

HOSPITALIZATIONS DUE TO DRUG POISONINGS IN TENNESSEE

A Tennessee Department of Health Fact Sheet
Division of Policy, Planning and Assessment
March 2013

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**Tennessee Department of Health
Hospitalizations due to Drug Poisonings in Tennessee
2013 ANNUAL REPORT**

EXECUTIVE SUMMARY

This report contains specific information regarding the treatment of all individuals who sought medical attention at a Tennessee hospital for a drug poisoning during 2011. It identifies the frequency of emergency department visits and hospitalizations for treatment of drug poisonings, populations that are at higher risk, information about payer mix, the nature of the poisonings and the types of drugs most frequently responsible for these poisonings.

Drug Poisonings in Tennessee

Drug poisoning is a major health problem in Tennessee. In 2011, Tennessee hospitals reported a **total of 23,001 inpatient admissions and outpatient visits for drug poisonings**. Of these 23,001 poisonings, 93% were residents of Tennessee. 8,507 (37%) were admitted as inpatients. 14,494 were seen as outpatients and released (63%). Between the years 2009 – 2011 the number of hospitalizations due to drug poisonings increased. However, the percentage of inpatient versus outpatient discharges remained unchanged.

Populations with the Highest Incidence of Drug Poisonings

Fifty seven percent of the patients were female. Eighty six percent were white. Sixty six percent were individuals between the ages of 20 – 59.

Payer Mix

TennCare was the largest payer paying for twenty eight percent of patients who were treated for a drug poisoning. It was followed by Medicare (24%), other insurance (23%) and self pay (22%).

Nature of the Drug Poisonings

Forty three percent of the poisonings were accidental. Thirty seven percent were self-inflicted. Forty three cases, less than 1%, were known to be inflicted by another person.

Frequency of Drugs Responsible for Treatment of Drug Poisoning

Psychotropic agents were responsible for 29% of drug poisonings treated in Tennessee hospitals in 2011. Psychotropic drugs are a loosely defined grouping of agents that have effects on psychological function and include the antidepressants, hallucinogens, and tranquilizers. This was followed by analgesics, antipyretics and antirheumatics (24%) causing adverse effects when utilized for therapeutic treatment of disease. Sedatives and hypnotics accounted for 7% of the drug poisonings in Tennessee.

Billed Charges due to Drug Poisonings

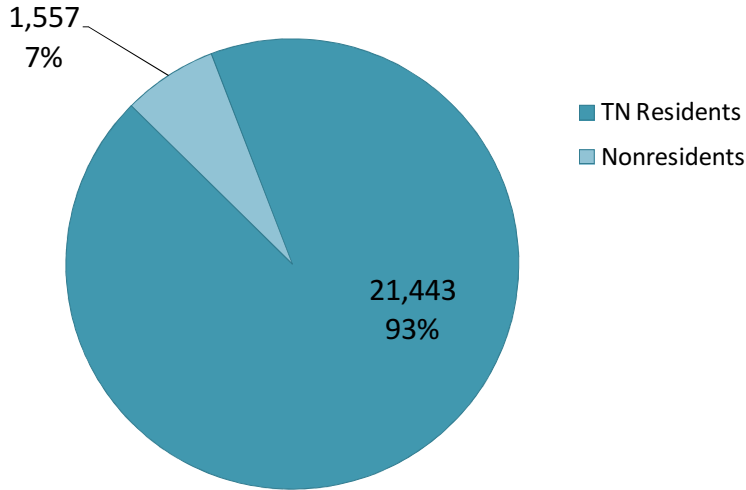
The charges associated with the treatment of drug poisoning in Tennessee were **\$247 million in 2011**.

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

Hospitalizations due to Drug Poisoning

Division of Policy, Planning and Assessment – March 2013

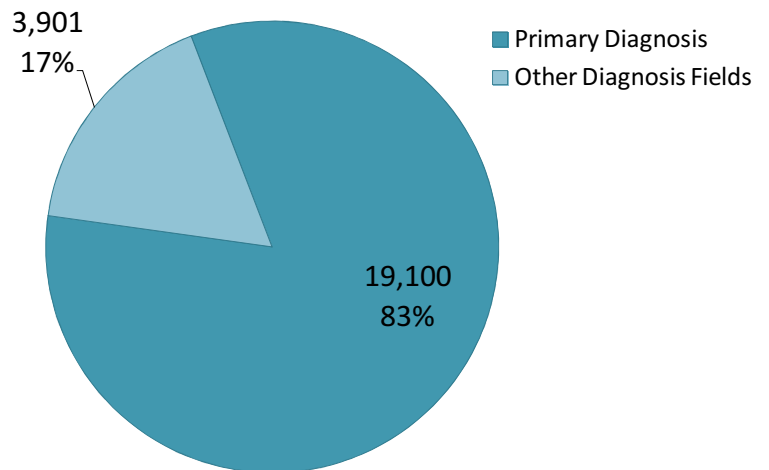
Hospital Discharges due to Drug Poisoning By Resident Status, 2011



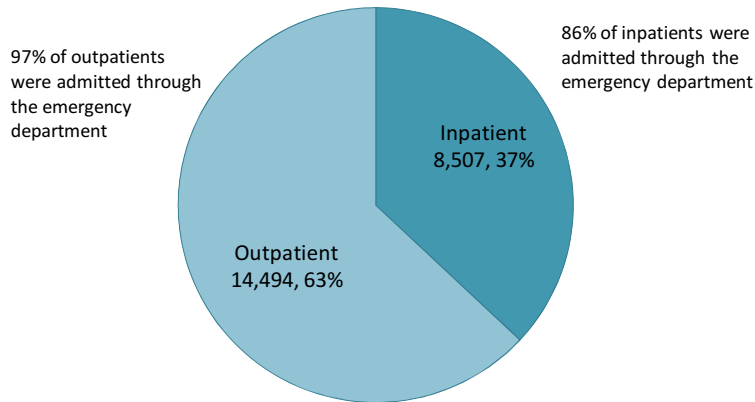
- In 2011, hospitals that were licensed by the Tennessee Department of Health reported a total of 23,001 discharges (including inpatient and outpatient encounters) due to drug poisoning, i.e. drug poisoning was listed in one of the 18 diagnosis fields on the hospital discharge data reporting form.
- 21,443 (93%) of these discharges were for Tennessee residents and 1,557 (7%) were for non-residents. One record did not have valid information on resident status.

- 19,100 (83%) hospital discharges had drug poisoning listed as the primary diagnosis, while 17% of discharges had it listed in other diagnosis fields.

Hospital Discharges due to Drug Poisoning By Diagnosis Field, 2011



Hospital Discharges due to Drug Poisoning By In- and Out-Patient and Emergency Department Visit, 2011

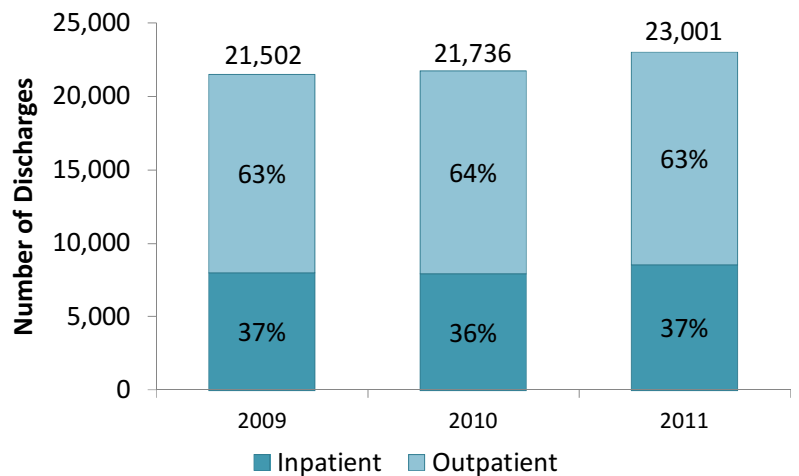


- 37% of hospital discharges were for inpatient stays, while the other 63% were treated as outpatients.
- Among inpatients, 86% were admitted through the emergency department (ED); among outpatients, 97% of discharges were admitted through the ED.
- Overall, among all hospital discharges due to drug poisoning, 93% were admitted via the ED.

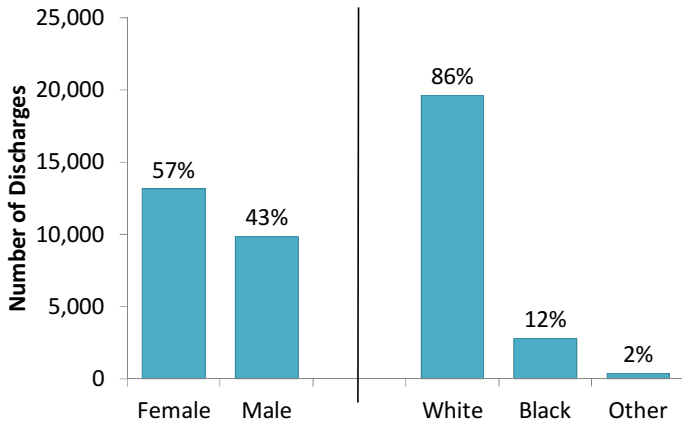
- Although the number of hospital discharges due to drug poisoning increased between 2009 and 2011, the percentage of inpatient versus outpatient discharges remained unchanged.*

**When making comparisons across years, note that these data are based on counts and not rates, and that they have not been age-adjusted.*

Hospital discharges due to Drug Poisoning By In- and Out-Patient Status, 2011



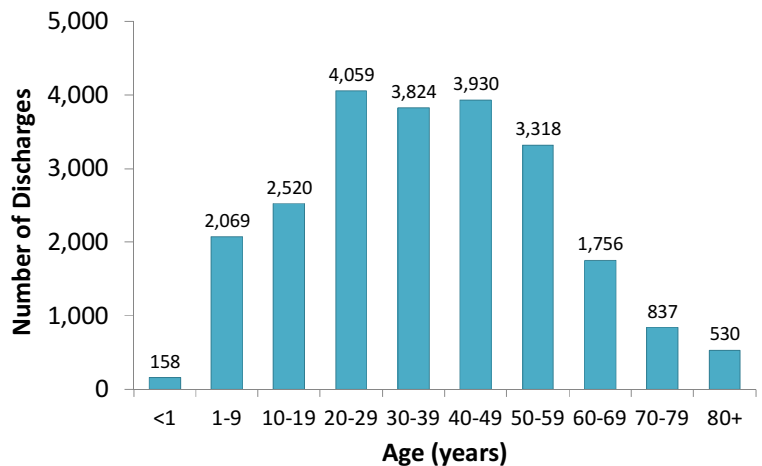
Hospital Discharges due to Drug Poisoning By Gender or Race, 2011



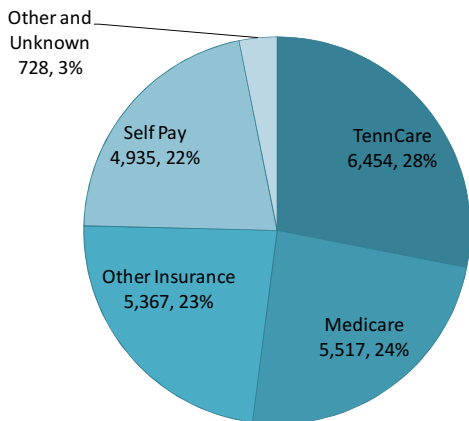
- 57% of hospital discharges due to drug poisoning were for women and 43% were for men. One record did not have information on gender.
- Among discharges with valid race information, 86% were for whites, 12% were for blacks and 2% were for other races. 217 records (less than 1%) had missing or invalid race information.

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

Number of Hospital Discharges due to Drug Poisoning By Age, 2011

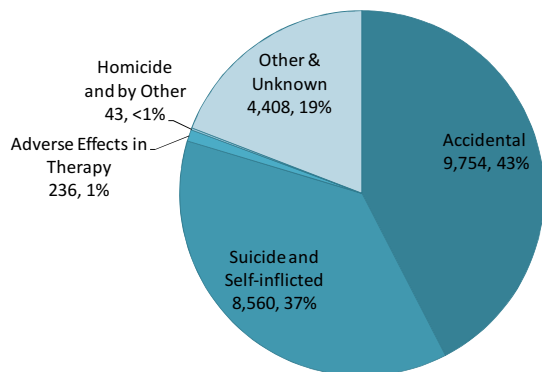


Hospital Discharges due to Drug Poisoning By Payer, 2011



- TennCare and Medicare were the most common payers billed for hospital discharges due to drug poisoning, together accounting for 52% of discharges.
- 23% of drug poisoning discharges were billed to other insurance and 22% were billed to patients themselves.

Hospital Discharges due to Drug Poisoning By Intention, 2011



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

Top 10 most common drugs for drug poisoning discharges, Tennessee hospitals, 2011

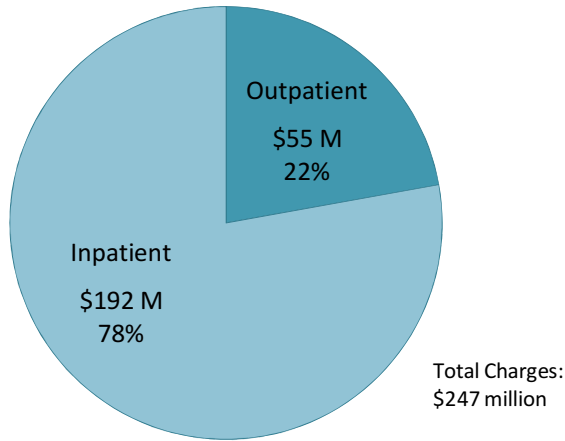
Rank	Type of Drugs	Number of Discharges	Percent of Discharges
1	Psychotropic agents*	6,568	28.6%
2	Analgesics, antipyretics, & antirheumatics†	5,515	24.0%
3	Other and unspecified substances	3,734	16.2%
4	Sedatives and hypnotics	1,614	7.0%
5	Cardiovascular agents	859	3.7%
6	Hormones and substitutes	757	3.3%
7	Anticonvulsants & anti-Parkinsonian	718	3.1%
8	Systemic agents	596	2.6%
9	Muscular and respiratory drugs	557	2.4%
10	Other CNS depressants & anesthetics	494	2.1%
--	All others	1,589	6.9%
Total		23,001	100.0%

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

† See Appendix B for list of specific drugs included in this category.

- The most common types of drugs in drug poisoning hospital discharges were psychotropic agents.
- The 2nd most common drugs were analgesic, antipyretic, & antirheumatic agents.
- Together, the two most common drug types accounted for more than half of hospital discharges due to drug poisoning.

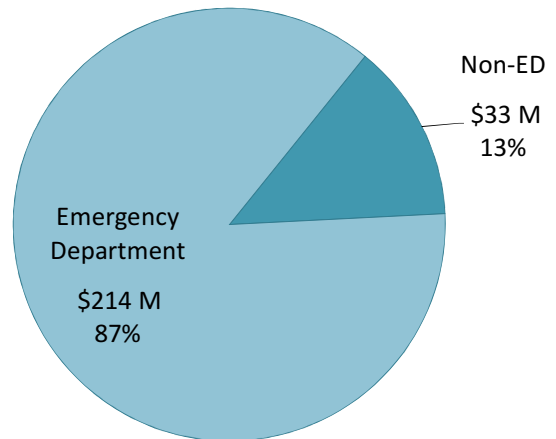
**Billed Charges due to Drug Poisoning
By Type of Hospitalization, 2011**



- A total of 247 million dollars were billed to patients and/or their payers for inpatient and outpatient hospitalizations due to drug poisoning in 2011.
- 78% of these charges were billed for inpatient stays, while 22% were for outpatient treatments.
- Each inpatient stay resulted in average charges of \$22,573 and each outpatient treatment in average charges of \$3,776.

- 87% of the billed charges were associated with admissions through the emergency department or were treatment in the ED.

**Billed Charges due to Drug Poisoning
By Emergency Department Admission, 2011**



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, 9th 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)
tranlycypromine 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

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/>