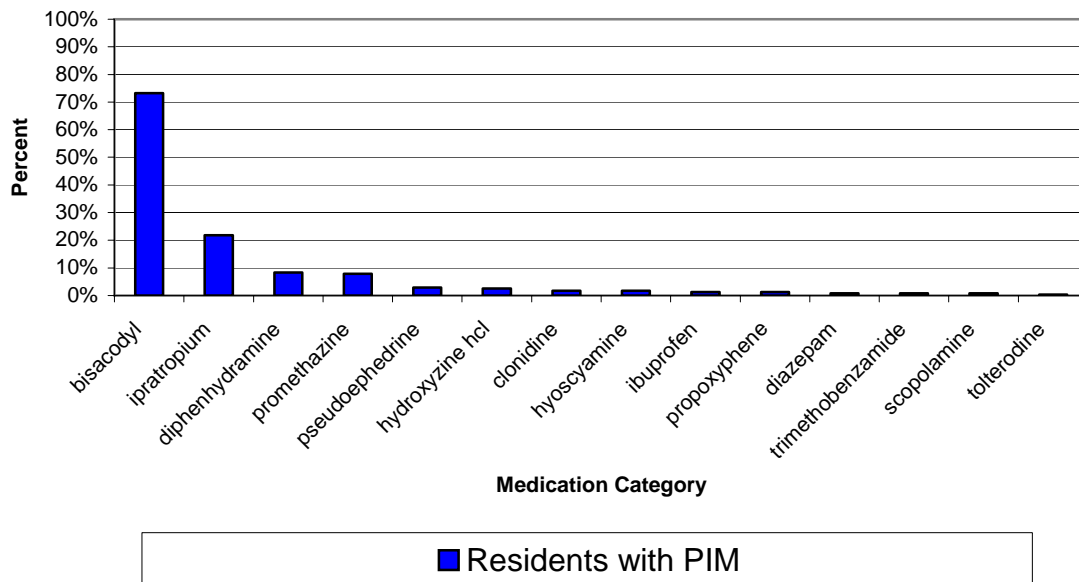
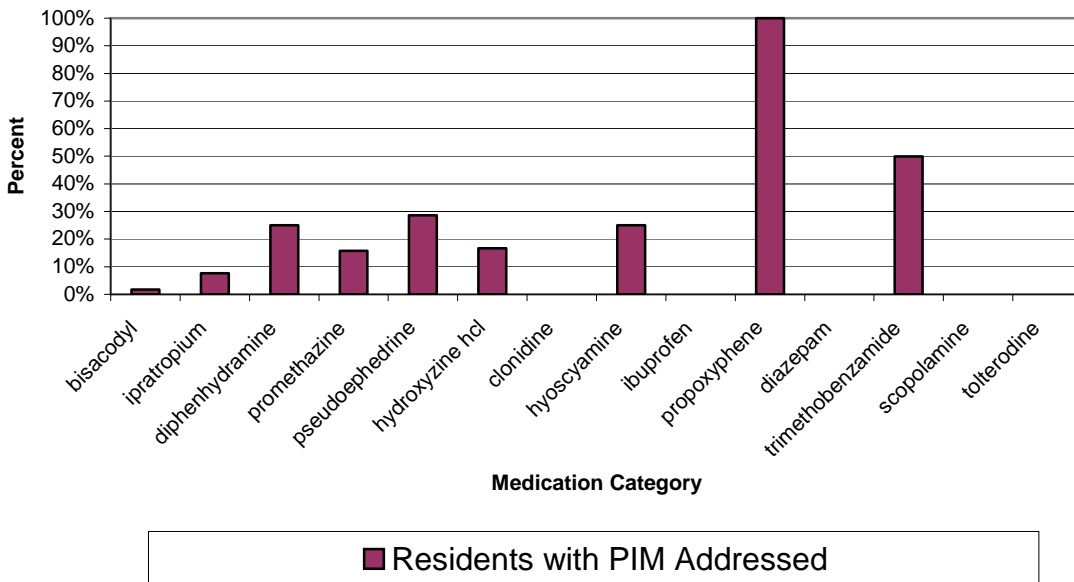


Figure 6. PRN PIMs Addressed



While it is important to have PRN medications, it is also interesting to note that most PRN PIMs were not administered at all or rarely administered. This is reflected in Figure 7. Bisacodyl, ipratropium, hydroxyzine hcl, hyoscyamine, and propoxyphene are the only PRN PIMs for which any residents have taken them six or more days in October 2006.

Figure 7. Number of Days PRN PIM Taken

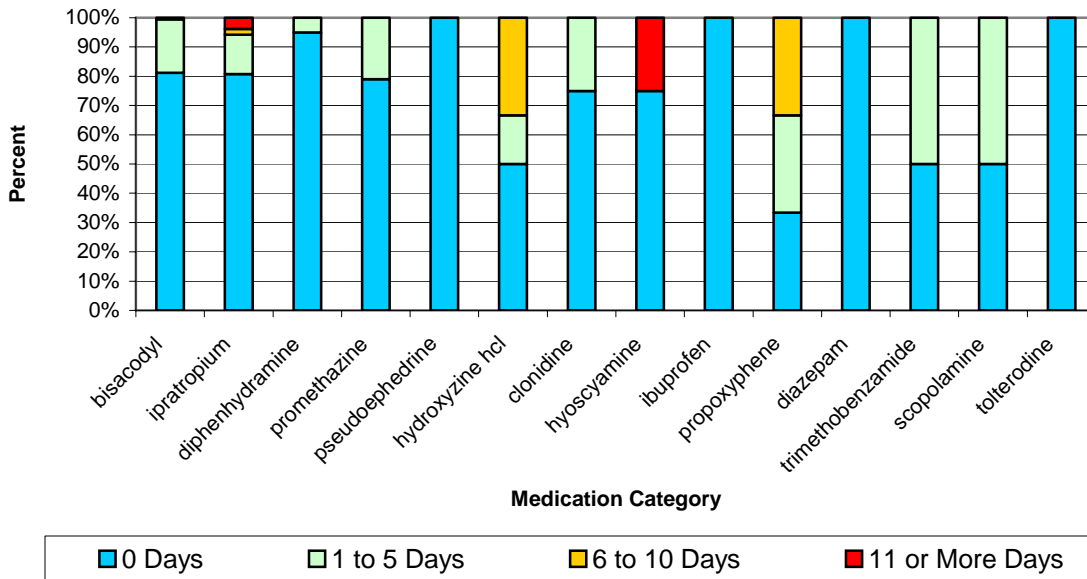


Figure 8 reflects the average number of medications listed on the MAR, while Figure 9 reflects the median number of medications, for all residents (not just those over 65 years of age). These numbers include all items on the MAR: alcoholic beverages, med pass, lotions/creams, vitamins, and drugs. Thus, these numbers may be higher than what

appears from other sources. For the extremes, there is at least one resident not receiving any medications and one resident receiving 37 regularly-scheduled medications.

Figure 8. Average Number of Medications per Resident

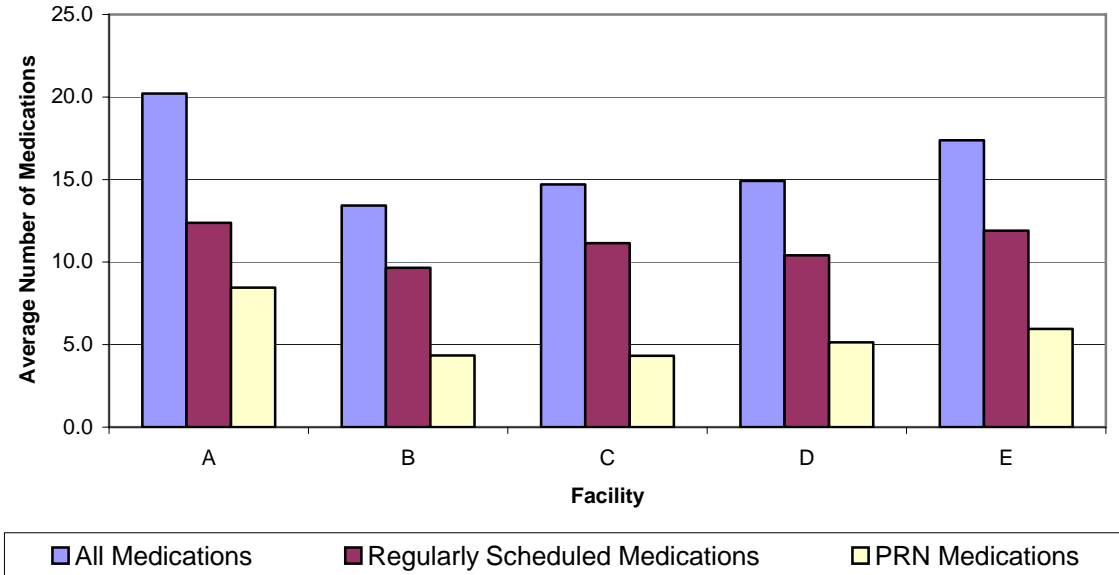


Figure 9. Median Number of Medications per Resident

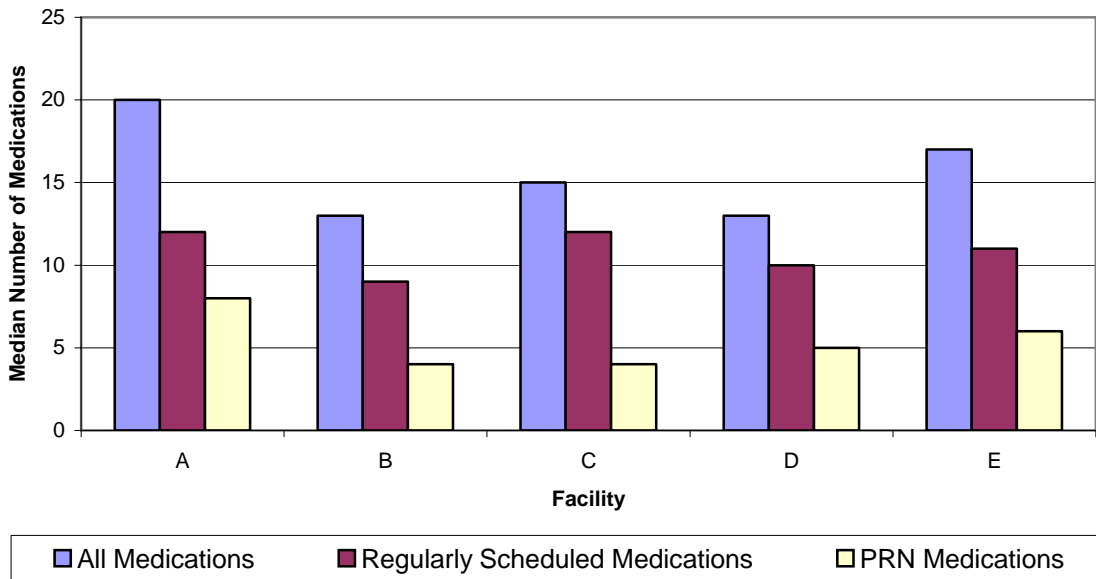


Table 2 identifies medications for which the frequency of dosing potentially could be adjusted. If these medications are given differently than the recommended schedule, communicate with the physician about changing the dose and frequency of dosing.

Table 2. Medications With Potential to Adjust Dosage and Frequency

Med to Be Reduced	Recommended Schedule	Diagnosis Dependency	Number of Residents Not on Recommended Schedule
Potassium	BID	No	94
Calcium	BID	No	79
Senokot	BID	No	75
Vicodin	Q6H or PRN	No	72
Remeron	QHS	No	39
Oxycodone	BID	No	31
Zantac	BID	No	27
Ocean Spray	PRN	No	22
Macrodantin	TID	No	21
Keflex	BID	No	15
Cardizem	TID (based on which form is used)	No	12
Dilantin	QD (capsules) BID (Liq. And chews)	No	7
Lyrica	BID	No	5
Xanax	BID	No	5
Hydralazine	BID-TID	Yes (HTN, CHF)	4
Isordil	BID	Yes (Angina)	4
Oxybutynin	BID-QID	No	4
Trazodone	BID or QHS (sleep)	Yes (depression and/or anxiety; alcoholism; insomnia; panic disorder)	4
Azmacort	TID	No	3
Questran	BID	No	3
Buspar	BID (NTE 60 mg/day)	No	2
Robitussin DM	PRN	No	2
TYL#3	TID	No	2
Asacol	BID	Yes (colitis; Crohn's; proctitis)	1
Aspercream	BID-QID	No	1

Med to Be Reduced	Recommended Schedule	Diagnosis Dependency	Number of Residents Not on Recommended Schedule
Propranolol	BID	No	1
Requip	QD or TID	Yes (QD for RLS; TID for Parkinson's)	1
Seroquel	QD-BID	Yes (psychotic disorders; depression; bipolar; mania; OCD; schizophrenia)	1
Zelnorm	BID	No	1
Zovirax	BID-PID	Yes (Many Dx)	1