2014 Emergency Department Data Annual Report

Health Systems Epidemiology Program

And

Environmental Health Tracking Program

Epidemiology and Response Division

New Mexico Department of Health

2014 Emergency Department Data Annual Report

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Table of Contents

Executive Summary

This report presents overall New Mexico emergency department admission numbers, rates by age, sex and region for NM residents. Race and ethnicity data were requested, however, in many cases, quality data were not received and therefore, unable to be used in this report. In the near future, NMDOH plans to collect race and ethnicity data from emergency departments in a format that is similar to how race and ethnicity is collected in hospitalization data. In 2014, 36 non-federal emergency departments reported emergency department data to the NMDOH.

Of the 810,154 reported ED discharges, 54.6 % were among females and 45.4 % were among males. Seventeen percent of all discharges occurred among residents over the age of 64 years, increasing from 13% in 2010 and up 1% from 2013. The Metro region had the highest percentage of New Mexico ED admissions (37.5%), growing from 31% in 2010. Symptoms, signs, and ill-defined conditions had the highest rate (830.1 per 10,000 population), while congenital anomalies had the lowest rate (3.3 per 10,000 population) of admissions in New Mexico in 2014 as compared to all other first listed diagnosis categories.

Key Findings

Overview of Emergency Department (ED) Admissions in New Mexico

- In 2014, 25-34 year olds represented the largest age group for emergency department (ED) admissions, responsible for 15.9% of all ED admissions, but the 85 years and older age group had the highest rate of ED admissions (8,097.3 per 10,000 population). The age group with the lowest rate of ED admissions was 5-14 year olds.
- Females represented 54.6% of all ED admissions.
- The Metro region had the highest overall number of ED admissions, but the Southeast region had the highest rate at 5,268.7 per 10,000 population.
- The top reason for ED admission by category of first-listed diagnosis group was symptoms, signs, and ill-defined conditions with an overall state rate of 830.1 admissions per 10,000 population (up from 751.6 in 2013).
- The top reason for ED admission by NCHS category was fractures with an overall state rate of 114.2 admissions per 10,000 population. This condition was highest among male patients (125.9).
- The Southeast region had the highest rates (per 10,000 population) of pneumonia (92.4), heart disease (80.6), cerebrovascular disease (22.3), diabetes (47.2), asthma (74.4), and essential hypertension (36.9) compared to the other four health regions. This pattern was similar in 2013 data.
- Pneumonia was the top reason for ED admission for children 4 years or younger. Fractures were the top reason for patients 5-14 years old, and cellulitis and abscess was the highest reason for patients 25-34 and 35-44 years old.

Quality Indicators

- In 2014, the Northwest region (130.6 per 10,000 population) had the highest rate for acute ambulatory care sensitive conditions (ACSC) and the Metro region (37.3 per 10,000 population) had the lowest rate.
- In 2014, the Southeast region (131.1 per 10,000 population) had the highest rate for chronic ACSC and the Metro region had the lowest rate (49.7 per 10,000 population). The Southeast region had the highest ED admission rates for chronic ACSC for all three years, from 2012-2014.

Infectious Disease

- Diarrheal illness was the primary diagnosis for over 4,000 ED admissions and listed in the top six diagnoses for 30,769 ED admissions in 2014.
- Admissions for diarrheal illness peaked in May and again in late December.

Key Findings

Child Health

- In 2014, there were 14,705 ED admissions involving infants in New Mexico. Males accounted for 54.2% of these ED admissions.
- The most common reason for admission to the ED among infants was for symptoms, signs, and ill-defined conditions, of which 33.7% of the 4,644 ED admissions for this disease category were due to fever of unknown origin.
- In 2014, there were 51,143 ED admissions involving children aged 1-4 years in New Mexico. Males accounted for 53.5% of these admissions.
- The most common reason for admission to the ED among children aged 1-4 years was for injury and poisoning, of which 37.9% of the 4,693 ED admissions for this disease category were due to falls.

Chronic Disease & Environmental Health Related Admissions

- The Southwest and Southeast health regions have consistently higher rates of cardiovascular ED admissions compared to the other health regions.
- The ED admission rate for asthma has increased over recent years for both youth and adults. For individuals under the age of 18 years, the rate increased 20% from 2011 to 2014 and the rate among adults increased 21% for the same time period.

Injury and Poisoning

- Total drug poisoning and opioid poisoning ED admission rates have increased over the years, for both men and women. In 2014, opioid poisoning related ED admissions represented more than half of total drug poisoning related ED admissions.
- In 2014, the total drug poisoning ED admission rate among men was 13.3 ED admissions per 10,000 population, with higher rates among men ages 15-54 years, compared to other age groups among men. Among women, the rate was 12.9, with higher rates among women ages 15-54 years, compared to other age groups among women.
- In 2014, the opioid poisoning ED admission rate among men was 8.0 ED admissions per 10,000 population, with higher rates among men ages 15-54 years, compared to other age groups among men. Among women, the rate was 6.1, with higher rates among women age 15-54 years, compared to other female age groups.
- Falls were the leading cause of ED admissions due to unintentional injury in New Mexico, accounting for 32% of all unintentional injury-related ED admissions in 2014.
- More females (55% of admissions) than males were treated in the ED for motor vehicle traffic-related injuries in 2014, a similar finding present in 2013 data.

Methods

The New Mexico Public Health Act grants the New Mexico Department of Health the authority to "Investigate, control and abate the cause of disease" (Section 24-1-3C). Additional authority was enacted (NMAC 7.4.3.10) on April 30, 2009, which specifically requires that all non-federal emergency departments in the State of New Mexico must comply with NMDOH requests for emergency department (ED) data. The NMDOH gives the highest priority to the collection of data to support informed health care decision-making and community interventions throughout the state. The 2010-2014 ED data were requested annually via letter from all non-federal New Mexico emergency departments. This does not include any admissions of New Mexico residents to non-New Mexico emergency departments, Indian Health Service (IHS) facilities and the Veterans Affairs (VA) Hospital.

The approaches to emergency department data acquisition in New Mexico have been going through many changes in design, approach, authority, and mechanisms. The next approach is being piloted through the New Mexico Health Information Collaborative (NMHIC) exchange as part of the E-Reporting project. Ultimately, the E-Reporting project will collect a wider array of information in a more timely fashion on all ED admissions. Earlier, specific requests for ED data included asthma. For a short period firearm injury data were collected separately. Requests were then expanded to include 2008-2009 any coded asthma, acute myocardial infarctions (MI), heat stress, and carbon monoxide, pesticide and disinfectant poisonings. The 2010-2014 ED data acquisition requested all diagnoses for all ED admissions for reporting facilities. As a consequence of small changes in requests following 2010 data, clarification of "all" diagnoses and an additional request for discharge status, comparisons between 2010, and 2011-2014 data may be problematic for secondary diagnoses and discharge status.

In this report, rates were calculated using the New Mexico 2011-2014 population estimates, determined by NM Population Estimates, Geospatial and Population Studies (GPS) Program, University of New Mexico. All age-adjusted rates were standardized to the Standard US 2000 Population. Rates are per 10,000 population.

The Category of First Listed Diagnosis Tables (Table 2) had an increased number and rate of 'Ungroupable' classifications in 2013, as compared to 2011, 2012 and 2014. This was due to an increased number of missing diagnoses by a facility who was unable to capture this information. In 2014, corrections were made for this facility, as reflected in the number of observations for this diagnostic category.

This report is intended to be provide the general public with an overview analysis of emergency department admissions to non-federal emergency facilities in New Mexico. Although data were verified with the submitting hospital, all data and information presented in this report are as submitted by reporting emergency departments to the NMDOH.

This report was supported in part by the Cooperative Agreement Number 5 U38 EH000949-05, funded by the Centers for Disease Control and Prevention.

Limitations: Non-federal NM hospitals are not included in these data. Thus, ED admissions and rates in areas with large American Indian/Alaskan Native populations are lower that they would be if IHS hospital ED admission data were included.

Overview of Emergency Department Hospitals

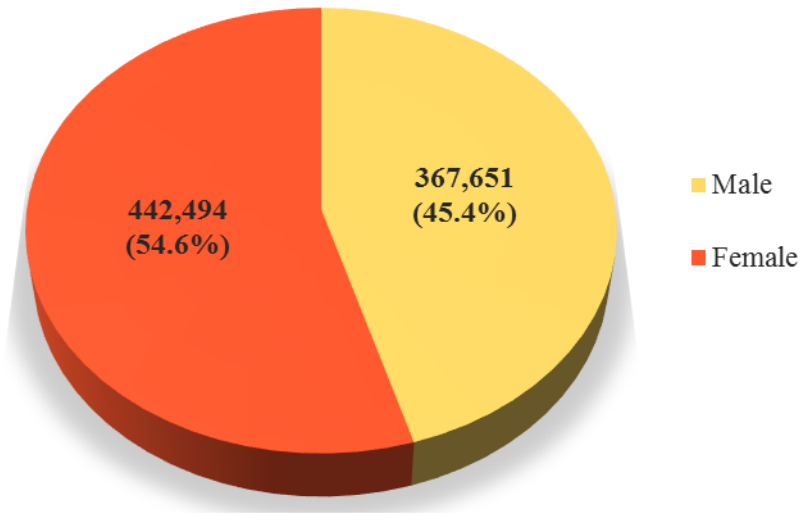
New Mexico Hospitals Reporting ED Data in 2014	
Alta Vista Regional Hospital	Memorial Medical Center
Artesia General Hospital	Mimbres Memorial Hospital
Carlsbad Medical Center	Miners' Colfax Medical Center
CHRISTUS St. Vincent Regional Medical Center	Mountain View Regional Medical Center
Cibola General Hospital	Nor-Lea General Hospital
Dr. Dan C Trigg Memorial Hospital	Plains Regional Medical Center - Clovis
Eastern NM Medical Center	Presbyterian Hospital
Gerald Champion Regional Medical Center	Presbyterian Espanola Hospital
Gila Regional Medical Center	Presbyterian Kaseman Hospital
Guadalupe County Hospital	Presbyterian Rust Medical Center
Holy Cross Hospital	Rehoboth McKinley Christian Health
Lea Regional Hospital	Roosevelt General Hospital
Lincoln County Medical Center	San Juan Regional Medical Center
Los Alamos Medical Center	Sierra Vista Hospital
Lovelace Medical Center/Heart Hospital of NM	Socorro General Hospital
Lovelace Regional Hospital-Roswell	Union County General Hospital
Lovelace Westside Hospital	UNM Hospital
Lovelace Women's Hospital	UNM Sandoval Regional Medical Center

Overview of Emergency Department Admissions

Table 1. Number of Emergency Department Admissions, Percent Distribution, and Rate* by Age Group, NM, 2014

Age Group	Number of Admissions	Percent of Total Admissions	Rate (per 10,000 Population)
Less than 1 Year	14,705	1.8	5,020.3
1-4 Years	51,143	6.3	4,364.0
5-14 Years	74,605	9.2	2,589.8
15-24 Years	119,092	14.7	4,050.5
25-34 Years	128,650	15.9	4,754.0
35-44 Years	99,227	12.2	3,963.2
45-54 Years	97,236	12.0	3,371.5
55-64 Years	81,861	10.1	3,078.2
65-74 Years	64,257	7.9	3,796.5
75-84 Years	48,942	6.0	5,323.1
85+ Years	26,945	3.3	8,097.3
Unknown	3,491	0.4	N/A

Figure 1. Number of Emergency Department Admissions and Percent Distribution by Sex, NM, 2014



*Rates were calculated and adjusted using the U.S. 2000 standard population; using https://ibis.health.state.nm.us/

Overview of Emergency Department Admissions

Figure 2. Number of Emergency Department Admissions and Percent Distribution by Health Region, NM, 2014

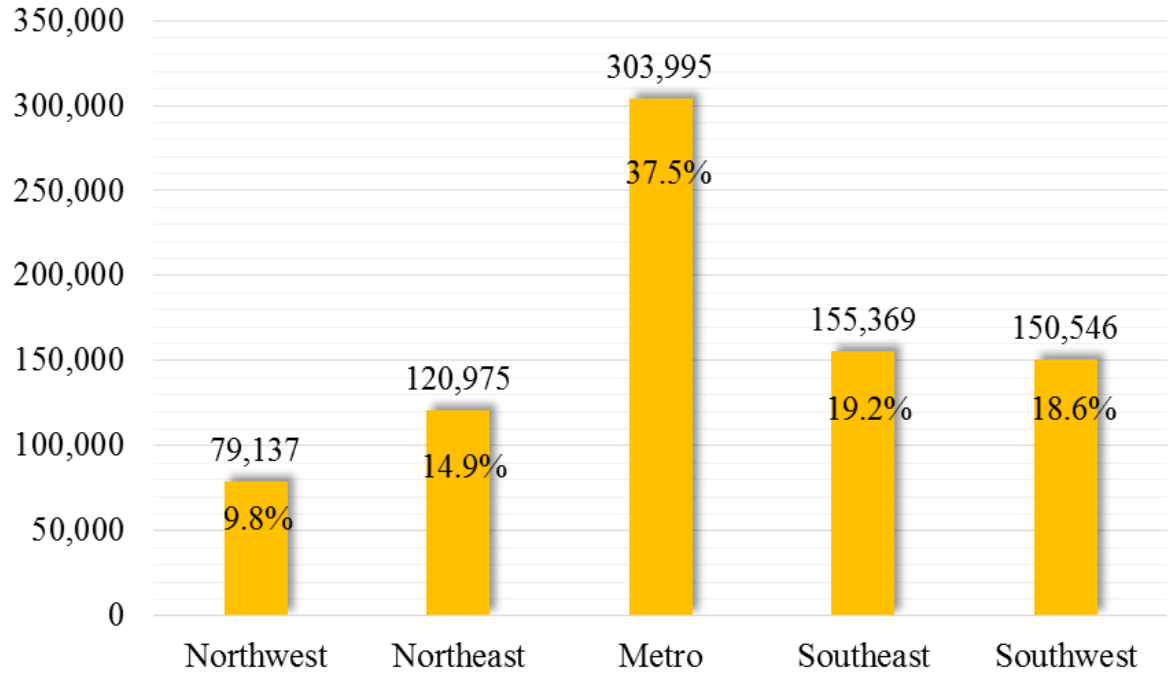
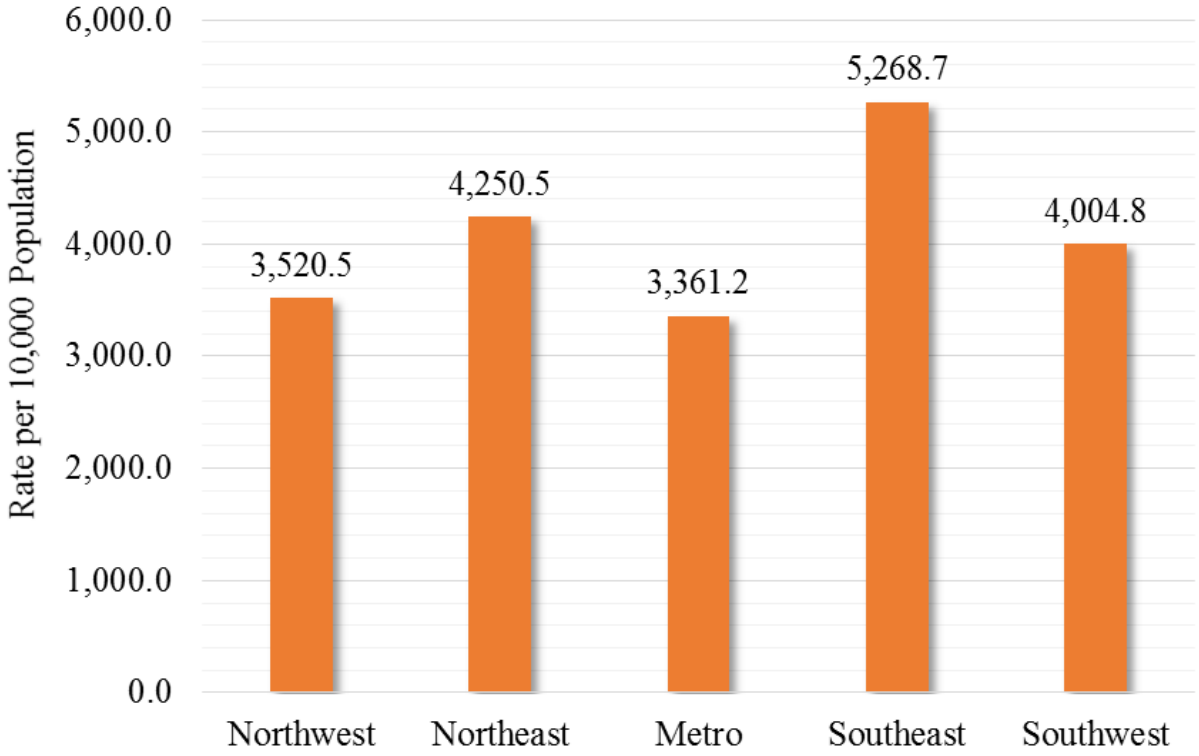


Figure 3. Rate* of ED Admissions by Health Region, NM, 2014



*Rates were calculated and adjusted using the U.S. 2000 standard population; using https://ibis.health.state.nm.us/

Overview of Emergency Department Admissions

Table 2. Number and Rate* (per 10,000 Population) of Emergency Department Admissions by Category of First-Listed Diagnosis and Sex, NM, 2014

Category of First Listed Diagnosis	Diagnosis Codes (ICD-9CM Codes)	# of Males	# of Females	Male Rate	Female Rate	NM Rate
Infectious and Parasitic Diseases	001-139	4,382	5,429	40.6	50.1	45.3
Neoplasms	140-239	1,472	1,660	13.4	14.2	13.7
Endocrine, Nutritional and Metabolic Diseases, and Immunity Disorders	240-279	8,109	8,576	78.8	76.6	77.7
Diseases of the Blood and Blood-Forming Organs	280-289	1,318	1,874	12.7	17.5	15.1
Mental Disorders	290-319	29,152	19,683	291.3	194.4	242.7
Diseases of the Nervous System and Sense Organs	320-389	20,605	26,915	197.9	258.6	227.9
Diseases of the Circulatory System	390-459	15,636	15,406	149.9	127.8	138.3
Diseases of the Respiratory System	460-519	36,217	43,147	344.1	406.5	374.8
Diseases of the Digestive System	520-579	25,850	29,000	252.5	272.3	262.1
Diseases of the Genitourinary System	580-629	12,323	33,321	120.9	322.1	220.3
Complications of Pregnancy, Childbirth, and Puerperium	630-677	5	17,239	0.04	172.9	84.8
Diseases of the Skin and Subcutaneous Tissue	680-709	13,676	13,691	134.0	132.4	133.0
Diseases of the Muscoloskeletal System and Connective Tissue	710-739	21,710	28,408	213.1	264.4	239.5
Congenital Anomalies	740-759	345	339	3.2	3.3	3.3
Certain Conditions Originating in the Perinatal Period	760-779	459	456	3.7	4.0	3.8
Symptoms, Signs, and Ill-Defined Conditions	780-799	72,870	101,074	705.3	955.5	830.1
Injury and Poisoning	800-999	88,023	80,424	862.7	760.5	813.7
Supplementary Classifications	V01-V84	14,763	15,004	142.1	140.4	140.8
Ungroupable Diagnoses		736	848	7.6	8.1	7.6
Total		367,651	442,494			

*Rates were calculated and adjusted using the U.S. 2000 standard population; using https://ibis.health.state.nm.us/

Overview of Emergency Department Admissions

Table 3. Number and Rate* (per 10,000 Population) of Emergency Department Admissions by NCHS Category (Top 21) and Sex, NM, 2014

NCHS Category	Diagnosis Codes (ICD-9CM Codes)	# of Males	# of Females	Male Rate	Female Rate	NM Rate
Heart Disease	391-392.0,393-398, 402, 404, 410-416, 420-429	8,072	6,940	76.3	56.2	65.6
Pneumonia	480-486	6,282	6,344	61.1	57.9	59.2
Cerebrovascular Disease	430-438	2,328	2,434	22.5	19.3	20.7
Malignant Neoplasms	140-208, 230-234	1,093	1,036	9.9	8.3	9.0
Fractures	800-829	12,948	11,422	125.9	99.7	114.2
Osteoarthritis and Allied Disorders	715	425	704	4.0	5.5	4.8
Chronic Bronchitis	491	2,001	2,297	18.0	18.1	17.9
Urinary Tract Infection, Site not specified	599.0	3,682	14,544	36.4	135.6	86.0
Certain Complications of Surgical and Medical Care	996-999	2,732	2,299	26.6	20.6	23.1
Septicemia	038	877	972	8.6	8.1	8.3
Volume Depletion	276.5	1,869	2,301	18.1	20.8	19.5
Psychoses	290-299	7,434	5,196	74.2	50.0	62.1
Diabetes Mellitus	250	3,730	3,471	36.1	31.0	33.5
Cellulitis and Abscess	681-682	8,975	8,039	88.7	77.5	82.9
Diverticula of Intestine	562	1,070	1,501	10.6	12.6	11.7
Intestinal Obstruction	560	836	949	8.0	7.9	7.9
Anemias	280-285	657	1,121	6.4	10.3	8.3
Choleithiasis	574	1,177	2,793	11.5	27.1	19.2
Essential Hypertension	401	2,214	3,103	21.0	26.2	23.9
Asthma	493	4,021	4,801	38.7	46.4	42.8
Noninfectious Enteritis and Colitis	555-558	3,024	3,951	29.2	37.4	33.4
All other Diagnoses		292,204	356,276	2,841.5	3,405.0	3,120.3
Total		367,351	442,494			

*Rates were calculated and adjusted using the U.S. 2000 standard population; using https://ibis.health.state.nm.us/

Overview of Emergency Department Admissions

Table 4. Emergency Department Admission Rate* (per 10,000 Population) by NCHS Category (Top 21) and Health Region, NM, 2014

NCHS Category	Diagnosis Codes (ICD-9CM Codes)	Northwest	Northeast	Metro	Southeast	Southwest
Heart Disease	391-392.0,393-398, 402, 404, 410-416, 420-429	67.8	58.9	58.8	80.6	73.8
Pneumonia	480-486	65.9	88.5	34.5	92.4	67.1
Cerebrovascular Disease	430-438	20.0	20.6	20.6	22.3	20.9
Malignant Neoplasms	140-208, 230-234	11.2	8.0	10.2	7.2	7.4
Fractures	800-829	112.0	142.6	100.7	140.3	104.9
Osteoarthritis and Allied Disorders	715	2.7	3.4	3.6	8.6	7.1
Chronic Bronchitis	491	18.3	18.0	10.1	35.7	22.2
Urinary Tract Infection, Site not specified	599.0	94.0	86.3	68.6	129.8	90.4
Certain Complications of Surgical and Medical Care	996-999	31.5	23.2	19.5	24.2	26.1
Septicemia	038	20.2	12.7	0.4	13.9	12.8
Volume Depletion	276.5	26.2	18.8	14.4	23.2	25.5
Psychoses	290-299	52.4	81.4	55.7	67.1	66.5
Diabetes Mellitus	250	31.0	28.5	31.8	47.2	33.7
Cellulitis and Abscess	681-682	66.8	104.1	69.9	123.7	77.5
Diverticula of Intestine	562	11.9	12.6	10.4	12.7	13.1
Intestinal Obstruction	560	9.6	10.0	5.1	10.3	10.0
Anemias	280-285	7.1	7.9	7.1	13.6	8.3
Choleithiasis	574	20.9	16.3	15.7	26.1	23.7
Essential Hypertension	401	15.7	17.4	23.2	36.9	26.3
Asthma	493	43.8	41.0	32.9	74.4	41.8
Noninfectious Enteritis and Colitis	555-558	23.9	34.3	23.7	71.5	32.8
All other Diagnoses		2,765.7	3,416.0	2,744.3	4,207.3	3,215.6

*Rates were calculated and adjusted using the U.S. 2000 standard population; using https://ibis.health.state.nm.us/

Overview of Emergency Department Admissions

Table 5. Number of Emergency Department Admissions by NCHS Category (Top 21) and Age Group, NM, 2014

NCHS Category	< 1 Year	1-4 Years	5-14 Years	15-24 Years	25-34 Years	35-44 Years	45-54 Years	55-64 Years	65-74 Years	75-84 Years	85+ Years	Total
All ED Admissions	14,705	51,143	74,605	119,092	128,650	99,227	97,236	81,861	64,257	48,942	26,945	810,154
Heart Disease	20	44	99	296	539	851	1,602	2,893	3,294	3,275	2,010	14,923
Pneumonia	319	1,551	1,493	912	1,143	1,095	1,247	1,286	1,327	1,289	899	12,561
Cerebrovascular Disease	1	10	5	30	82	207	447	866	1,108	1,144	839	4,739
Malignant Neoplasms	0	12	25	28	64	101	255	512	612	385	129	2,123
Fractures	60	1,002	3,905	3,048	2,770	2,173	2,323	2,664	2,226	2,209	1,730	24,110
Osteoarthritis and Allied Disorders	0	1	3	6	21	61	170	270	272	196	121	1,121
Chronic Bronchitis	0	22	19	22	43	127	498	1,029	1,265	945	299	4,269
Urinary Tract Infection, Site not specified	133	754	1,290	2,877	2,671	1,716	1,609	1,681	1,860	2,115	1,438	18,144
Certain Complications of Surgical and Medical Care	29	94	184	327	496	565	701	778	870	676	299	5,019
Septicemia	5	6	6	56	88	158	245	304	378	357	245	1,848
Volume Depletion	117	278	347	518	514	380	415	460	415	413	281	4,138
Psychoses	0	7	355	1,726	2,970	2,485	2,168	1,402	625	481	336	12,555
Diabetes Mellitus	1	26	149	652	842	1,089	1,504	1,297	907	519	187	7,173
Cellulitis and Abscess	78	652	888	2,453	3,572	2,883	2,473	1,749	1,119	703	353	16,923
Diverticula of Intestine	0	2	2	38	178	348	498	517	445	360	165	2,553
Intestinal Obstruction	16	32	42	58	77	142	226	314	372	310	189	1,778
Anemias	1	11	21	109	173	233	256	223	292	271	183	1,773
Choleithiasis	0	6	29	659	854	699	540	470	351	238	107	3,953
Essential Hypertension	0	5	14	91	343	617	978	1,025	961	822	424	5,280
Asthma	30	923	2,114	1,398	1,165	897	841	652	442	243	77	8,782
Noninfectious Enteritis and Colitis	206	636	811	1,113	1,205	795	668	605	455	284	134	6,912
All other Diagnoses	13,689	45,069	62,804	102,675	108,840	81,605	77,572	60,864	44,661	31,707	16,500	645,986

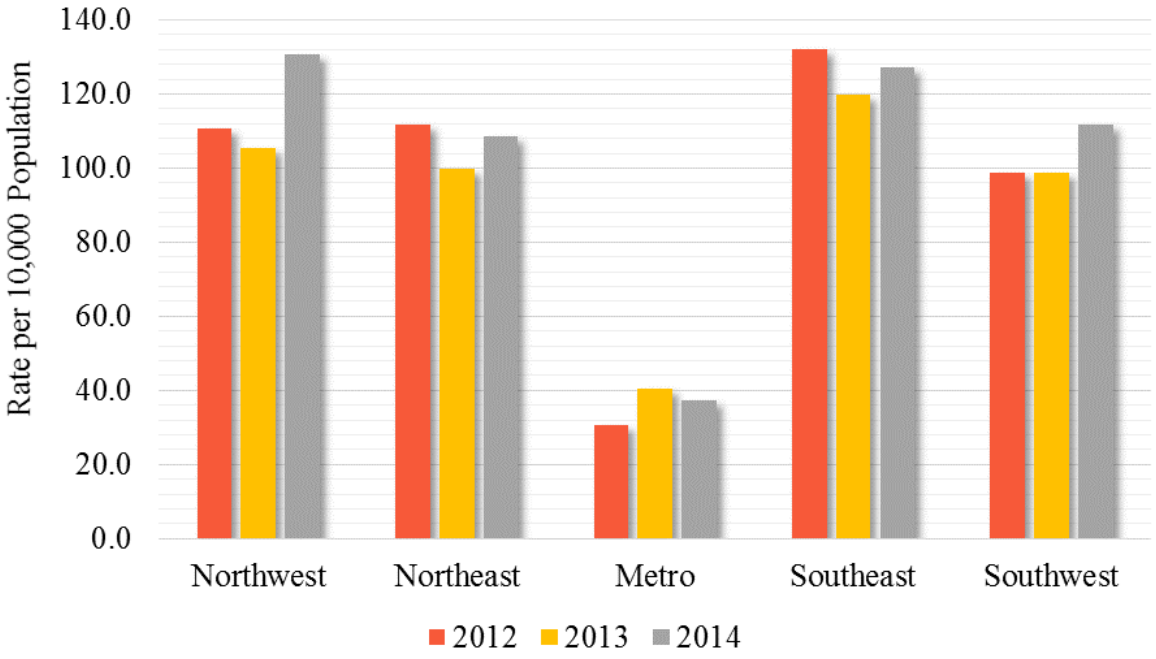
Quality Indicators

Ambulatory Care Sensitive Conditions (ACSC)

In 2014, 33,301 admissions to the emergency room were due to ACSC. ACSC are categorized into acute and chronic conditions. Acute conditions include dehydration, urinary tract infections, and bacterial pneumonia. Chronic conditions include diabetes (4 measures), chronic obstructive pulmonary disease, hypertension, heart failure, angina, and asthma. The Agency for Healthcare Research & Quality (AHRQ) provides procedures for calculating these two measures at http://www.qualityindicators.ahrq.gov/Modules/PQI_TechSpec.aspx.

In 2014, the Northwest region had the highest rates for acute ACSC and the Metro region had the lowest rates (Figure 4). Four of the five health regions had an increase in acute ACSC ED admission rates from 2013 to 2014. Prior to 2014, the Southeast region had the highest acute ACSC ED admission rates. Of the three health conditions that contribute to acute ACSC, urinary tract infections had the highest ED admission rate in 2014 (33.4 per 10,000 population), followed by bacterial pneumonia (29.4 per 10,000 population).

Figure 4. Age adjusted* Acute ACSC ED Admission Rates by Health Region, NM, 2012-2014

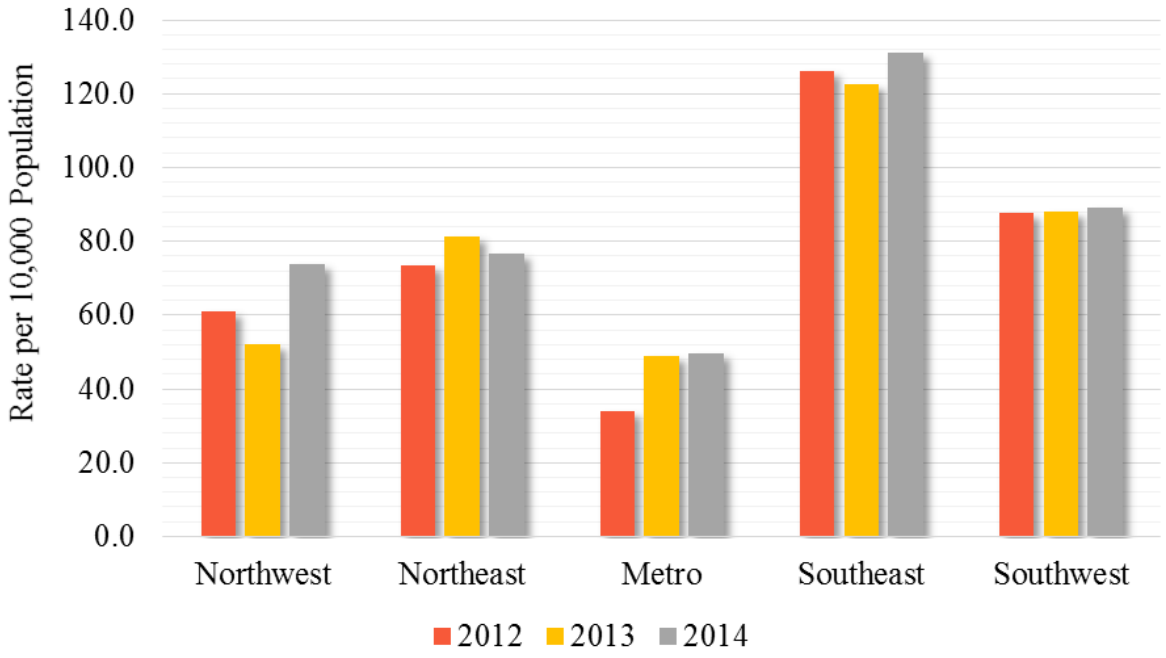


*All rates are age-adjusted to the U.S. 2000 standard population.

Ambulatory Care Sensitive Conditions (ACSC)

In 2014, the Southeast region had the highest rates for chronic ACSC and the Metro region had the lowest rates (Figure 5) The Southeast region had the highest ED admission rates for chronic ACSC for all three years, from 2012-2014. Of the six health conditions that are defined under chronic ACSC, diabetes (29.0 per 10,000 population) had the highest ED admission rates in 2014, followed by hypertension (23.5 per 10,000 population).

Figure 5. Age adjusted* Chronic ACSC ED Admission Rates by Health Region, NM, 2012-2014



High rates of ACSC are an indication of a lack of access, availability, and/or quality of primary care services.[1] Multiple factors can contribute to onset of both acute and chronic ACSC; these include poor patient education, lack of patient compliance, lack of primary care providers, and poor disease management by primary care providers. In addition to healthcare factors, socioeconomic factors like income, sex, and geographic location of patient residence can impact the onset of ACSC.[2,3]

[1] Saha, S., et al., Are preventable hospitalizations sensitive to changes in access to primary care? The case of the Oregon Health Plan. Med Care, 2007. 45(8): p. 712-9.
[2] Siegrist, R.B., Jr. and N.M. Kane, Exploring the relationship between inpatient hospital costs and quality of care. Am J Manag Care, 2003. 9 Spec No 1: p. SP43-9.
[3] Sanchez, M., et al., Variations in Canadian rates of hospitalization for ambulatory care sensitive conditions. Healthc Q, 2008. 11(4): p. 20-2.

*All rates are age-adjusted to the U.S. 2000 standard population.

Diarrheal Illness

In 2014, there were 30,769 emergency department (ED) admissions in New Mexico during which diarrhea (ICD9 -CM 787.91) was listed as one of the top 6 diagnoses. Diarrhea was the primary diagnosis for over 4,000 of these admissions. Admissions for diarrhea peaked in May and again in late December (Figure 7). Females accounted for 61% of the ED diagnoses for diarrhea in 2014 (Figure 6). Patients 0-4 years of age had the highest admission rate compared to other age groups analyzed (Table 6).

Figure 6. Number and Percent of Diarrheal Illness Emergency Department Admissions by Sex, NM, 2014.

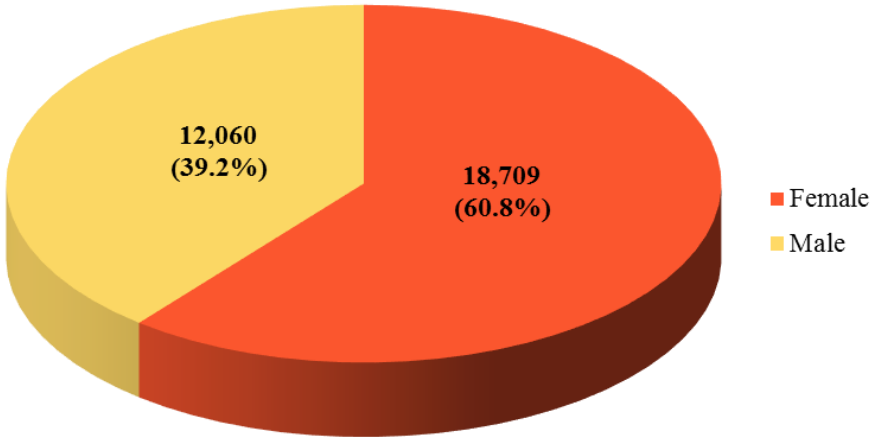
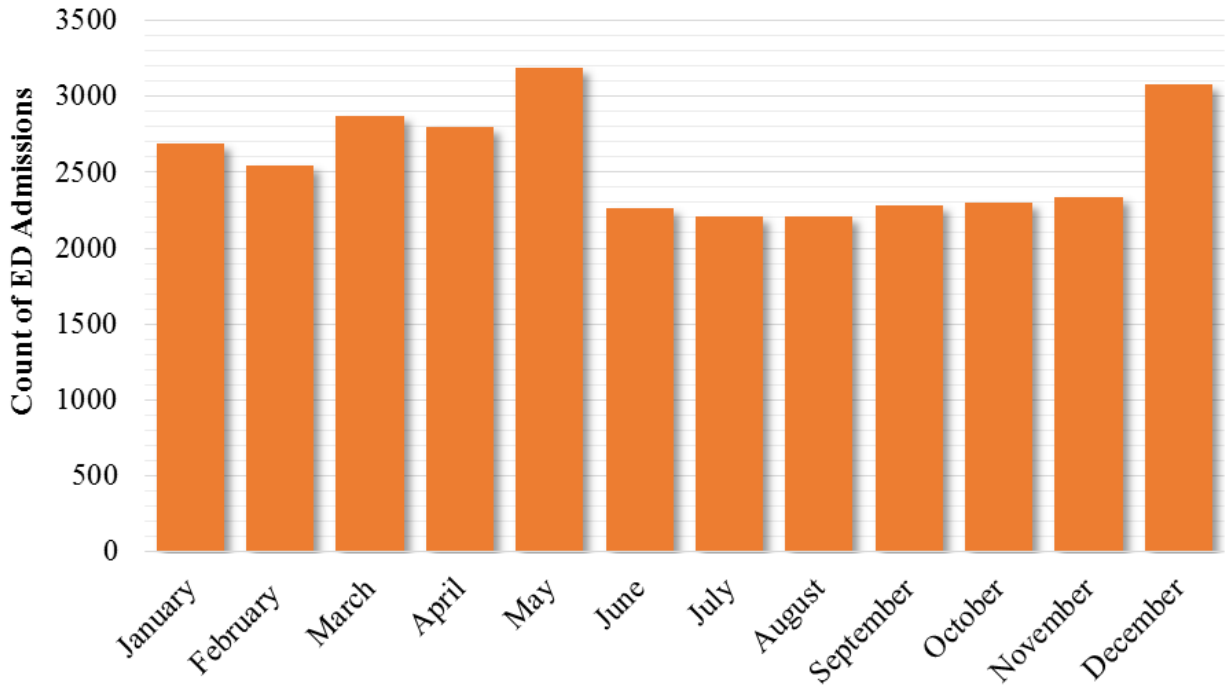


Figure 7. Number of Diarrheal Illness ED Admissions by Month, NM, 2014.



Diarrheal Illness

Only 84 ED admissions with diarrhea as a diagnosis listed a potential infectious cause in 2014. Of these, the majority were coded as "infectious diarrhea, not otherwise specified." It is not known what percentage of the total admissions with diarrhea as a diagnosis resulted in a test for an infectious cause.

Table 6. Rate (per 10,000 Population) of Diarrheal Illness ED Admissions by Age Group, NM, 2014.

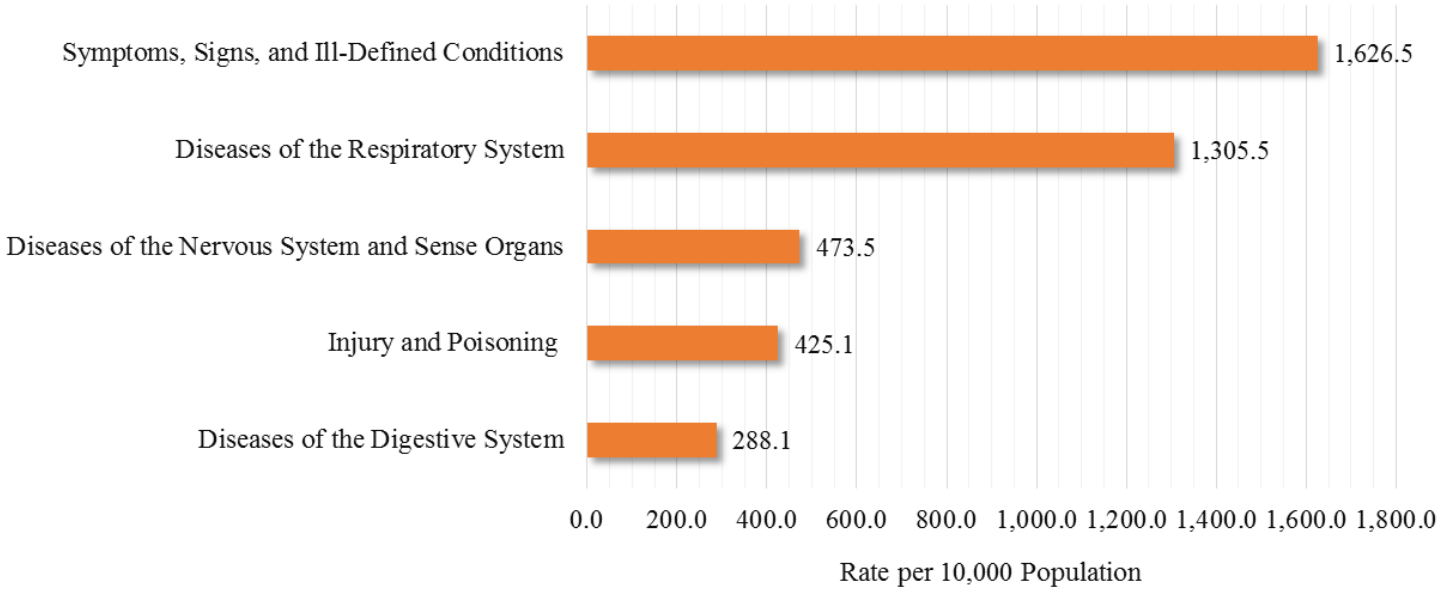
Age Group	Admissions for Diarrheal Illness	Total # of ED Admissions	Rate*
0-4 Years	4,338	69,599	623.3
5-24 Years	6,690	194,743	343.5
25-44 Years	8,533	229,286	372.2
45-64 Years	6,158	180,395	341.4
65+ Years	5,050	141,005	358.1
Total*	30,769	815,028	377.5

*Rates were calculated and adjusted using the U.S. 2000 standard population; using https://ibis.health.state.nm.us/

Infant ED Admissions

In 2014, there were 14,705 ED admissions involving infants (ages 0-4 years) in New Mexico. Males accounted for 54.2% of the ED admissions among infants. Three and a half percent of the infants treated in an ED were admitted to the hospital as an inpatient.

Figure 8. Rate* of Five Most Common Causes of ED Admissions Among Infants by Major Diagnostic



The most common reasons for an admission to the emergency department among infants by disease category:

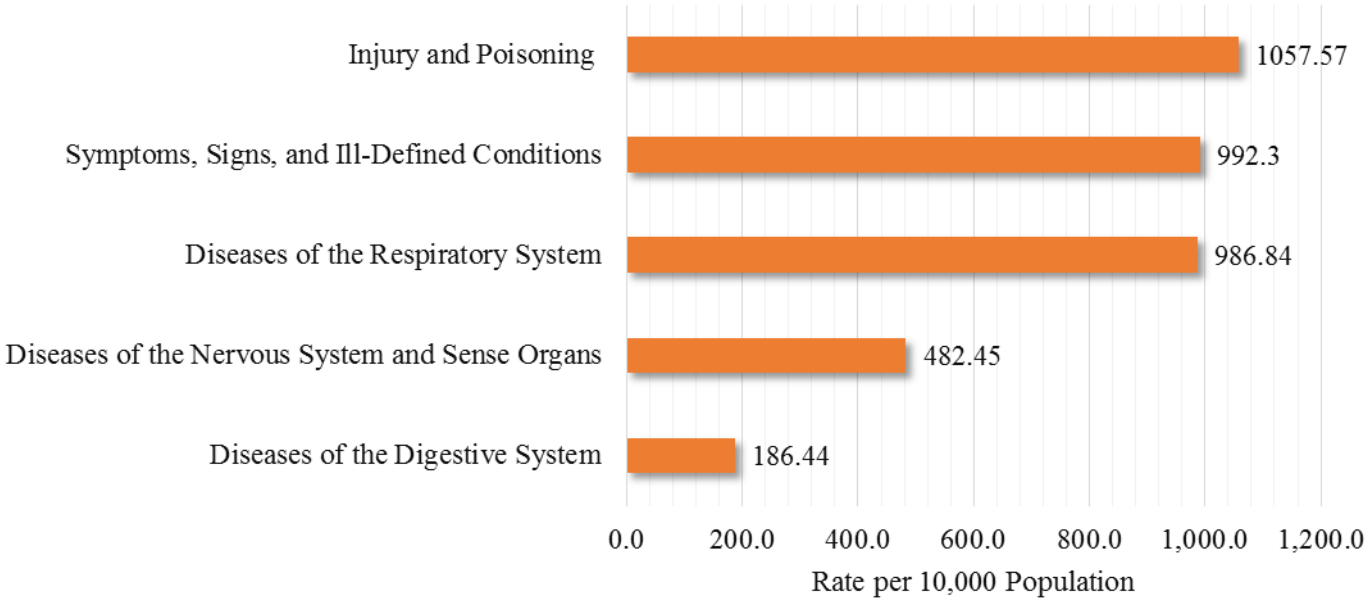
- 1,605 or 33.7% of the 4,644 ED admissions for symptoms, signs, and ill-defined conditions among infants were due to fever of unknown origin.
- 3,114 or 81.4% of the 3,824 ED admissions for diseases of the respiratory system among infants were due to acute upper respiratory infections and 918 or 29.5% of the acute upper respiratory infections were either bronchitis or bronchiolitis.
- 957 or 69.0% of the 1,387 ED admissions for diseases of the nervous system and sense organs among infants were due to otitis media.
- 604 or 48.5% of the 1,245 ED admissions for injury and poisoning among infants were due to falls.
- 206 or 24.4% of the 844 ED admissions for diseases of the digestive system among infants were due to non-infective enteritis or colitis.

*Except for age-specific rates, all rates are age-adjusted to the U.S. 2000 standard population.

Infant ED Admissions

In 2014, 51,143 admissions to an emergency department occurred children aged 1 to 4 years in New Mexico. Males accounted for 53.5% of the ED admissions among 1 to 4 year olds. Only 1.5% of the 1 to 4 year olds treated in an emergency department were admitted to the hospital as an inpatient.

Figure 9. Rate* of Leading Causes of ED Admissions Among 1-4 Year Olds by Major Diagnostic Categories, NM, 2014



The most common reasons for an admission to the emergency department among 1-4 year olds by disease category:

- 4,693 or 37.9% of the 12,394 ED admissions for injury and poisoning among children aged 1 to 4 years were due to falls.
- 3,665 or 31.5% of the 11,639 ED admissions for symptoms, signs, and ill-defined conditions among children aged 1 to 4 years were due to fever of unknown origin.
- 8,420 or 72.8% of the 11,565 ED admissions for diseases of the respiratory system among infants were due acute upper respiratory infections and 1,693 or 20.1% of the acute upper respiratory infections were either bronchitis or bronchiolitis.
- 3,713 or 65.7% of the 5,654 ED admissions for diseases of the nervous system and sense organs among infants were due to otitis media.
- 636 or 29.1% of the 2,185 ED admissions for diseases of the digestive system among infants were due to non -infective enteritis or colitis.

*Except for age-specific rates, all rates are age-adjusted to the U.S. 2000 standard population.

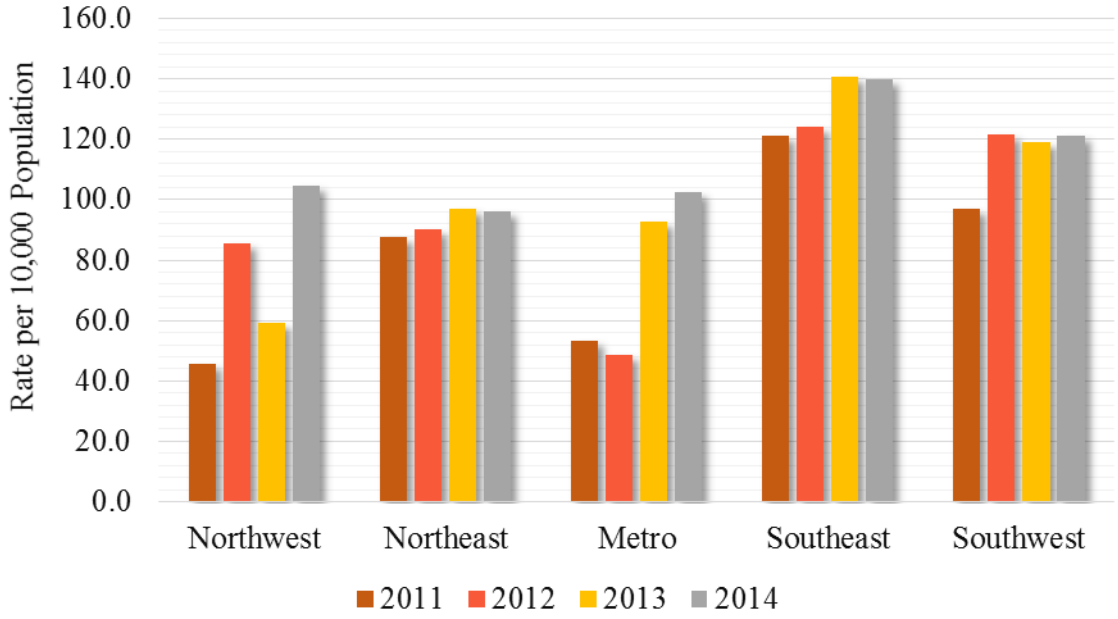
Chronic Disease & Environmental Health Related Admissions

Cardiovascular Disease ED Admissions

Cardiovascular disease (CVD) admissions, coded as ICD-9 390-434, 436-448, are shown here to highlight that while stroke and heart disease death rates are declining, admissions to the emergency room for cardiovascular disease are increasing. Well-documented risk factors for CVD include diabetes, hypertension, obesity, hypercholesterolemia, and cigarette smoking. However, environmental factors such as exposure to fine particulate matter ($PM_{2.5}$) are also important. Specifically, in 2010 the American Heart Association concluded that the overall evidence in the literature is consistent with a causal relationship between $PM_{2.5}$ exposure and cardiovascular morbidity and mortality.[1]

While there is variation in CVD ED rates by year, the Southwest and Southeast health regions have consistently higher rates compared to the other regions. Diabetes in these areas is likely contributing: the Southeast has the highest diabetes ED admission rate, followed by the Southwest.

Figure 10. Age-Adjusted Cardiovascular Disease ED Admission Rates by Health Region, NM, 2011-2014



Asthma Related Emergency Department Admissions

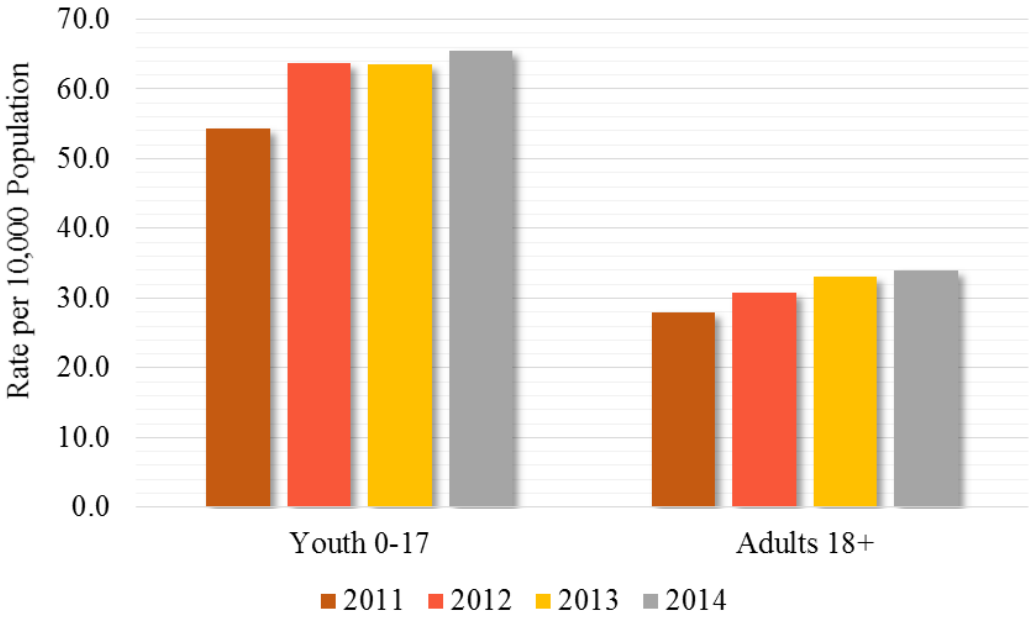
Emergency department (ED) admissions for asthma often represent a failure of the primary care system to address asthma in a comprehensive manner to prevent asthma exacerbations or "attacks" that require emergency care. Comprehensive care at a population level requires a stepwise approach: the first step is to ensure the availability of and access to guidelines-based medical care and medications for all people with asthma. For those whose asthma remains poorly controlled, progressively more individualized services are required, including intensive self-management education, as well as home-based and school-based trigger reduction services. ED admissions are costly and often do not result in long-term asthma management and control. Surveillance of ED admissions for a primary diagnosis of asthma provides valuable information for identifying areas of need and targeting interventions to specific populations and regions of the state for linking asthma patients to comprehensive services.

[1]Brook et al. 2010. Particulate Matter Air Pollution and Cardiovascular Disease: An Update to the Scientific Statement From the American Heart Association. Circulation 121:2331-2378.

Chronic Disease & Environmental Health Related Admissions

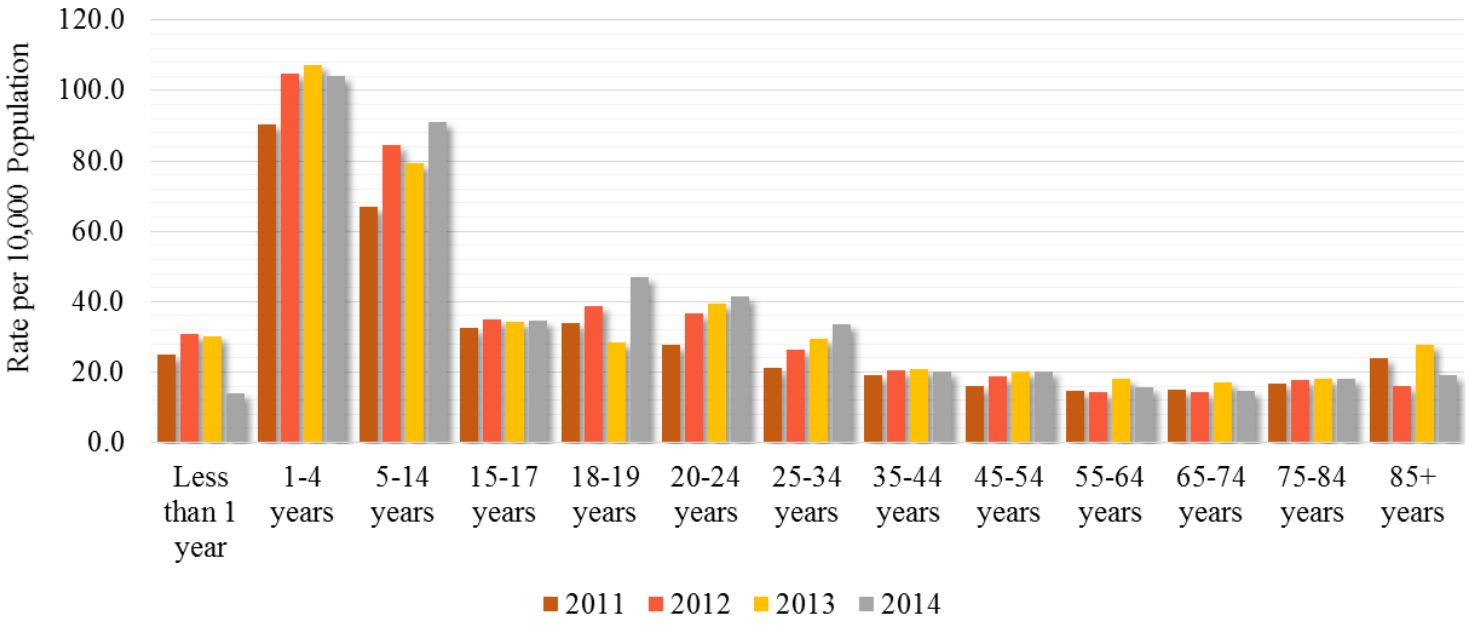
Asthma Related Emergency Department Admissions

Figure 11. Asthma ED Admission Rates* for Youth and Adults by Year, NM, 2011-2014



The ED admission rate in New Mexico has increased over recent years for both youth and adults. (Figure 11) For those under the age of 18 years, the rate has increased 20% from 54.4 per 10,000 in 2011 to 65.5 in 2014; similarly for adults the rate has increased 21% from 28.0 per 10,000 in 2011 to 34.0 in 2014. Reflecting the typical age and sex pattern for asthma prevalence, Figures 12 and 13 show that the highest ED admission rates are found among males under 15 years of age, but beyond the age of puberty, the rates are higher among females. The ED admission rates increased over time among both boys and girls in the 5-14 year age group, among young adult men and women 18-34 years of age, and older women in the 65-84 age range.

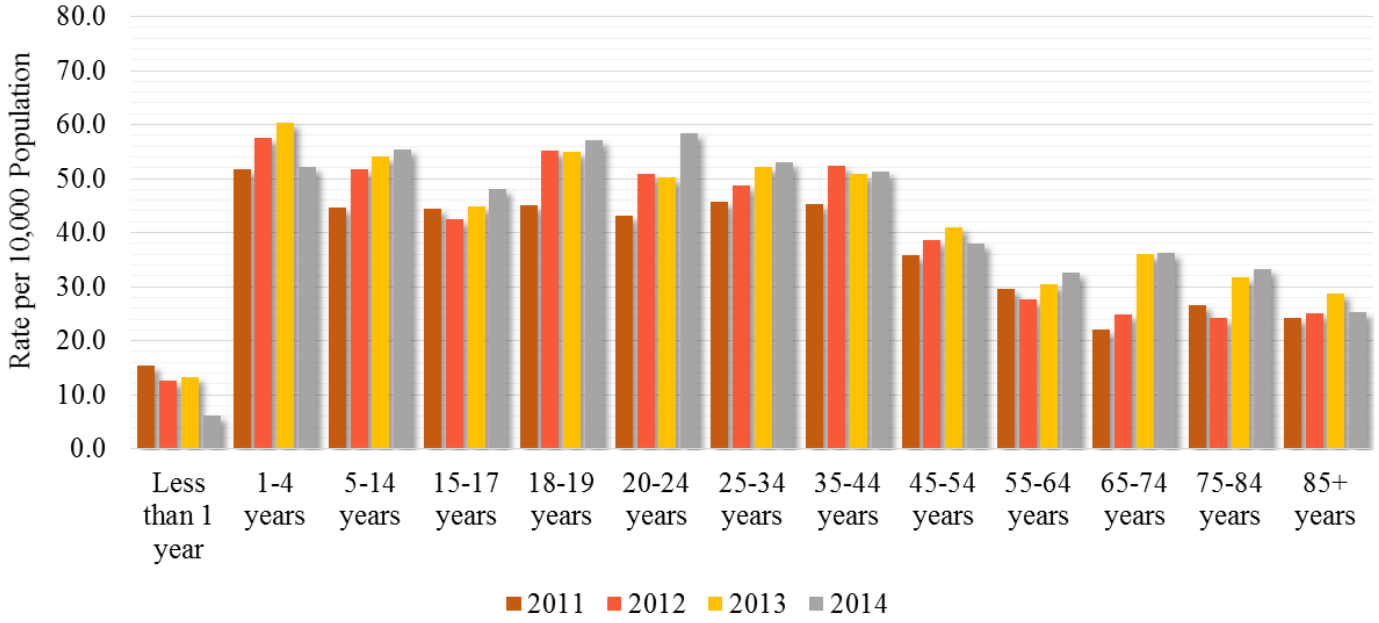
Figure 12. Asthma ED Admission Rates* for Males by Age Group and Year, NM, 2011-2014



Chronic Disease & Environmental Health Related Admissions

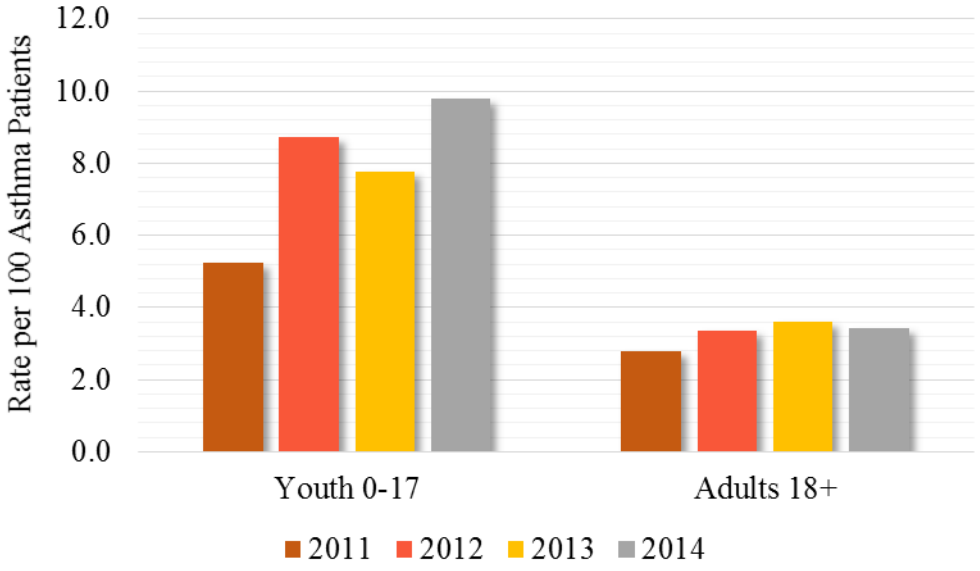
Asthma Related Emergency Department Admissions

Figure 13. Asthma ED Admission Rates* for Females by Age Group and Year, NM, 2011-2014



Because the rise over time in ED admissions may reflect an increase in the prevalence of asthma, rather than an increase in uncontrolled asthma needing emergency care, the *risk-based rate* was graphed in Figure 14. The risk -based rate is calculated as the ratio of the number of ED admissions to the number of current asthma cases, as estimated from the New Mexico Behavioral Risk Factor Surveillance Survey. The risk-based rate among youth nearly doubled from 5.2 ED admissions per 100 asthma patients in 2011 to 9.8 in 2014, indicating that young asthma patients are generally receiving more emergency care over time. Among adults the rate increased only 21%, from 2.8 ED admissions per 100 asthma patients in 2011 to 3.4 in 2014.

Figure 14. Risk-Based ED Admission Rates* for a Primary Diagnosis of Asthma for Youth and Adults by Year, NM, 2011- 2014

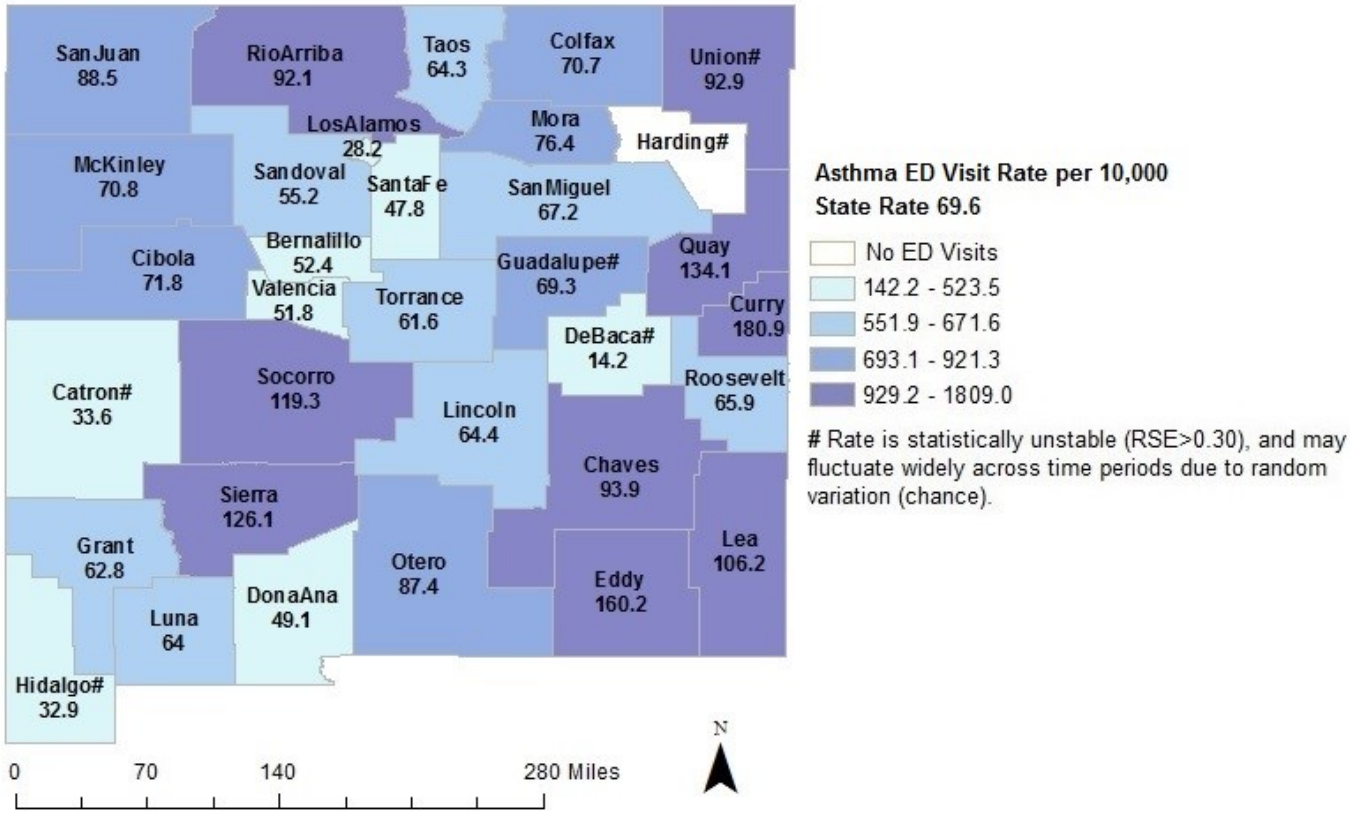


Chronic Disease & Environmental Health Related Admissions

Asthma Related Emergency Department Admissions

To identify geographic regions of the state where recent asthma ED admission rates among youth are the highest, the rates were mapped by county of residence for 2013-2014 (Figure 15). The highest rates among residents aged 0-14 years were observed in Curry, Eddy, Quay, Sierra, Socorro, Lea, Chaves, and Rio Arriba counties.

Figure 15. Asthma ED Admission Rates Among Children Age 0-14 Years of Age, by County of Residence, NM, 2011-2014

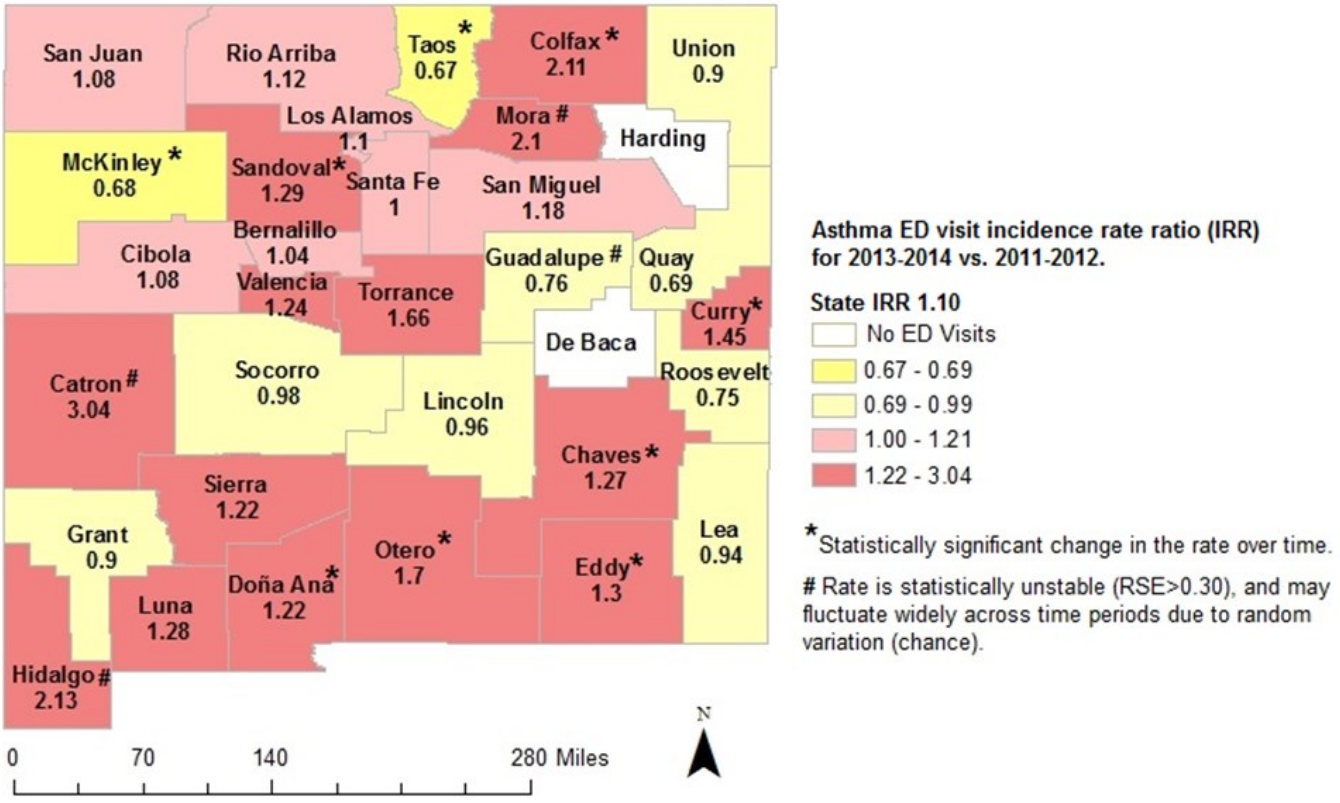


Similarly, to identify geographic regions of the state with the greatest increase in ED admission rates over time among youth aged 0-14 years, rate ratios by time were mapped by the county of residence. The county incidence rate ratios for 2013-2014 vs. 2011-2012 were mapped in Figure 16. Statewide, the rate of ED admissions for a primary diagnosis of asthma among children under the age of 15 years increased from 63.3 per 10,000 in 2011-2012 to 69.6 per 10,000 in 2013-2014, with an incidence rate ratio (IRR) of 1.10 (95% CI 1.06-1.14), indicating a 10% increase. As shown in Figure 16, the asthma ED admission rate increased over time from 2011-2012 to 2013-2014 for residents of 21 counties and decreased for residents of 10 counties. However, the increase was statistically significant only for residents of the following seven counties: Colfax, Sandoval, Otero, Curry, Eddy, Chaves, and Dona Ana counties, and the decrease was statistically significant only in McKinley and Taos counties. Because federal facilities, including the Indian Health Service, were not included in these rates, the results from McKinley county should be interpreted with caution.

Chronic Disease & Environmental Health Related Admissions

Asthma Related Emergency Department Admissions

Figure 16. Asthma ED Admission Incidence Rate Ratio for 2013-2014 vs. 2011-2012 Among Children Age 0-14 Years of Age, by County of Residence, NM, 2011-2014

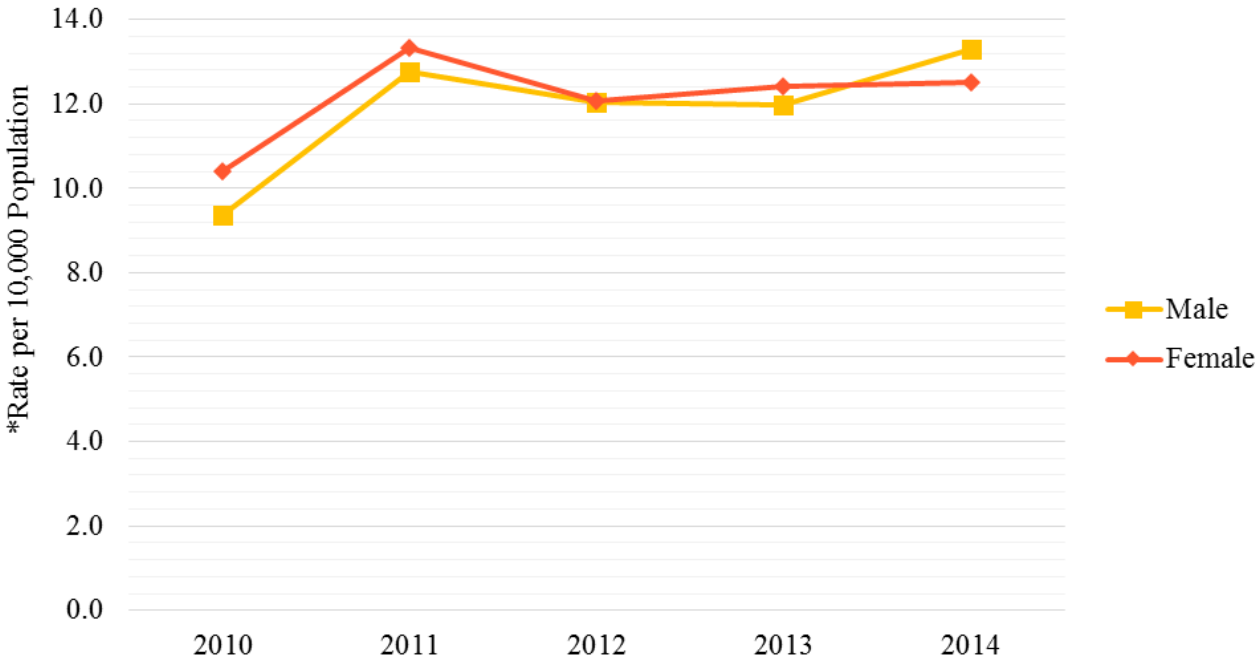


Counties where the ED admission rate for children has consistently been the highest in the state and is increasing over time are the highest priority for intervention and include Curry, Eddy, Chaves, Sierra and Rio Arriba Counties. The counties where a recent increase in the rate among children has been observed include Otero and Colfax counties. And the two counties, Sandoval and Dona Ana, where the rate for children remains lower than the state rate but has recently increased, will need to be monitored over time to see if the trend continues. Unlike the other southeastern counties, Lea county had a lower ED admission rate among children in the most recent time period. The NMDOH-sponsored Asthma Self-Management Education Program at Nor-Lea General Hospital could be a contributing factor in the declining rate of youth ED admissions for asthma in Lea County from 2011-12 to 2013-14, but it is also possible that Lea county children were increasingly seeking asthma emergency treatment at out-of-state facilities in 2013-2014 compared to 2011-2012.

Total Drug Poisoning Related Emergency Department Admissions

In New Mexico, the rate of emergency department admissions due to total drug poisoning have increased over the years, for both men and women. In 2014, the rate among men was 13.3 ED admissions per 10,000 population. Among women, the rate was 12.9.

Figure 17. Rate* of Total Drug Poisonings Related to ED Admissions by Sex NM, 2010-2014



*Age-Adjusted to standard U.S. 2000 Population.

Table 7. Rate* of Total Drug Poisoning Related ED Admissions by Age and Sex, NM, 2014

Age Group	Male	Female	Overall
0-4 Years	5.8	4.1	4.9
5-14 Years	1.2	1.8	1.5
15-24 Years	17.7	17.4	17.6
25-34 Years	27.5	19.7	23.7
35-44 Years	18.9	17.5	18.2
45-54 Years	13.8	15.8	14.8
55-64 Years	9.5	11.2	10.4
65-74 Years	6.4	8.0	7.3
75-84 Years	5.1	6.5	5.9
85+ Years	6.7	6.6	6.6
Total*	13.3	12.5	12.9

In 2014, the rate of total drug poisoning related ED admissions was higher for those in the age group of 15-54 year olds, for both men and women. Within these ages, for both sexes, the rates were highest for those in the age-group of 25-34 years (27.5 ED admissions per 10,000 population among men and 19.7 among women), compared to all other age-groups.

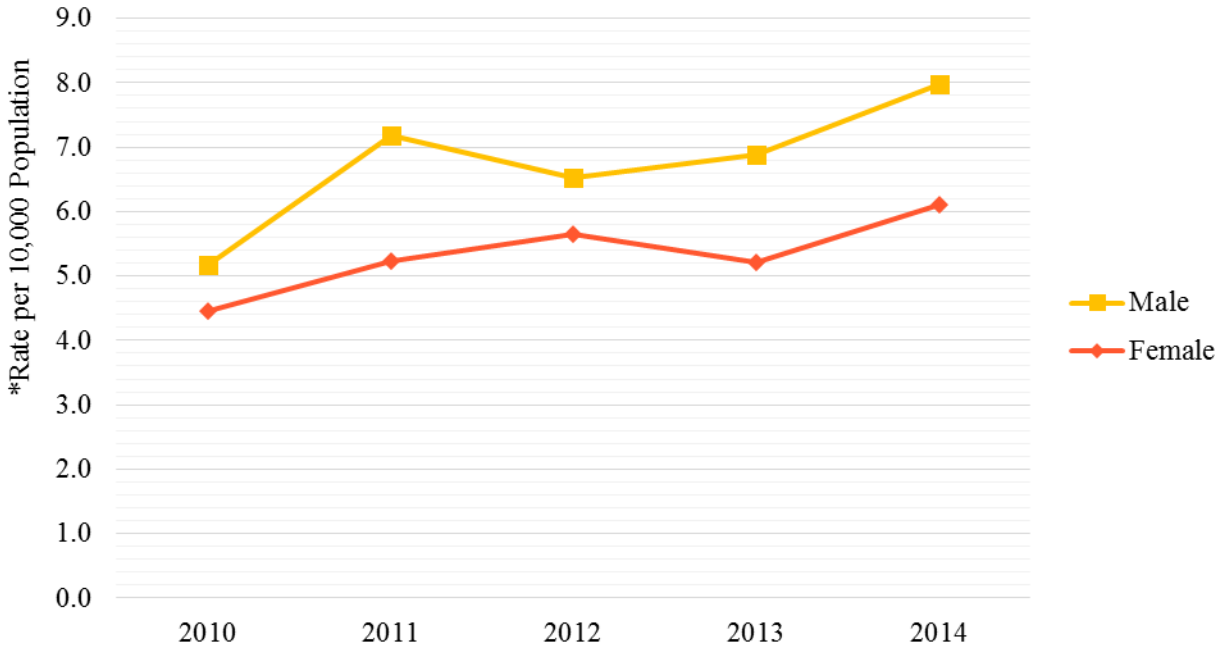
*Total Rates (per 10,000 population) are age-adjusted . Age-Specific Rates (per 10,000 population) are crude rates.

Injury and Poisoning

Opioid Poisoning Related Emergency Department Admissions

In New Mexico, the rates of emergency department admissions due to opioid poisoning increased over the years, both for men and women. Opioid poisoning related ED admissions represented more than half of total drug poisoning related ED admissions. In 2014, the rate among men was 8.0 ED admissions per 10,000 population. Among women, the rate was 6.1. The state rate was 7.1.

Figure 18. Rate* of Opioid Poisonings Related to ED Admissions by Sex, NM, 2010-2014



*Age-Adjusted to standard U.S. 2000 Population.

Table 8. Rate* of Opioid Poisonings Related to ED Admissions by Age and Sex, NM, 2014

Age Group	Male	Female	Overall
0-4 Years	2.5	1.5	2.1
5-14 Years	0.3	0.8	0.5
15-24 Years	10.1	9.3	9.7
25-34 Years	18.3	11.0	14.7
35-44 Years	11.6	7.7	9.6
45-54 Years	8.4	7.2	7.8
55-64 Years	5.6	5.1	5.3
65-74 Years	3.6	3.6	3.6
75-84 Years	2.0	3.3	2.7
85+ Years	3.4	3.8	3.6
Total*	8.0	6.1	7.1

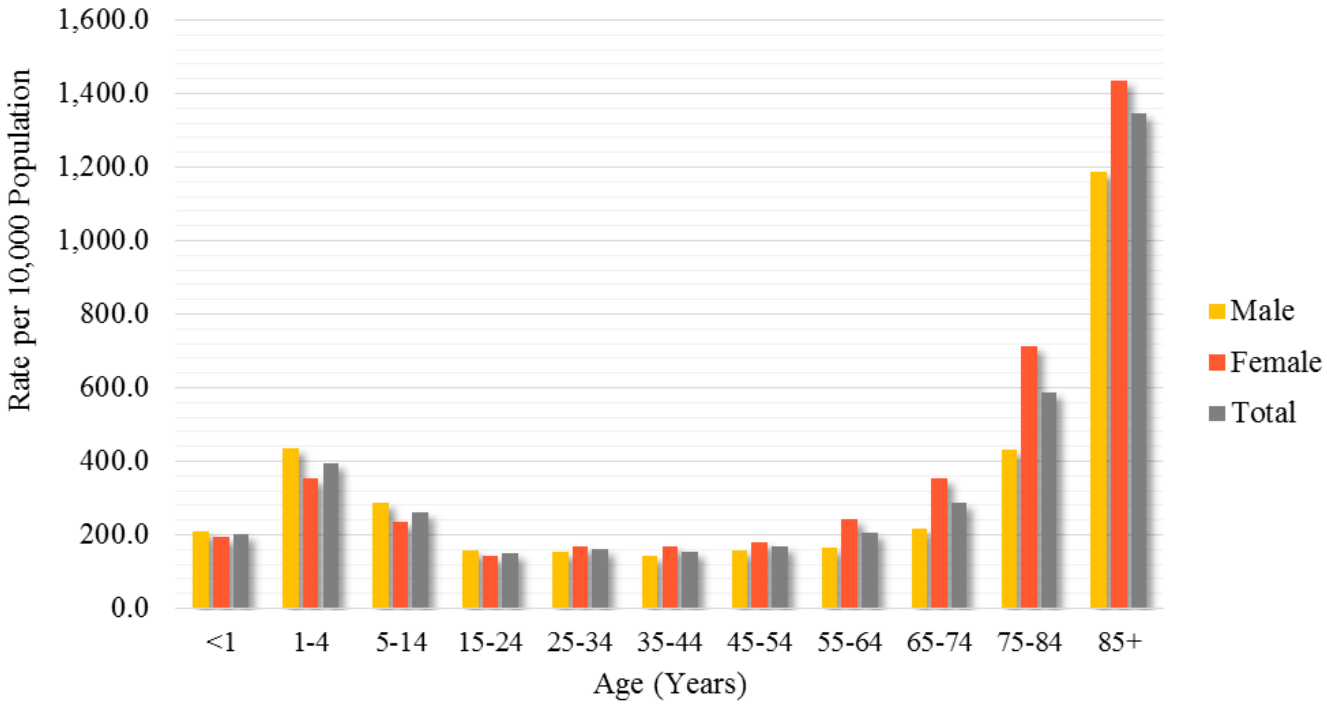
In 2014, the rate of opioid poisoning related ED admissions was higher for those in the age-group of 15-54 year old, for both men and women. Within these ages, for both sexes, the rates were highest for those in the age-group of 25-34 years (18.3 ED admissions per 10,000 population among men and 11.0 among women), compared to all other age-groups.

*Total Rates (per 10,000 population) are age-adjusted. Age-Specific Rates (per 10,000 population) are crude rates.

Fall-Related Injuries

In 2014, there were 158,368 emergency department admissions due to unintentional injuries among residents in New Mexico. Falls accounted for 32% of the unintentional injury-related ED admissions, struck by or against an object accounted for 11%, transportation accounted for 11%, overexertion accounted for 8% and cut/pierce accounted for 7%.

Figure 22. Fall-Related ED Admission Rate by Age and Sex, NM, 2014

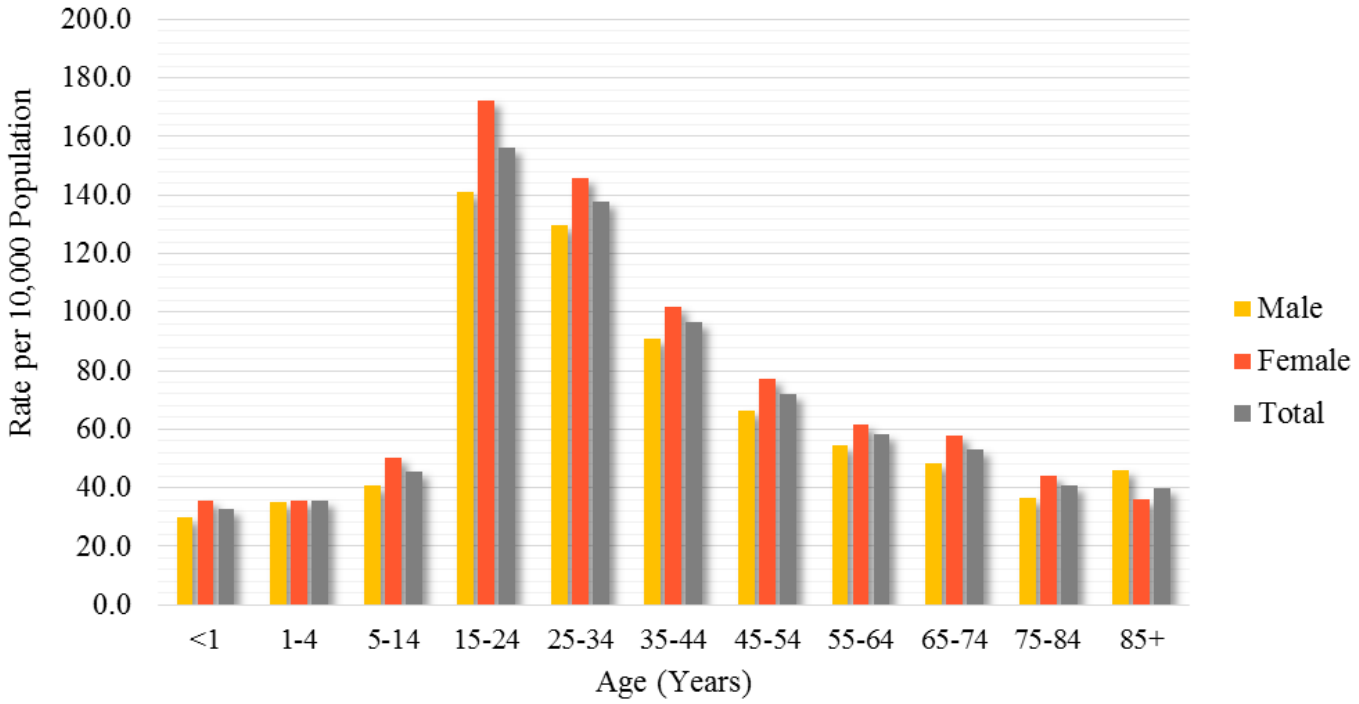


A total of 50,546 fall-related emergency department admissions occurred among residents in New Mexico in 2014. Females accounted for 55% of the fall-related ED admissions. Persons aged ≥ 85 years had the highest fall-related injury ED admission rate, followed by those aged 75-84 years. Persons aged 1 to 4 years had the third highest fall-related ED admission rate. Males had a higher fall-related ED admission rate compared to females among 0 to 24 year olds while females had a higher fall-related ED admission rate compared to males among persons aged ≥ 25 years.

*Except for age-specific rates, all rates are age-adjusted to the U.S. 2000 standard population.

Motor Vehicle Traffic-Related Injuries

Figure 23. Motor Vehicle Traffic-Related ED Admission Rate by Age and Sex, NM, 2014



A total of 17,579 motor vehicle traffic-related emergency department admissions occurred among residents in New Mexico in 2014. Females accounted for 54% of the motor vehicle traffic-related ED admissions. Persons aged 15-24 years had the highest rates of motor vehicle traffic-related injury ED admissions. Females had a higher motor vehicle traffic-related ED admission rate for all age groups except for persons aged 1-4 years and aged ≥ 75 years.

*Except for age-specific rates, all rates are age-adjusted to the U.S. 2000 standard population.

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