

Appendix 1. List of potentially inappropriate medications (PIMs) identified and discontinued among adults utilizing medications for the treatment of dementia in 2017.

Medication	Name of Medication	Number of PIMs Identified	Number of PIMs discontinued
Antihistamine		9218	5113
	Diphenhydramine	342	33
	Promethazine	1110	770
	Hydroxyzine	1077	563
	Chlorpheniramine	78	47
	Brompheniramine	72	53
	Clemastine	2	0
	Cyproheptadine	337	154
	Meclizine	6160	3484
	Dimenhydrinate	8	0
	Allergy	2	2
	Allergy Relief	5	0
	Motion Sickness	4	0
	Travel Sickness	21	7
Anticholinergic		3496	959
	Benztropine	502	130
	Hyoscyamine	356	145
	Tolteridone	1564	317
	Dicyclomine	977	346

	Trihexylphenidyl	86	16
	Methscopolamine	11	5
Typical Antipsychotic		1288	512
	Haloperidol	732	267
	Prochlorperazine	377	211
	Perphenazine	66	11
	Fluphenazine	28	8
	Loxapine	17	3
	Pimozide	5	2
	Thioridazine	12	2
	Thiothixene	19	0
	Trifluoperazine	32	8
Atypical Antipsychotic		12559	2798
	Aripiprazole	1266	262
	Clozapine	41	3
	Olanzapine	1537	310
	Risperidone	2536	634
	Paliperidone	61	11
	Quetiapine	6629	1451
	Ziprasidone	200	55
	Lurasidone	190	42
	Iloperidone	12	5
	Cariprazine	16	6

	Brexiprazole	43	13
	Asenapine	28	6
Tricyclic Antidepressant		1544	460
	Amitriptyline	945	220
	Amoxapine	4	3
	Imipramine	75	17
	Doxepin	502	217
	Clomipramine	16	3
	Trimipramine	2	0
Muscle relaxant		1743	923
	Cyclobenzaprine	1203	645
	Carisoprodol	89	48
	Chlorzoxazone	35	18
	Methocarbamol	288	158
	Metaxalone	97	50
	Orphenadrine	31	4
Antispasmodic		3833	835
	Oxybutynin	3817	829
	Flavoxate	15	6
	Belladonna	1	0
Antiemetic		15	8
	Trimethobenzamide	15	8

Appendix 2: List of prescription claims triggering a potentially inappropriate medication alert
categorized into medication groups

Medication Group	Medication	Number of Alerts	Number of Alerts resolved
Aripiprazole	Abilify	12	2
	Abilify maintena	4	2
	Aripiprazole	1244	256
	Aripiprazole ODT	4	2
	Aristada	2	0
Diphenhydramine	Acetaminophen- diphenhydramine	1	0
	Benadryl	160	2
	Benadryl Allergy	10	1
	Children Benadryl Allergy	16	0
	Diphenhydramine HCL	104	14
	Banophen	18	11
	Tylenol PM Extra Strength	34	5
Benztropine	Benztropine Mesylate	502	130
Amitriptyline	Amitriptyline	936	216
	Chlordiazepoxide- amitriptyline	9	4
Amoxapine	Amoxapine	4	3

Clozapine	Clozapine	38	3
	Clozapine ODT	3	0
Cyclobenzaprine	Amrix	9	6
	Cyclobenzaprine	1194	639
Carisoprodol	Carisoprodol	86	48
	Soma	3	0
Hyoscamine	Hyoscamine sulfate	75	29
	Hyoscamine sulfate ER	17	5
	Hyoscamine sulfate SR	2	1
	Levsin-SL	2	0
	Symax-Duotab	1	0
	Symax-SR	2	0
	Levbid	2	0
	Scopolamine	65	25
	Oscimin SR	1	1
	Transderm Scopolamine	189	84
Haloperidol	Haldol	2	0
	Haloperidol	570	202
	Haloperidol Decanoate	10	5
	Haloperidol Decanoate 100	3	2
	Haloperidol Lactate	147	58
Risperidone	Risperdal	8	4

	Risperdal Consta	32	8
	Risperidone	2447	603
	Risperidone ODT	49	19
Olanzapine	Olanzapine	1451	288
	Olanzapine ODT	70	19
	Olanzapine-fluoxetine hcl	8	1
	Zyprexa	8	2
Prochlorperazine	Prochlorperazine	32	15
	Prochlorperazine Edisylate	2	2
	Prochlorperazine maleate	315	182
	Compazine	7	0
	Compro	21	12
Promethazine	Promethazine HCL	576	360
	Promethazine VC	9	5
	Promethazine VC-Codeine	13	11
	Promethazine -Codeine	250	192
	Promethazine - Dextromethorphan	249	197
	Promethazine – phenylephrine-codeine	5	4
	Phenergan	8	1
Hydroxyzine	Hydroxyzine HCL	775	394
	Hydroxyzine Pamoate	299	169

	Vistaril	3	0
Imipramine	Imipramine HCL	70	15
	Imipramine Pamoate	3	2
	Tofranil	2	0
Paliperidone	Invega	5	3
	Invega Sustenna	13	1
	Paliperidone ER	43	7
Tolteridone	Tolteridone tartrate	305	66
	Tolteridone tartrate ER	1251	251
	Detrol La	8	0
Quetiapine	Quetiapine Fumarate	6220	1318
	Quetiapine Fumarate ER	276	64
	Seroquel	21	6
	Seroquel XR	112	63
Oxybutynin	Oxybutynin Chloride	1427	327
	Oxybutynin Chloride ER	2390	502
Chlorzoxazone	Parafon Forte DSC	3	0
	Chlorzoxazone	24	12
	Lorzone	8	6
Perphenazine	Perphenazine	51	8
	Perphenazine - Amitriptyline	15	3
Fluphenazine	Fluphenazine Decanoate	7	5

	Fluphenazine HCL	21	3
Doxepin HCL	Doxepin HCL	448	193
	Zonalon	1	1
	Silenor	53	23
Methocarbamol	Robaxin	5	0
	Robaxin-750	2	0
	Methocarbamol	281	158
Ziprasidone	Ziprasidone	181	43
	Geodon	19	12
Dicyclomine	Dicyclomine Hcl	975	346
	Bentyl	2	0
Chlorpheniramine	Chlorpheniramine Hcl	8	0
	Hydrocodone- Chlorpheniramine- ER	67	47
	Chlor-trimetron	3	0
Brompheniramine	Brompheniramine pseuephedrine- Dextrometorphan	72	53
Clemastine	Clemastine-fumarate	2	0
Clomipramine	Clomipramine Hcl	16	3
Cyproheptadine	Cyproheptadine HCL	337	154
Meclizine	Meclizine HCL	6160	3484
Flavoxate	Flavoxate HCL	15	6

Lurasidone	Latuda	190	42
Iloperidone	Fanapt	12	5
Dimenhydrinate	Dramamine	8	0
Loxapine	Loxapine	17	3
Metaxalone	Metaxalone	94	49
	Skelaxin	3	1
Methscopolamine	Methscopolamine		
	Bromide	11	5
Orphenadrine	Orphenadrine Citrate	31	4
Brexiprazole	Rexulti	43	13
Asenapine	Saphris	28	6
Pimozide	Pimozide	5	2
Thioridazine	Thioridazine HCL	12	2
Thiothixene	Thiothixene	19	0
Trifluoperazine	Trifluoperazine HCL	32	8
Trihexyphenidyl	Trihexyphenidyl HCL	86	16
Trimethobenzamide	Trimethobenzamide HCL	15	8
Trimipramine	Trimipramine Maleate	2	0
Cariprazine	Vraylar	16	6
Belladonna	Belladonna-opium	1	0
Allergy	Allergy	2	2
Allergy Relief	Allergy Relief	5	0
Motion Sickness	Motion Sickness	4	0

Travel Sickness	Travel Sickness	21	7
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Appendix 3. List of health care provider types who prescribed medications for the treatment of dementia.

Category	Specialty	Number of Providers	Number of providers who prescribed potentially inappropriate medications
Primary Care Provider		10572	7374
	Family medicine	4422	3109
	Internal medicine	5526	3865
	Chiropractic medicine	1	1
	General practice	266	188
	Geriatric medicine	312	185
	Osteopathic manipulative medicine	17	13
	Pediatric medicine	26	12
	Preventative medicine	2	1
Non-physician Primary Care Provider		2660	896
	Nurse practitioner	1968	635
	Physician assistant	659	248
	Certified clinical nurse	33	13
Psychiatry/Psychology		1089	637
	Psychologist	8	2

	Geriatric psychiatry	29	18
	Neuropsychiatry	6	3
	Psychiatry	1046	614
Neurology	Neurology	2293	779
Miscellaneous specialty		853	404
	Addiction Medicine	4	4
	Allergy/Immunology	5	2
	Anesthesiology	10	5
	Cardiology	156	76
	Critical Care Intensivist	9	4
	Dentist	1	0
	Dermatology	1	1
	Diagnostic radiology	5	2
	Emergency medicine	97	53
	Endocrinology	44	22
	Gastroenterology	23	13
	General surgery	27	17
	Hematology/oncology	15	7
	Hospice palliative care	14	7
	Hospitalist	96	36

	Infectious disease	14	6
	Interventional cardiology	6	3
	Interventional pain management	6	3
	Medical oncology	7	4
	Nephrology	55	31
	Neurosurgery	8	4
	Nuclear medicine	1	0
	Obstetrics/gynecology	11	3
	Ophthalmology	10	1
	Optometry	2	1
	Oral Surgery	1	1
	Orthopedic Surgery	7	4
	Other (physician)	4	3
	Otolaryngology	1	1
	Pain management	6	2
	Physical medicine	85	27
	Plastic and Reconstructive Surgery	1	0
	Podiatry	1	1
	Pulmonary disease	68	43

	Radiation oncology	17	1
	Rheumatology	16	9
	Sleep Medicine	3	0
	Social worker	2	0
	Sports Medicine	1	0
	Thoracic Surgery	4	2
	Urology	6	3
	Vascular surgery	2	2
	Anesthesiology	1	0
	Uncategorized	641	269

