

**Appendix file for “Co-Prescribing of Opioids and High-Risk Medications in the U.S.: A Cross-Sectional Study with Data from National Ambulatory and Emergency Department Settings”**

**Appendix Table A. Medications with Generic (Brand) Names – Code in Ambulatory Care Drug Database System (e.g., d00000).**

**Sedative-Hypnotics**

- Barbituates
  - Amobarbital (Amytal Sodium) - d00171
  - Methohexital (Brevital Sodium) - d00929
  - Pentobarbital (Nembutal) - d00335
  - Phenobarbital (Luminal) - d00340
  - Secobarbital (Seconal) - d00368
  
- Non-benzodiazepine benzodiazepine receptor agonists (NBBRAs)
  - Eszopiclone (Lunesta) - d05421
  - Zaleplon (Sonata) - d04452
  - Zolpidem (Ambien, Edluar, Intermezzo) - d00910
  
- Other
  - Buspirone (Buspar) - anxiolytic - d00182
  - Chloral hydrate - hypnotic - d00147
  - Suvorexant (Belsomra) - orexin receptor antagonist, hypnotic - N16005
  - Ramelteon (Rozerem) - melatonin receptor agonist - d05578

**Benzodiazepines**

- Alprazolam (Alprazolam Intensol, Niravam, Xanax) - d00168
- Chlordiazepoxide (Librium) - d00189
- Clonazepam (Klonopin) - d00197
- Clorazepate (Tranxene-T) - d00198
- Diazepam (Valium) - d00148
- Estazolam (Prosom) - d00915
- Flurazepam (Dalmadorm, Dalmane) - d00238
- Lorazepam (Ativan, Lorazepam Intensol) - d00149
- Midazolam (Seizalam, Nayzilam, Versed) - d00301
- Oxazepam (Serax)- d00040
- Quazepam (Doral) - d00917
- Temazepam (Restoril) - d00384

<ul style="list-style-type: none"> <li>• Triazolam (Halcion) - d00397</li> </ul>
<b>Cannabinoids</b> <ul style="list-style-type: none"> <li>• Dronabinol (Marinol, Syndros) - d00866</li> </ul>
<b>Gabapentinoids/Anticonvulsants</b> <ul style="list-style-type: none"> <li>• Gabapentin (Neurontin) - d03182</li> <li>• Pregabalin (Lyrica) - d05508</li> </ul>
<b>Muscle Relaxants</b> <ul style="list-style-type: none"> <li>• Skeletal Muscle Relaxants <ul style="list-style-type: none"> <li>○ Baclofen (Kemstro, Lioresal, Gablofen, Ozobax) - d00967</li> <li>○ Carisoprodol (Soma, Vanadom) - d00960</li> <li>○ Chlorzoxazone (Lorzone, Paraflex, Parafon Forte DSC, Remular-S) - d00962</li> <li>○ Cyclobenzaprine (Amrix, Fexmid, Flexeril) - d00963</li> <li>○ Dantrolene (Dantrium, Revonto, Ryanodex) - d00968</li> <li>○ Orphenadrine (Antiflex, Mio-Rel, Norflex, Orfro, Orphenate) - d00966</li> <li>○ Metaxalone (Skelaxin) - d00964</li> <li>○ Methocarbamol (Robaxin) - d00965</li> <li>○ Tizanidine (Zanaflex) - d04102</li> </ul> </li> <li>• Skeletal Muscle Relaxant Combinations <ul style="list-style-type: none"> <li>○ Aspirin/Carisoprodol (Soma Compound) - d03470</li> <li>○ Aspirin/carisoprodol/Codeine (Soma Compound with Codeine)- d03470</li> <li>○ Aspirin/Caffeine/Orphenadrine (Norgesic, Orphengesic) - d03472</li> <li>○ Aspirin/Meprobamate (Equagesic, Micrainin) - d03448</li> </ul> </li> </ul>
<b>Opioids</b> <ul style="list-style-type: none"> <li>• Buprenorphine (Butrans) - d00840</li> <li>• Buprenorphine-naloxone (Suboxone) - d04819</li> <li>• Codeine - d00012</li> <li>• Codeine/acetaminophen (Tylenol with codeine) - d03423</li> <li>• Fentanyl (Abstral, Actiq, Duragesic, Fentora, Onsolis, Sublimaze) - d00233</li> <li>• Hydrocodone (Hysingla, Zohydro ER) - d03075</li> <li>• Hydrocodone/Acetaminophen (Lortab, Norco, Vicodin) - d03428</li> <li>• Hydromorphone (Dilaudid, Exalgo) - d00255</li> </ul>

- Meperidine (Demerol) - d00017
- Methadone (Diskets, Dolophine, Methadose)- d00050
- Morphine (Avinza, Kadian, Morphabond, MSIR, MS Contin, Oramorph, Roxanol-T) - d00308
- Oxycodone (OxyContin, Roxicodone, Roxanol) - d00329
- Oxycodone/Acetaminophen (Percocet) - d03431
- Oxymorphone (Opana) - d00833
- Tapentadol (Nucynta) - d07453
- Tramadol (Ultram) - d03826

**Tricyclic Antidepressants**

- Amitriptyline (Elavil) - d00146
- Amoxapine - d00874
- Clomipramine (Anafranil) - d00876
- Desipramine (Norpramin) - d00145
- Doxepin (Sinequan) - d00217
- Imipramine (Tofranil) - d00259
- Nortriptyline (Pamelor, Aventyl)- d00144
- Protriptyline (Vivactil) - d00875
- Trimipramine - d00873

**Appendix Table B. Top Five (5) Reasons for Patient Visit Among Visits with an Opioid Prescription + High-Risk Medication, by Setting (N = 25,021)**

Rank	NAMCS (N = 13,815); N (%; 95% CI)	NHAMCS (N = 11,206); N (%; 95% CI)
1	General Visit/Medication Refill; 3,030 (21.9; 21.2-22.6)	Musculoskeletal Pain (e.g., back/neck/shoulder); 4,192 (37.4; 36.5-38.3)
2	Musculoskeletal Pain (e.g., back/neck/shoulder); 2,257 (16.3; 15.7-17.0)	Chest Pain; 655 (5.8; 5.4-6.3)
3	Postoperative Visit; 465 (3.4; 3.1-3.7)	Abdominal Pain; 506 (4.5; 4.1-4.9)
4	Unspecified Other Pain; 348 (2.5; 2.3-2.8)	Headache/Pain in Head; 449 (4.0; 3.6-4.4)
5	Headache/Pain in Head; 231 (1.7; 1.5-1.9)	Motor Vehicle Accident/Injury; 310 (2.8; 2.5-3.1)

