



STATE OF TENNESSEE  
DEPARTMENT OF HEALTH

JOHN J. DREYZEHNER, MD, MPH  
COMMISSIONER

BILL HASLAM  
GOVERNOR

March 7, 2014

The Honorable Bill Haslam, Governor  
Tennessee State Capitol  
Nashville, TN 37243-0001

Dear Governor Haslam:


I am pleased to submit to you, as required by TCA 68-1-108(f) the Tennessee Department of Health Drug Poisoning Report for 2012. This report outlines the frequency of hospitalizations and emergency department visits due to drug poisonings as reported to the hospital discharge data system.

The report and the executive summary provide specifics related to the problem of drug poisonings in Tennessee, including information on high-risk populations, payer mix, nature of poisonings, and the types of prescription drugs responsible for these poisonings.

- **In 2012, there were 22,506 hospitalizations or emergency department visits for the treatment of drug poisonings with a total charge of \$269 million dollars.**
- **Drug poisonings were the most common among those aged 20 to 59 years**
- **Nearly half (43%) of all drug poisonings were accidental.**
- **A total of \$269 million were billed to patients and/or their payers for inpatient and outpatient hospitalizations due to drug poisonings.**
- **TennCare is the largest single payer for treating drug poisonings in Tennessee.**
- **About eighty percent of drug poisonings in Tennessee were either accidental or self-inflicted.**
- **The most common types of drugs in drug poisoning hospital discharges were psychotropic agents.**

Tennessee has a role to play in ensuring that its residents understand the dangers and risks associated with prescription painkillers. Evidence suggests our **proposed naloxone legislation** will decrease the rate of deaths and the costs associated with drug poisonings. Other state efforts, such as the Controlled Substance Monitoring Database (CSMD), and community efforts such as that collect and properly dispose of unused and expired medications, are just two strategies being used in our state to ensure and restore the health of Tennesseans. We are proud of the work that everyone is doing and extend our thanks to you and the Tennessee General Assembly for this opportunity to work together towards improving the lives of all Tennesseans.

Sincerely,

  
John J. Dreyzehner, MD, MPH, FACOEM  
Commissioner

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# 2012 HOSPITALIZATIONS DUE TO DRUG POISONINGS IN TENNESSEE

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A Tennessee Department of Health Fact Sheet  
Division of Policy, Planning and Assessment

March 2014

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**Tennessee Department of Health**  
**2012 Hospitalizations due to Drug Poisonings in Tennessee**  
**2014 ANNUAL FACT SHEET**

**EXECUTIVE SUMMARY**

This fact sheet details the treatment of all individuals who sought medical care at a licensed Tennessee hospital for a drug poisoning episode during 2012. The information provided includes the frequency of emergency department visits and hospitalizations for treatment of drug poisonings, demographic information of the populations with the highest incidence of drug poisonings, distribution of the payer mix, and the nature of the poisonings and the categories of drugs most frequently responsible for these poisonings.

**Drug Poisonings in Tennessee**

Drug poisoning is a significant public health problem in Tennessee as it was responsible for 22,506 inpatient and outpatient hospital discharges in 2012. Of these, 93% were residents of Tennessee and 92% were admitted through the emergency department. The total number of inpatient admissions and outpatient visits for drug poisoning has remained at over 20,000 during 2009 to 2012.

**Populations with the Highest Incidence of Drug Poisonings**

Most of the hospital discharges due to drug poisoning were among females (58%). Whites had the highest incidence of drug poisonings and half of all cases were among white females. **Drug poisonings were the most common among those aged 20 to 59 years of age** with the highest frequency, specifically, being among those 40-49 years old.

**Nature of the Drug Poisonings**

**Nearly half (43%) of all drug poisonings were accidental** with 37% being self-afflicted or suicide-related. The most common drug category responsible for drug poisonings was psychotropic agents.

**Billed Charges due to Drug Poisonings**

A total of **\$269 million** were billed to patients and/or their payers for inpatient and outpatient hospitalizations due to drug poisonings in 2012.

**Payer Mix**

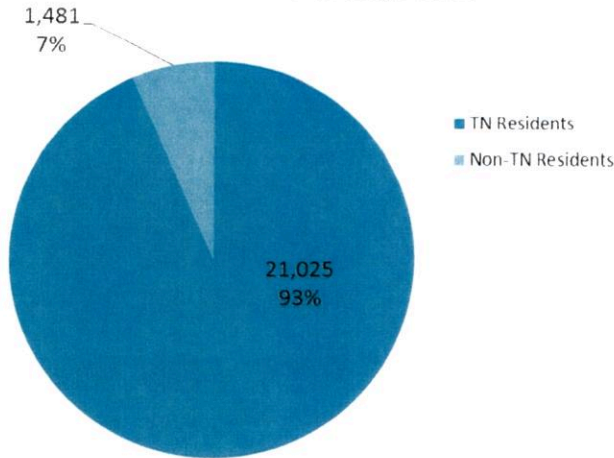
**TennCare was the largest payer** paying for 26% of patients who were treated for drug poisonings. Medicare paid for 25%, other insurance paid for 24%, and 21% were billed to patients.

This fact sheet was prepared pursuant to TCA 68-1-108(f).

# Hospitalizations due to Drug Poisoning

Division of Policy, Planning and Assessment – February 2014

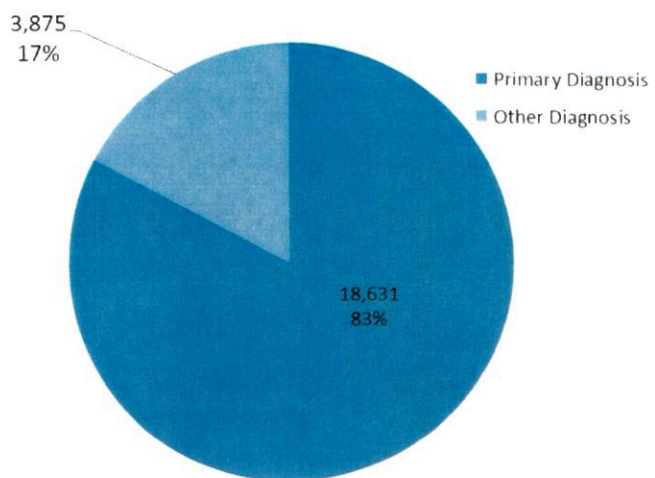
## Hospital Discharges due to Drug Poisoning by Resident Status, 2012



- In 2012, hospitals that were licensed by the Tennessee Department of Health reported a total of 22,506 discharges (both inpatient and outpatient) due to drug poisoning as listed in one of the 18 diagnosis fields on the hospital discharge data reporting form.
- Nearly all of these discharges were for Tennessee residents (93%).

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Hospital Discharge Data System

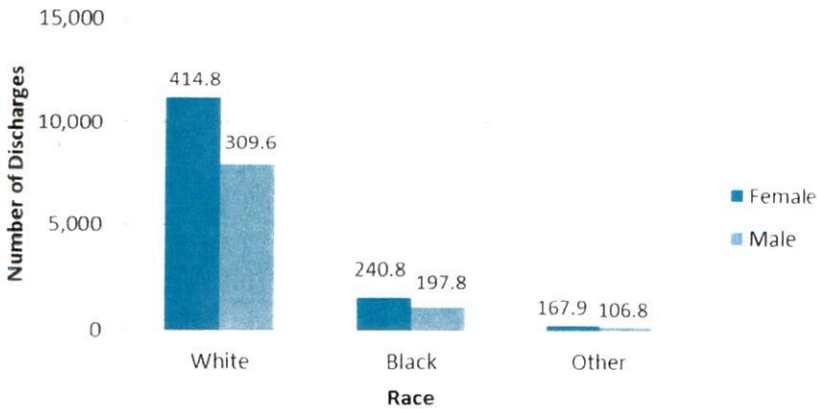
## Hospital Discharges due to Drug Poisoning by Diagnosis Field, 2012



- 18,631 (83%) hospital discharges had drug poisoning listed as the primary diagnosis, while 17% of discharges had it listed in other diagnosis fields.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Hospital Discharge Data System

## Hospital Discharges due to Drug Poisoning by Race and Gender, 2012

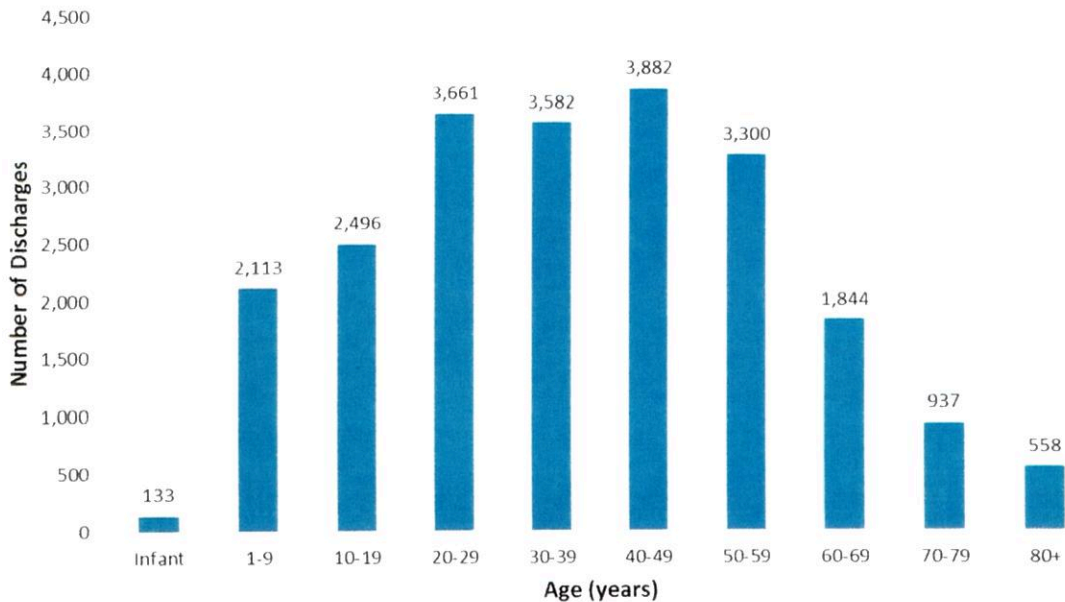


- Females accounted for the most discharges due to drug poisoning (58%), with half of all drug poisonings being among white females.
- Among discharges with valid race information, 85% were for whites, 12% were for blacks and 2% were for other races.

\*Data labels represent age-adjusted rates per 100,000 persons.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Hospital Discharge Data System

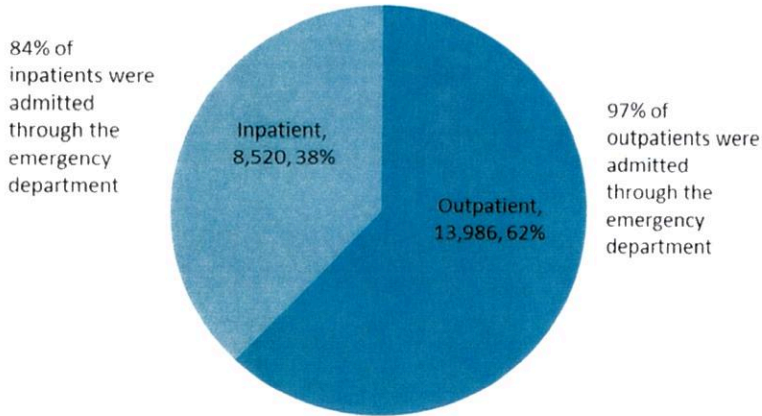
## Number of Hospital Discharges due to Drug Poisoning by Age Group, 2012



Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Hospital Discharge Data System

- Drug poisoning hospital discharges were most frequent among persons between 20 to 59 years of age.

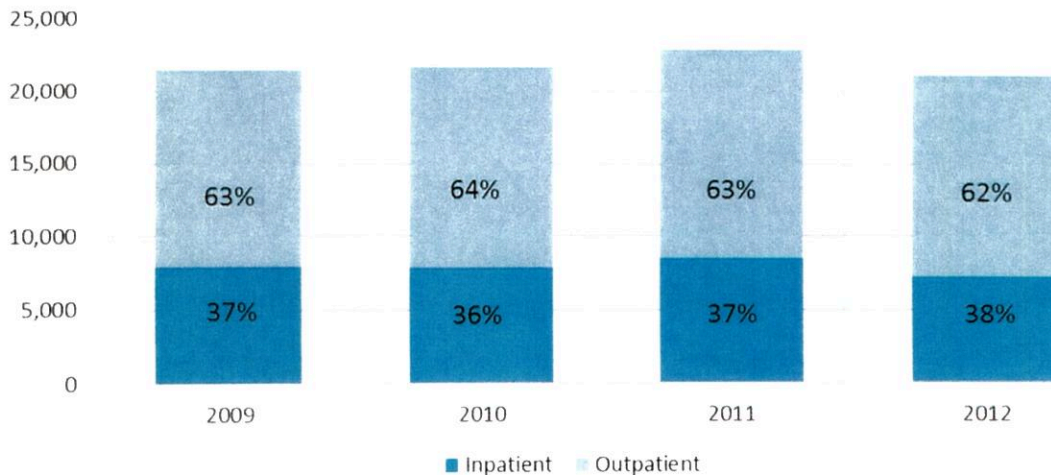
## Hospital Discharges due to Drug Poisoning by In- and Outpatient and Emergency Department Visit, 2012



- 38% of hospital discharges were for inpatient stays, while the other 62% were treated as outpatients.
- Among inpatients, 84% were admitted through the emergency department (ED); among outpatients, 97% of discharges were ED admissions.
- Overall, among all hospital discharges due to drug poisoning, 92% were admitted via the ED.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Hospital Discharge Data System

## Hospital Discharges due to Drug Poisoning by In- and Outpatient Status, 2012

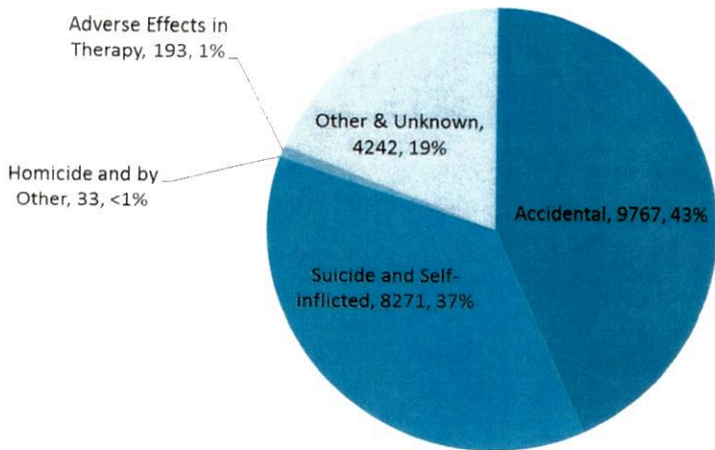


Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Hospital Discharge Data System

- During 2009 to 2012, hospital discharges due to drug poisonings varied slightly in the number of discharges and percentage of inpatient and outpatient discharges.\*

\*These data are based on counts and not rates and have not been age-adjusted.

## Hospital Discharges due to Drug Poisoning By Intention, 2012



- 43% of drug poisoning hospital discharges were due to accidental poisoning.
- 37% were due to suicide or were self-inflicted.
- 1% of drug poisonings were due to adverse effects of therapeutic medicines.
- Less than 1% were due to homicide.
- Approximately 19% of discharges were due to other intentions or were missing information on intention.

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Hospital Discharge Data System

Top 10 Most Common Drugs for Drug Poisoning Discharges, Tennessee Hospitals, 2012			
Rank	Type of Drugs	Number of Discharges	Percent of Discharges
1	Psychotropic agents*	6,260	27.8%
2	Analgesics, antipyretics, & antiheumatics**	5,346	23.8%
3	Other and unspecified substances	3,595	16.0%
4	Sedatives and hypnotics	1,497	6.7%
5	Cardiovascular agents	943	4.2%
6	Systemic agents	748	3.3%
7	Anticonvulsants & anti-Parkinsonian	740	3.3%
8	Hormones and substitutes	724	3.2%
9	Muscular and respiratory drugs	646	2.9%
10	Central nervous system stimulants	460	2.0%

\*See Appendix A for list of specific drugs included in this category

\*\* See Appendix B for list of specific drugs included in this category

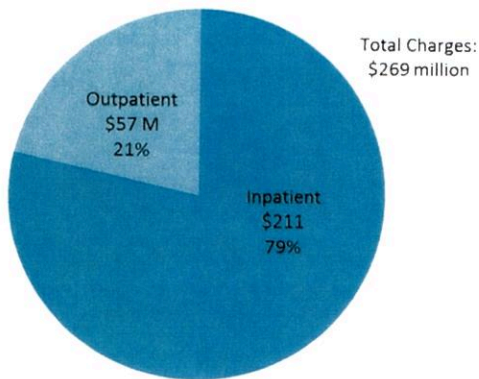
Denominator is the total number of discharges due to drug poisonings in 2012 (n = 22,506)

Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Hospital Discharge Data System

- The most common types of drugs in drug poisoning hospital discharges were psychotropic agents.
- The 2<sup>nd</sup> most common drugs were analgesic, antipyretic, & antirheumatic agents.
- Together, the two most common drug types accounted for approximately half of hospital discharges due to drug poisoning.
- Other types of drugs accounted for 1,547 (7%) of all drug poisonings in Tennessee during 2012.



### Billed Charges due to Drug Poisoning by Type of Hospitalization, 2012

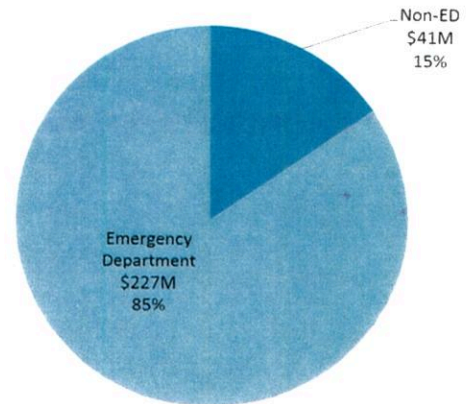


Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Hospital Discharge Data System

- A total of \$269 million were billed to patients and/or their payers for inpatient and outpatient hospitalizations due to drug poisoning in 2012.
- 79% of these charges were billed for inpatient stays
- Each inpatient stay resulted in average charges of \$24,808 and each outpatient treatment in average charges of \$4,088.

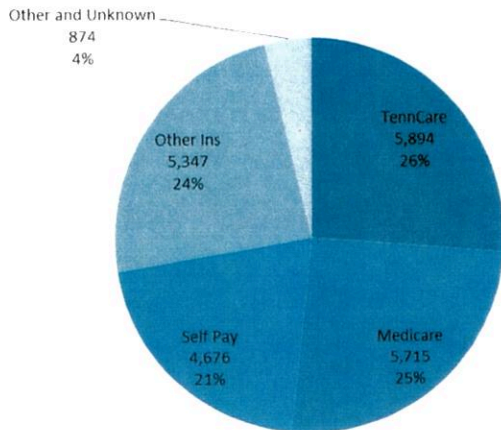
- 85% of the billed charges were associated with ED admissions or treatment.
- ED-admitted drug poisonings cost a total of \$227 million.

### Billed Charges due to Drug Poisoning by Emergency Department Admission, 2012



Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Hospital Discharge Data System

### Hospital Discharges due to Drug Poisoning by Payer, 2012



Source: Tennessee Department of Health, Division of Policy, Planning and Assessment, Hospital Discharge Data System

- TennCare and Medicare were the most common payers billed for hospital discharges due to drug poisoning, together accounting for 51% of discharges.
- 24% of drug poisoning discharges were billed to other insurance and 21% were billed to patients themselves.

Prepared by the Tennessee Department of Health (TDH); Division of Policy, Planning and Assessment. Statistics were derived from the TDH Hospital Discharge Data System (HDDS) and are discharge-level data.

Drug poisonings were identified using International Classification of Diseases, 9<sup>th</sup> Edition, Clinical Modification (ICD-9-CM) codes 960-979. Unless indicated otherwise in the text, drug poisonings include discharges with an appropriate code in both primary and/or other diagnosis fields (18 fields total).

Poisoning intention was classified based on ICD-9-CM codes in the first listed E-code field, i.e. injury codes E850-E858 for accidental poisoning; E930-E949 for therapeutic use; E950-E959 for suicide and self-inflicted; E960-E969 for homicide and other; rest of records for other/unknown.

Race was classified regardless of ethnicity.

TennCare insurance included TennCare, Cover TN, Cover Kids, and Access TN.

Most payments are discounted from the billed charges, therefore, the billed charges are not necessarily the actual amount paid for the services rendered.

Report completed pursuant to Tennessee Code Annotated § 68-1-108(f)

***The mission of the Tennessee Department of Health is to protect, promote and improve the health and prosperity of people in Tennessee.***

## Appendix A – List of Psychotropic Agents

Psychotropic Agents		
Generic Name	Brand Name	Current Uses
alprazolam	Xanax	Anxiety, Panic
amitriptyline	Elavil, Endep	Depression (tricyclic)
amoxapine	Asendin	Psychotic Depression
amphetamine	Adderall	ADD
aripiprazole	Abilify	Schizophrenia (atypical)
bupropion	Wellbutrin	Depression, ADD
buspirone	BuSpar	Anxiety
carbamazepine	Tegretol	Bipolar Disorder
chloriazepoxide	Librium	Anxiety
chlorpromazine	Thorazine	Schizophrenia (typical)
citalopram hydrobromide	Celexa	Depression (SSRI)
clomipramine	Anafranil	OCD, Depression (tricyclic)
clonazepam	Klonopin	Anxiety
clorazepate	Tranxene	Anxiety
clozapine	Clozaril	Schizophrenia (atypical)
desipramine	Norpramin	Depression (tricyclic), ADD
dextroamphetamine	Adderall, Dexedrine	ADD
diazepam	Valium	Anxiety
divalproex sodium	Depakote	Bipolar Disorder
doxepin	Adapin, Sinequan	Depression (tricyclic)
escitalopram	Lexapro	Depression (SSRI), Anxiety
fluoxetine	Prozac	Depression (SSRI), OCD, Panic
fluphenazine	Prolixin, Prolixin Decanoate	Schizophrenia (typical)
fluvoxamine	Luvox	OCD, Depression (SSRI)
haloperidol	Haldol, Haldol Decanoate	Schizophrenia (typical)
imipramine	Tofranil	Depression (tricyclic), Panic
lithium carbonate	Eskalith, Lithobid	Bipolar Disorder
lithium citrate	Cibalith S	Bipolar Disorder
lorazepam	Ativan	Anxiety
loxapine	Loxitane	Schizophrenia (typical)
maprotiline	Ludiomil	Depression (tricyclic)
mesoridazine	Serentil	Schizophrenia (typical)
methylphenidate	Ritalin	ADD
mirtazapine	Remeron	Depression
molindone	Moban	Schizophrenia (typical)
nefazodone	Serzone	Depression
nortriptyline	Pamelor	Depression (tricyclic)

Appendix A – List of Psychotropic Agents *cont.*

Psychotropic Agents		
Generic Name	Brand Name	Current Uses
olanzapine	Zyprexa	Schizophrenia (atypical)
oxazepam	Serax	Anxiety
paroxetine	Paxil	Depression (SSRI), OCD, Panic
pemoline	Cylert	ADD
perphenazine	Trilafon	Schizophrenia (typical)
phenelzine	Nardil	Depression (MAOI)
prazepam	Centrax	Anxiety
prochlorperazine	Compazine	Schizophrenia (typical)
protriptyline	Vivactil	Depression (tricyclic)
quetiapine	Seroquel	Schizophrenia (atypical)
risperidone	Risperdal	Schizophrenia (atypical)
sertraline	Zoloft	Depression (SSRI), OCD, Panic
thioridazine	Mellaril	Schizophrenia (typical)
thiothixene	Navane	Schizophrenia (typical)
tranylcypromine sulfate	Prarnate	Depression (MAOI)
trazodone	Desyrel	Depression (tricyclic)
trifluoperazine	Stelazine, Vesprin	Schizophrenia (typical)
trimipramine	Surmontil	Depression (tricyclic)
valproic acid	Depakene	Bipolar Disorder
venlafaxine	Effexor	Depression
ziprasidone	Geodon	Schizophrenia (atypical), bipolar

Source: National Alliance on Mental Illness's list of commonly prescribed psychotropic medications accessed March 2013 at [http://www.nami.org/Template.cfm?Section=PolicyMakers\\_Toolkit&Template=/ContentManagement/HTMLDisplay.cfm&ContentID=18971](http://www.nami.org/Template.cfm?Section=PolicyMakers_Toolkit&Template=/ContentManagement/HTMLDisplay.cfm&ContentID=18971)

\*ADD = Attention Deficit Disorder ; OCD = Obsessive Compulsive Disorder; SSRI = Selective Serotonin Reuptake Inhibitor; MAOI = Monoamine Oxidase Inhibitor

## Appendix B – List of Analgesics, Antipyretics, and Antirheumatics

### Analgesics, Antipyretics, and Antirheumatics

Generic Name	Brand Name
Opiates and related narcotics (including opium, heroin, methadone, codeine, meperidine, morphine)	Diskets, Dolophine, Methadose, Demerol HCl, AVINza, Kadian, MS Contin, MSIR, Oramorph SR
Salicylates (including aspirin, salicylic acid salts)	Arthritis Pain, Aspergum, Aspir-Low, Aspirin Lite Coat, Bayer Aspirin, Bufferin, Easprin, Ecotrin, Empirin, Fasprin, Genacote, Halfprin, Norwich Aspirin, St. Joseph Aspirin, Stanback Analgesic, Tri-Buffered Aspirin, YSP Aspirin, Zorprin
Aromatic analgesics, not classified elsewhere [including acetanilide, paracetamol (acetaminophen), phenacetin (acetophenetidin)]	Acephen, Actamin, Feverall, Q-Pap, Tactinal, Tempra, Tylenol, Uniserts, Vitapap
Pyrazole derivatives [including aminophenazone (aminopyrine), phenylbutazone]	Cotylbutazone
Propionic acid derivatives (including fenoprofen, flurbiprofen, ibuprofen, ketoprofen, naproxen, oxaprozin)	Nalfon, Ansaid, Advil, Genpril, IBU, Midol, Motrin, Nuprin, Actron, Orudis KT, Orudis, Oruvail, Aleve, Anaprox, Anaprox-DS, Comfort Pac with Naproxen, EC-Naprosyn, Leader Naproxen Sodium, Midol Extended Relief, Naprelan, Naprosyn, Daypro
Pentazocine	Talwin Lactate, Talwin

Sources: ICD-9-CM searchable data base accessed March 2013 at <http://icd9cm.chrisendres.com/> and Drugs.com accessed March 2013 at <http://www.drugs.com/>