

POTENTIALLY PREVENTABLE HOSPITALIZATIONS AMONG AMERICAN INDIANS & ALASKA NATIVES IN OREGON, 2010-2013

HOSPITAL DISCHARGE FACT SHEET SERIES (#2)

Potentially preventable hospitalizations are inpatient hospitalizations that might be avoided with high quality outpatient treatment and disease management.¹ Expenditures for these hospitalizations add to the high cost of medical care. In addition, hospitalization itself and complications that develop during hospitalization can cause additional morbidity and mortality.² Potentially avoidable hospitalizations can serve as useful indicators of unmet community health needs.¹

Rates of potentially preventable hospitalizations are higher for vulnerable populations with limited access to care. Hospital stays are more likely to be potentially preventable among certain groups, including males, patients ages 65 and older, uninsured patients, and those living in rural or poorer communities.¹

This factsheet describes potentially preventable hospitalizations among American Indians and Alaska Natives (AI/AN) in Oregon, using AI/AN race-corrected 2010-2013 hospital discharge data from the IDEA-NW Project.

OVERALL PREVENTABLE HOSPITALIZATIONS

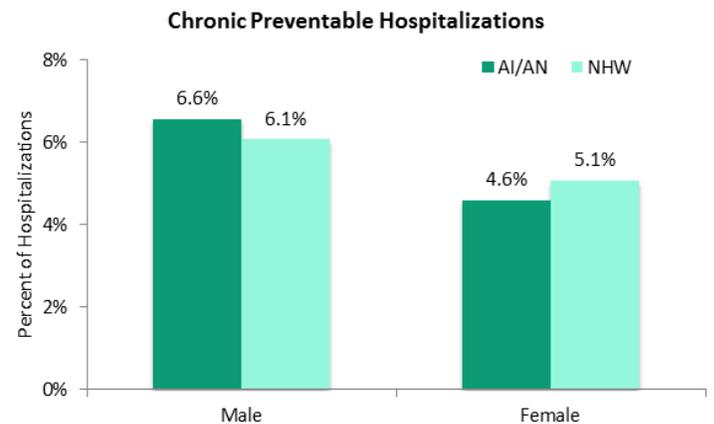
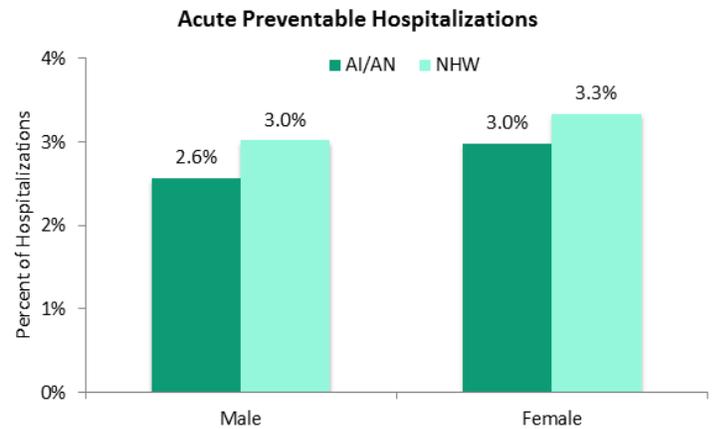
- Overall, AI/AN had a slightly lower percentage of overall preventable hospitalizations compared to NHW.
- Males had higher percentages compared to females.

ACUTE PREVENTABLE HOSPITALIZATIONS

- The overall percentage of acute preventable hospitalizations among AI/AN was slightly lower compared to NHW.
- Female AI/AN had a higher percentage than male AI/AN.

CHRONIC PREVENTABLE HOSPITALIZATIONS

- The percentage of chronic preventable hospitalizations among male AI/AN was 1.4 times higher than for female AI/AN.
- Male AI/AN had a higher percentage compared to male NHW.
- Female AI/AN had a slightly lower percentage compared to female NHW.



| | AI/AN N (%) | NHW N (%) |
|---|----------------|---------------|
| Overall Preventable Hospitalizations | | |
| Male | 392 (9.1%) | 21,512 (9.1%) |
| Female | 513 (7.6%) | 26,392 (8.4%) |
| Both Sexes | 905 (8.2%) | 47,904 (8.7%) |
| Acute Preventable Hospitalizations | | |
| Male | 110 (2.6%) | 7,139 (3.0%) |
| Female | 202 (3.0%) | 10,489 (3.3%) |
| Both Sexes | 312 (2.8%) | 17,628 (3.2%) |
| Chronic Preventable Hospitalizations | | |
| Male | 282 (6.6%) | 14,373 (6.1%) |
| Female | 311 (4.6%) | 15,903 (5.1%) |
| Both Sexes | 593 (5.4%) | 30,277 (5.5%) |

N = number of hospitalizations

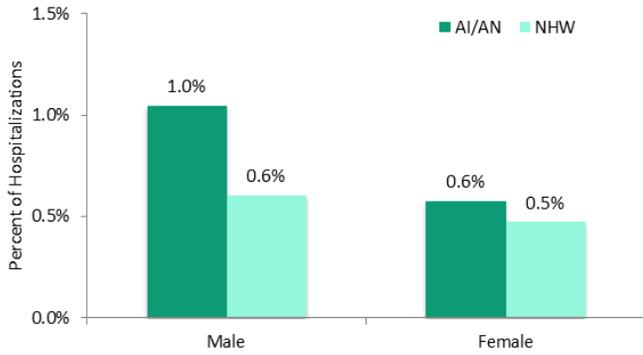
Overall Preventable Hospitalizations: Includes discharges (ages 18+) admitted for one of the following conditions: diabetes with short-term complications, diabetes with long-term complications, uncontrolled diabetes without complications, diabetes with lower-extremity amputation, chronic obstructive pulmonary disease, asthma, hypertension, heart failure, angina without a cardiac procedure, dehydration, bacterial pneumonia, or urinary tract infection.

Acute Preventable Hospitalizations: Includes discharges (ages 18+) admitted for one of the following conditions: dehydration, bacterial pneumonia, or urinary tract infection.

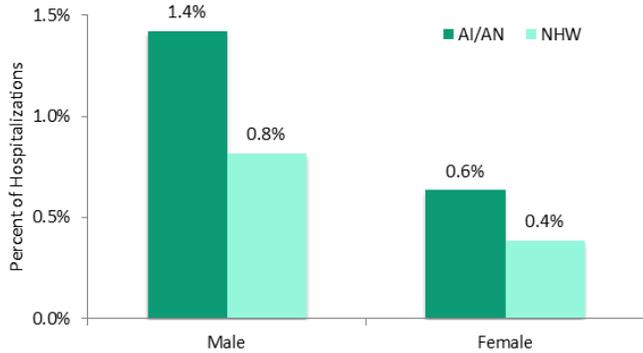
Chronic Preventable Hospitalizations: Includes discharges (ages 18+) admitted for one of the following conditions: diabetes with short-term complications, diabetes with long-term complications, uncontrolled diabetes without complications, diabetes with lower-extremity amputation, chronic obstructive pulmonary disease, asthma, hypertension, heart failure, or angina without a cardiac procedure.

DIABETES

Diabetes Short-Term Complications



Diabetes Long-Term Complications



DIABETES SHORT-TERM COMPLICATIONS

- Male AI/AN had a higher percentage compared to female AI/AN.
- AI/AN had a higher percentage than their NHW counterparts, and males had a wider disparity than females.

DIABETES LONG-TERM COMPLICATIONS

- The overall percentage of long-term diabetes complications was slightly higher for AI/AN compared to NHW.
- The percentage for male AI/AN was 2.3 times higher than female AI/AN.
- Both male and female AI/AN had slightly higher percentages than their NHW counterparts, although males had a wider disparity than females.

| | AI/AN N (%) | NHW N (%) |
|--|----------------|--------------|
| Diabetes Short-Term Complications | | |
| Male | 45 (1.1%) | 1,434 (0.6%) |
| Female | 39 (0.6%) | 1,486 (0.5%) |
| Both Sexes | 84 (0.8%) | 2,920 (0.5%) |
| Diabetes Long-Term Complications | | |
| Male | 61 (1.4%) | 1,928 (0.8%) |
| Female | 43 (0.6%) | 1,208 (0.4%) |
| Both Sexes | 104 (0.9%) | 3,136 (0.6%) |

N = number of hospitalizations

Diabetes Short-Term Complications: Includes discharges (ages 18+) admitted for diabetes short-term complications (ketoacidosis, hyperosmolarity, coma).

Diabetes Long-Term Complications: Includes discharges (ages 18+) admitted for diabetes with long-term complications (renal, eye, neurological, circulatory, or complications not otherwise specified).

RESPIRATORY

CHRONIC OBSTRUCTIVE PULMONARY DISORDER (COPD) OR ASTHMA IN ADULTS

- Overall, AI/AN had a lower percentage compared to NHW.
- Female AI/AN had a higher percentage compared to male AI/AN in the same age range.
- Both male and female AI/AN had lower percentages than their NHW counterparts.

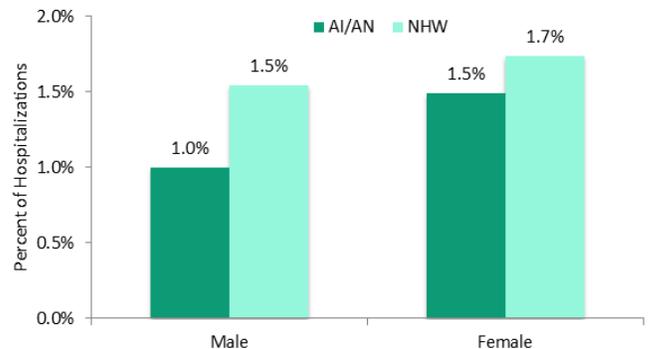
ASTHMA IN YOUNGER ADULTS

- Overall, AI/AN had a higher percentage compared to NHW.
- The percentage of among female AI/AN was twice as high as the percentage for male AI/AN.
- Both male and female AI/AN had higher percentages compared to their NHW counterparts, and this disparity was wider among females.

COPD or Asthma in Adults: Includes discharges (ages 18+) with either a principal ICD-9-CM diagnosis code for COPD (excluding acute bronchitis); or a principal ICD-9-CM diagnosis code for asthma; or a principal ICD-9-CM diagnosis code for acute bronchitis and any secondary ICD-9-CM diagnosis codes for COPD (excluding acute bronchitis).

Asthma in Younger Adults: Includes discharges (ages 18-39) with a principal ICD-9-CM diagnosis code for asthma.

COPD or Asthma in Adults



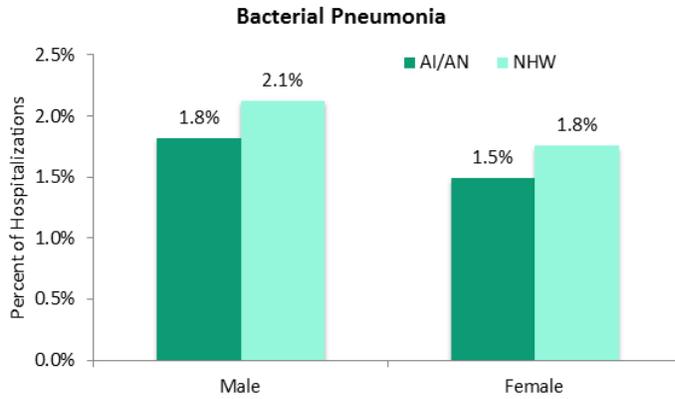
Asthma in Younger Adults



RESPIRATORY

BACTERIAL PNEUMONIA

- Overall, AI/AN had a slightly lower percentage of bacterial pneumonia hospitalizations compared to NHW.
- Male AI/AN had a slightly higher percentage of bacterial pneumonia hospitalizations compared to female AI/AN.
- Both male and female AI/AN had slightly lower percentages than their NHW counterparts.



| | AI/AN N (%) | NHW N (%) |
|---------------------------------------|----------------|---------------|
| Asthma in Younger Adults | | |
| Male | 8 (0.19%) | 127 (0.05%) |
| Female | 30 (0.44%) | 280 (0.09%) |
| Both Sexes | 38 (0.34%) | 407 (0.07%) |
| COPD or Asthma in Older Adults | | |
| Male | 43 (1.00%) | 3,658 (1.55%) |
| Female | 101 (1.49%) | 5,465 (1.74%) |
| Both Sexes | 144 (1.30%) | 9,123 (1.66%) |
| Bacterial Pneumonia | | |
| Male | 78 (1.8%) | 5,034 (2.1%) |
| Female | 101 (1.5%) | 5,515 (1.8%) |
| Both Sexes | 179 (1.6%) | 10,549 (1.9%) |

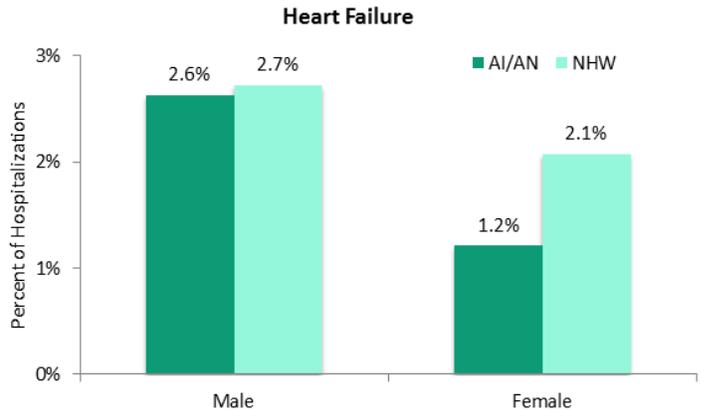
N = number of hospitalizations

Bacterial Pneumonia: Includes discharges (ages 18+) with a principal ICD-9-CM with a principal ICD-9-CM diagnosis code for bacterial pneumonia.

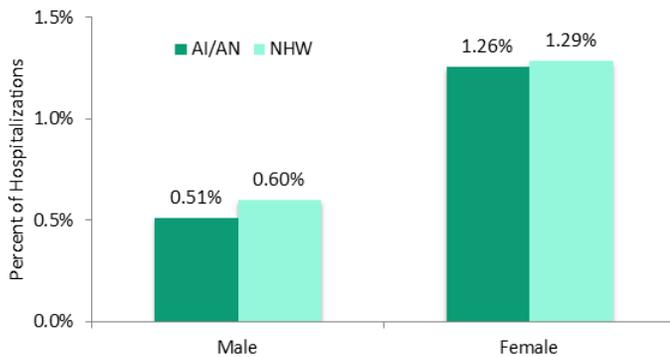
OTHER PREVENTABLE HOSPITALIZATIONS

HEART FAILURE

- Overall, AI/AN had a lower percentage of heart failure hospitalizations compared to NHW.
- Male AI/AN had a percentage of heart failure hospitalizations that was 2.2 times higher compared to female AI/AN.
- Male AI/AN had a similar percentage of heart failure hospitalizations to male NHW.



Urinary Tract Infection



URINARY TRACT INFECTION

- Overall, AI/AN had the same percentage of urinary tract infection hospitalizations as NHW.
- The percentage of urinary tract infection hospitalizations for female AI/AN was 2.6 times higher compared to male AI/AN.
- Both male and female AI/AN had similar percentages of urinary tract infection hospitalizations to their NHW counterparts.

Heart Failure: Includes discharges (ages 18+) with a principal ICD-9-CM diagnosis code for heart failure.

Urinary Tract Infection: Includes discharges (ages 18+) with a principal ICD-9-CM diagnosis code for urinary tract infection.

OTHER PREVENTABLE HOSPITALIZATIONS

PERFORATED APPENDIX

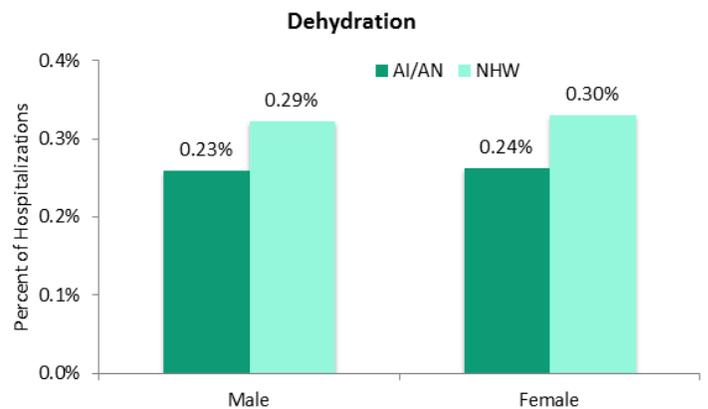
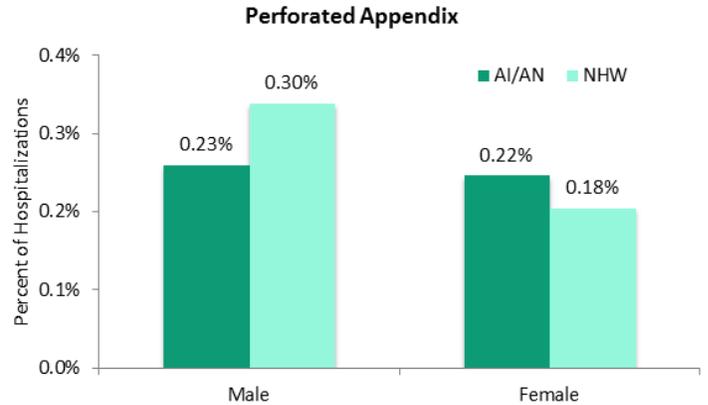
- Overall, AI/AN had the about same percentage of perforated appendix hospitalizations as NHW, and there was not much difference between males and females.

DEHYDRATION

- Overall, AI/AN had about the same percentage of hospitalizations for dehydration compared to NHW, and there was not much difference between males and females.

| | AI/AN N (%) | NHW N (%) |
|--------------------------------|----------------|---------------|
| Heart Failure | | |
| Male | 113 (2.6%) | 6,449 (2.7%) |
| Female | 82 (1.2%) | 6,519 (2.1%) |
| Both Sexes | 195 (1.8%) | 12,968 (2.4%) |
| Urinary Tract Infection | | |
| Male | 22 (0.5%) | 1,417 (0.6%) |
| Female | 85 (1.3%) | 4,038 (1.3%) |
| Both Sexes | 107 (1.0%) | 5,455 (1.0%) |
| Perforated Appendix | | |
| Male | 10 (0.23%) | 721 (0.30%) |
| Female | 15 (0.22%) | 576 (0.18%) |
| Both Sexes | 25 (0.23%) | 1,297 (0.24%) |
| Dehydration | | |
| Male | 10 (0.23%) | 688 (0.29%) |
| Female | 16 (0.24%) | 936 (0.30%) |
| Both Sexes | 26 (0.24%) | 1,624 (0.29%) |

N = number of hospitalizations



Perforated Appendix: Includes discharges (ages 18+) with any-listed ICD-9-CM diagnosis codes for perforations or abscesses of appendix.

Dehydration: Includes discharges (ages 18+) with a principal ICD-9-CM diagnosis code for dehydration; or any secondary ICD-9-CM diagnosis codes for dehydration and a principal ICD-9-CM diagnosis code for hyperosmolality and/or hyponatremia, gastroenteritis, or acute kidney injury.

¹ Stranges, Elizabeth and Carol Stocks. "Potentially Preventable Hospitalizations for Acute and Chronic Conditions, 2008." Nov. 2010. *Agency for Healthcare Research and Quality*, Rockville, MD. <https://www.hcup-us.ahrq.gov/reports/statbriefs/sb99.pdf>

² Maslow, Katie and Joseph G. Ouslander. "Measurement of Potentially Preventable Hospitalizations." Feb. 2012. *ITQA Long-Term Quality Alliance*, Washington, DC. https://interact2.net/docs/publications/LTQA%20PreventableHospitalizations_021512_2.pdf

THE IDEA-NW PROJECT



The Improving Data and Enhancing Access - Northwest (IDEA-NW) Project at the Northwest Tribal Epidemiology Center and Northwest Portland Area Indian Health Board routinely conducts record linkages with state datasets, including hospital discharge datasets, to correct for AI/AN misclassification in state data.

For hospital discharge data, linkage identified the prevalence of AI/AN racial misclassification among all post-linkage AI/AN was 16.9 for Oregon, and 28.4% for Washington.

For more information, visit the IDEA-NW Project's website:

www.npaihb.org/epicenter/project/improving_data_enhancing_access_northwest_idea_nw.