

# Hospital Readmissions Among the Homeless Population in Albuquerque, New Mexico

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## Objective

To analyze a homeless population, demographically and by health condition, over a 3-year time period who were admitted to an Albuquerque area hospital.

## Introduction

It is estimated that there are 1.7 million homeless individuals in the United States; 36% are families with children under the age of 18. Due to lack of resources, homeless individuals frequent emergency departments for immediate health care needs. Homeless individuals are hospitalized more often, and once hospitalized have longer lengths of stay and incur higher hospital costs compared to non-homeless individuals<sup>1-2</sup>.

## Methods

This study is a retrospective analysis of hospital inpatient and discharge data from 50 non-federal hospitals across the state of New Mexico. The primary outcome for this analysis was a 30-day readmission for a homeless individual, counted from the date of hospital discharge to the date of the next hospital admission. A homeless record was defined by the patient's address; either recorded as 'homeless', 'none', or an address for a shelter in Albuquerque. Patient records that had at least one instance of being homeless and an admission to an Albuquerque hospital were included in the analysis. Once identified as a homeless patient, all records for that patient were included in the readmission analysis. Records were analyzed from 2010-2012. The comparison group for this analysis consists of homeless individuals who were admitted to Albuquerque area hospitals, but did not have a 30-day readmission during the analysis time period.

## Results

In all three years, males were proportionately higher in number. The overall mean age over the three year time period was 43.8 years. The predominant admitting primary diagnosis for homeless patients was Neuro-Psychiatric conditions, followed by Digestive Diseases and Alcohol and Drug Related conditions. Most readmissions occurred early after discharge, with two-thirds of the readmissions occurring prior to 10 days after discharge (66.3%).

Roughly, one third of the homeless patients experienced a 30-day readmission as an inpatient during the three year time period. Approximately 45% of patients had multiple inpatient admissions each year, with some patients being admitted more than 10 times in one calendar year (2% of patients). The average 30-day readmission rate among Bernalillo County residents (who did not identify as homeless) was 12.3% over the same time period.

In adjusted analyses, factors significantly associated with an increased odds of a 30-day readmission included age, gender, certain primary diagnoses, and the number of admissions per patient (Table 2).

## Conclusions

In this three year, city centric study, the 30-day inpatient readmission rate among patients who identified as homeless was 30.1 percent. Given the high readmission rate observed in this study and the work conducted by prior researchers with a similar population, hospitals need to take appropriate steps to identify this population as they come through their doors and create a suitable discharge plan of action for this population to prevent costly readmissions.

Calendar Year	Number of Patients with a 30-Day Readmission	Total Number of Patients	% of Patients with a 30-Day Readmission
<b>Homeless Patients</b>			
2010	107	368	29.1
2011	82	253	32.4
2012	93	317	29.3
Overall*	256	850	30.1
Number of Records	720	2,068	34.8
<b>Bernalillo County Residents</b>			
Overall*	17,798	144,710 <sup>†</sup>	12.3

\*Overall combines all 3 years.  
<sup>†</sup>Total number of patients.

## 30-Day Readmission Rates by Year, Bernalillo County, 2010-2012

Patient Characteristics	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
<b>Gender</b>		
Male	Ref.	Ref.
Female	0.65 (0.46-0.93)*	0.77 (0.58-1.03)
<b>Age Groups (Years)</b>		
0-19	Ref.	Ref.
20-29	3.90 (1.18-12.98)*	2.52 (0.90-7.07)
30-39	4.66 (1.44-15.07)*	2.89 (1.05-7.97)*
40-49	4.26 (1.33-13.65)*	2.65 (0.97-7.28)
50-59	4.54 (1.42-14.48)*	2.68 (0.98-7.35)
60+	5.69 (1.66-19.58)*	3.23 (1.11-9.37)*
<b>Race/Ethnicity</b>		
White	Ref.	Ref.
Black	0.99 (0.54-1.82)	0.94 (0.59-1.52)
Native American	0.78 (0.46-1.33)	0.77 (0.52-1.17)
Hispanic	0.84 (0.58-1.22)	0.79 (0.59-1.06)
Other	0.60 (0.31-1.17)	0.82 (0.48-1.40)
<b>Hospitalization Characteristics</b>		
Number of Admissions	1.38 (1.31-1.43)*	1.37 (1.31-1.43)*
Length of Stay (LOS)	1.00 (0.99-1.00)	1.00 (0.99-1.00)
<b>Diagnosis Category</b>		
Neuro-Psychiatric Condition	Ref.	Ref.
Digestive Disease	0.92 (0.59-1.44)	0.89 (0.59-1.35)
Alcohol or Drug Related Disease	0.72 (0.44-1.19)	0.76 (0.48-1.20)
Respiratory Disease	0.48 (0.27-0.84)*	0.49 (0.29-0.83)*
Injury	0.48 (0.25-0.89)*	0.62 (0.35-1.10)
Cardiovascular Disease	0.48 (0.27-0.84)*	0.62 (0.37-1.03)
Poisoning	0.92 (0.52-1.63)	0.75 (0.42-1.32)
Other	0.98 (0.70-1.37)	1.03 (0.76-1.40)
<b>Discharge Status</b>		
Routine Discharge	0.83 (0.64-1.08)	1.02 (0.58-1.80)
Discharge Against Medical Advice	1.44 (0.98-2.13)	1.79 (0.93-3.44)
Discharge to Specialty Facility <sup>‡</sup>	0.98 (0.69-1.38)	1.18 (0.63-2.22)

<sup>‡</sup> Facilities include: Skilled Nursing, Intermediate Care, Rehabilitation, and Psychiatric.  
 \* P ≤ 0.05

Patient Hospitalization Characteristics and Odds of 30-Day Readmission, Bernalillo County, 2010-2012

## Keywords

Homelessness; Health Inequalities; Readmission; Hospital Stay

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