PRIMARY CARE SENSITIVE EMERGENCY DEPARTMENT VISITS IN UTAH, 2001

April 2004

Utah Department of Health
Health Data Committee
Center for Health Data
Office of Health Care Statistics

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Suggested Citation:

Utah Office of Health Care Statistics. (2004) Primary Care Sensitive Emergency Department Visits in Utah, 2001. Salt Lake City, UT: Utah Department of Health.

- A cluster of low-income small geographic areas along the Wasatch Front and the majority of rural small areas had ED utilization rates that were greater than the overall state rate.

- Approximately 53% of ED visits in the Tri-County Local Health District (Small area number 53 = Duchesne, Uintah and Daggett counties) were for PCS conditions; compared to a state rate of 44%. Other areas where at least half of ED visits were classified as PCS conditions are Rose Park (No. 17) at 52%, Glendale (No. 21) at 51%, and South Salt Lake (25) at 50%.

This report provides a baseline for measuring PCS ED visits in Utah. The Utah Department of Health will provide follow-up information to policy makers, community access initiatives, health plans, patient education groups and the public. We hope that this type of analyses can assist improvements of access to primary and preventive care in Utah.

Caveats of Using the Report

- The New York University ED algorithm was derived using administrative/claim data and medical records in New York City. New York City and Utah differ substantially in the demographic composition of their populations, primary care delivery systems, and general health care environments.

- The NYU ED algorithm development team is in the process of deriving classification weights based on analysis from a national sample. Utah Department of Health plans to adopt the new national ED algorithm when it is available.

ACKNOWLEDGMENTS

This report is developed under the direction of the Utah Department of Health's Executive Director's Office and the Health Data Committee. The Division of Health System Improvement Bureau of Emergency Medical Services provided the data for the analysis. Numerous individuals and organizations made important contributions to this report's development.

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Drafts of the report have been presented and discussed by:

Salt Lake Valley Health Care Coverage Coalition, September 17, 2002
A telephone conference for hospital administrators and ED directors, facilitated by Bruce Murray, UHA, September 24, 2002.
Utah Health Data Committee, October 8, 2002

Special thanks go to Professor John Billings

At Center for Health and Public Service Research
New York University

Professor Billings, Principal Investigator, made a special visit to Salt Lake City, Utah to meet with the physician advisory panel for this report. After Professor Billings thoroughly explained the New York University-developed emergency department classification algorithm and its uses in the nation, the physician panel endorsed the method used in this report.

Utah Emergency Department Encounter Database

Administrative Rule R426-1-7 (i) mandates all Utah licensed hospitals to report information on emergency department patient encounters to the Bureau of Emergency Medical Services (BEMS), Utah Department of Health. The Department releases annual reports on Utah Emergency Department Utilization and Charges Profile Statewide Summary. The public also can access the Utah Emergency Department Encounter Database's summary information from Utah's Indicator-Based Information System for Public Health (IBIS-PH) at http://health.utah.gov/ibis-ph/.

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INTRODUCTION

Use of Emergency Department and Access to Primary and Preventive Care

Hospital Emergency Departments (ED) have a critical role as a safety net provider in a community. For the uninsured, underinsured, or those who have no contact with primary care providers, the ED serves as the primary means of entry into the health care system. Individuals who regularly get their health care at an emergency department do not have regular health care providers or continuity in their care, use costlier services, may be more seriously ill by the time they arrive at the ED and often receive treatment that could have been avoided if they received primary care. As public insurance covered benefits and physician reimbursement rates are reduced during an economic recession, low-income residents may be depending on emergency department care even more than before.

The 2001 Utah Health Status Survey estimated that about 8.7% of Utah residents had no insurance coverage in 2001, about 8.8% had no usual place of medical care, and 4.6% mentioned the emergency department or an urgent care center as their usual point of access to medical care. These findings indicate that a significant segment of Utah's population may have the potential to use emergency departments as a source of care due to lack of access to primary and preventive care (Utah Office of Public Health Assessment, 2002). Also, ED services fill a gap for patients when other health services are not available such as during evenings and weekends. Therefore, ED utilization profiles can provide proxy information about the accessibility to primary and preventive care in a community.

About This Report

This report examines the magnitude and pattern of primary care sensitive emergency department (PCS ED) visits in Utah using statewide, all-payer, ED outpatient-encounter data in 2001. The report will address the following questions:

- What is the magnitude of PCS ED visits in Utah?
- What is the resource use associated with PCS ED visits in Utah?
- Were Utahns more likely to make PCS ED visits during late evening, early morning, or weekends when doctor offices or clinics are not available?
- What population subgroups show relatively high incidence of PCS ED visits?
- What is the financial burden for payers and providers to cover PCS ED visits?
- What geographic areas in Utah show relatively high incidence of PCS ED visits?
- Do the findings provide evidence of a relationship between PCS ED visits and access to primary care or prenatal care?

category as one of the top ten high frequency codes. Headache (ICD-9-CM code 784.0) accounted for 8,269 weighted ED encounters and was the Number 1 reason for using emergency department services by Utahns in 2000.

Each member of the physician panel received a spreadsheet including the 30 ICD-9-CM codes, their labels/descriptions, the NYU algorithm's probability weights, the definition of each emergency status category, the number of medical charts reviewed by the NYU research team, the number of weighted ED encounters in Utah in 2000, as well as the Utah Medicaid reimbursement policy on these selected codes. Each reviewer evaluated the spreadsheet and independently provided a confidence score for the NYU weights assigned to each of the 30 ICD-9-CM codes.

The reviewers' confidence scores range from 5 (very confident about the priority weight in the NYU algorithm) to 1 (not confident at all). Each ICD-9-CM code has one priority weight. For example, ICD-9-CM code 599.0 (Urinary track infections) has a priority weight (66.0%) under the non-emergent category, and the priority weight for 789.0 (Abdominal pain) is 71.7% under emergent, primary care treatable. If a physician reviewer rated 5 for 789.0 (Abdominal pain) that mean that he was "very confident about the assignment of the highest weight to the category of emergent, primary care treatable."

Appendix A shows the results from the physician panel's review. The average confidence scores of the 30 codes ranged from 2.00 to 4.67; the differences in the panel members' rating were from 1 to 3 points. Having analyzed the average confident scores, panel members' comments on the priority weights, and the Utah Medicaid ED reimbursement policy, the authors concluded that the panel's subjective ratings agreed with the NYU algorithm on 22 (73.3%) out of the 30 codes. The panel did not feel "confident" on the priority weights assignment for 8 codes (26.7%), based on very limited information they received.

The results from the Utah panel review were presented to Professor John Billings, Principal Investigator for the NYU ED algorithm. Billings made a special visit to Salt Lake City, Utah, to meet with the physician advisory panel for their ratings. He thoroughly explained the methods and processes of the development of the NYU algorithm and especially emphasized that this method was designed for population-based health care system or policy studies. The priority and secondary probability weights for each ICD-9-CM code were derived from primary data sources including patient initial complaint, presenting symptoms, vital signs, medical history, age, gender, diagnoses, procedures performed in several study samples; then assigned to an ICD-9-CM code in the population-based ED encounter database. The emergency status categories should never be used to judge an individual ED visit. For example, among 100 unspecified migraine (346.90) ED patients, medical care might not be required within 12 hours for 78 patients; 9 patients could be treated in a primary care setting if it were available; 13 out of 100 patients definitely needed ED care and their unspecified migraines were not preventable or avoidable. With a better understanding of the method of the NYU algorithm, the physician panel endorsed to use the NYU algorithm and the assigned weights, without any modification, in this report. This report will support assessment of adequate access to primary and preventive care in Utah and can be compared with other states' similar reports.

Caveats of Using This Report

Many states, including Utah, have established the "prudent layperson" standard for insurance coverage of ED use. The "prudent layperson" standard means that appropriate utilization should not be determined based on the diagnosis upon discharge from the ED but on the patients' perception that the symptoms they are experiencing could constitute a medical emergency. For example, a prudent layperson who is experiencing

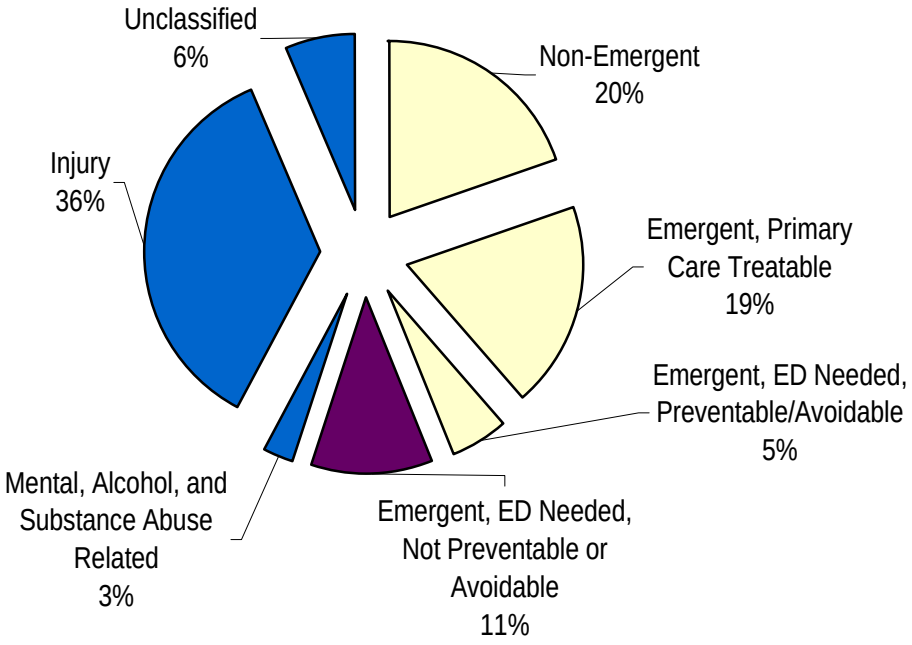
FINDINGS

What is the magnitude of primary care sensitive (PCS) ED visits in Utah?

Table 2 shows the overall outpatient ED utilization pattern of Utah residents in 2001 and summary of hospital total charges associated with each category. Figure 1 is a graphic representation of the distribution contained in Table 2.

About four of every ten Utah outpatient emergency department visits in 2001 were PCS ED visits. Excluding emergency department visits for mental health, alcohol, substance abuse and injuries, the percentage of PCS ED visits rises to about 80%. The NYU Center for Health and Policy Research also reported that PCS ED uses counted for 85% of overall ED visits for children, age 0 to 17 years, and 81% for adults, age 18 to 64 years, in New York City, 1998, excluding ED visits for mental health, alcohol, substance abuse and injuries (Billings 2003).

Figure 1. Percentage of E.D. Outpatient Visits by Emergency Status: Utah, 2001

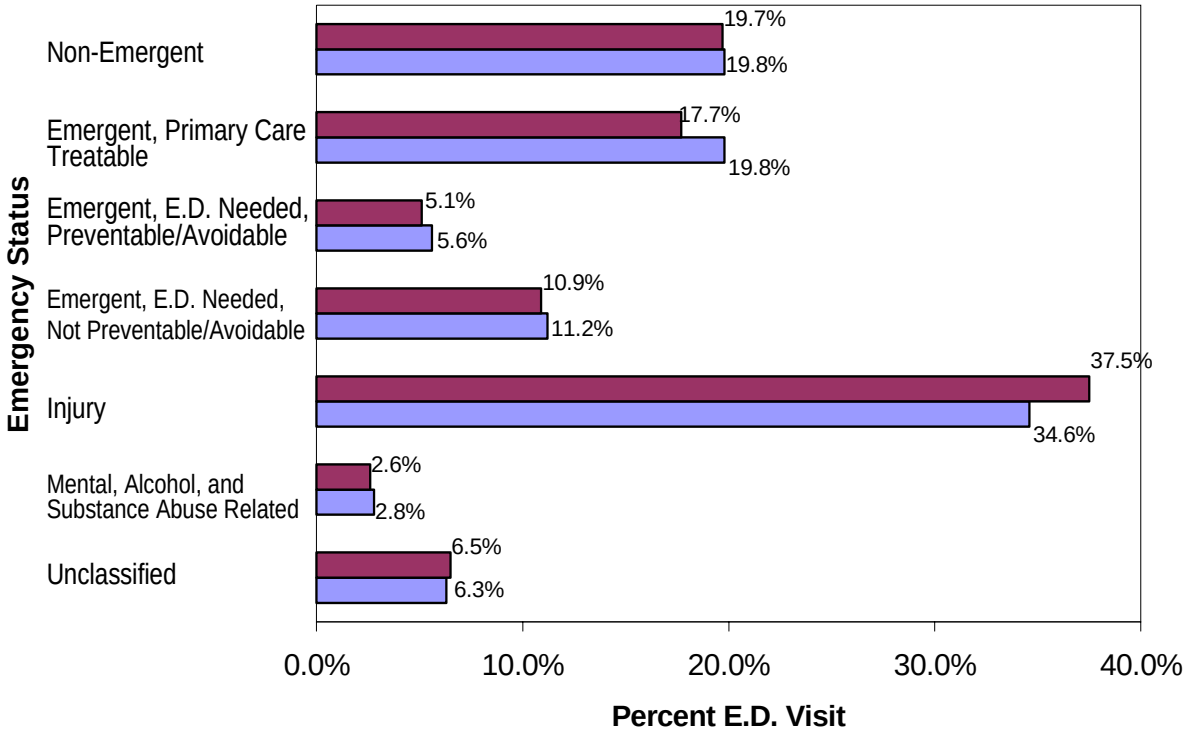


What is the resource use associated with PCS ED visits in Utah?

Table 2 also shows the average, total and percent distribution of charges incurred by ED visits by emergency status. Charges are included in this report as a proxy for the degree of resource use at hospitals. Charges in the ED database include hospital charges defined by the UB92 form, but exclude physician's charges defined by the HCFA1500 form. Charges are not the same as the cost of care provided, nor of payment received for it. In 2001, Utah residents' ED visits incurred a total of about $281 million in ED hospital charges, of which nearly $113 million or 40% was associated with conditions that were primary care sensitive.

Average charges are shown in Table 2 as a proxy measure of resource use. As expected, the average charges increase from non-emergent ($347) to emergent, ED needed, and not preventable/avoidable ($815).

Figure 2. Percentage of Emergency Department Outpatient Visits by Emergency Status and Time of Visits: Utah Residents, 2001



What population subgroups show relatively high incidence of PCS ED visits?

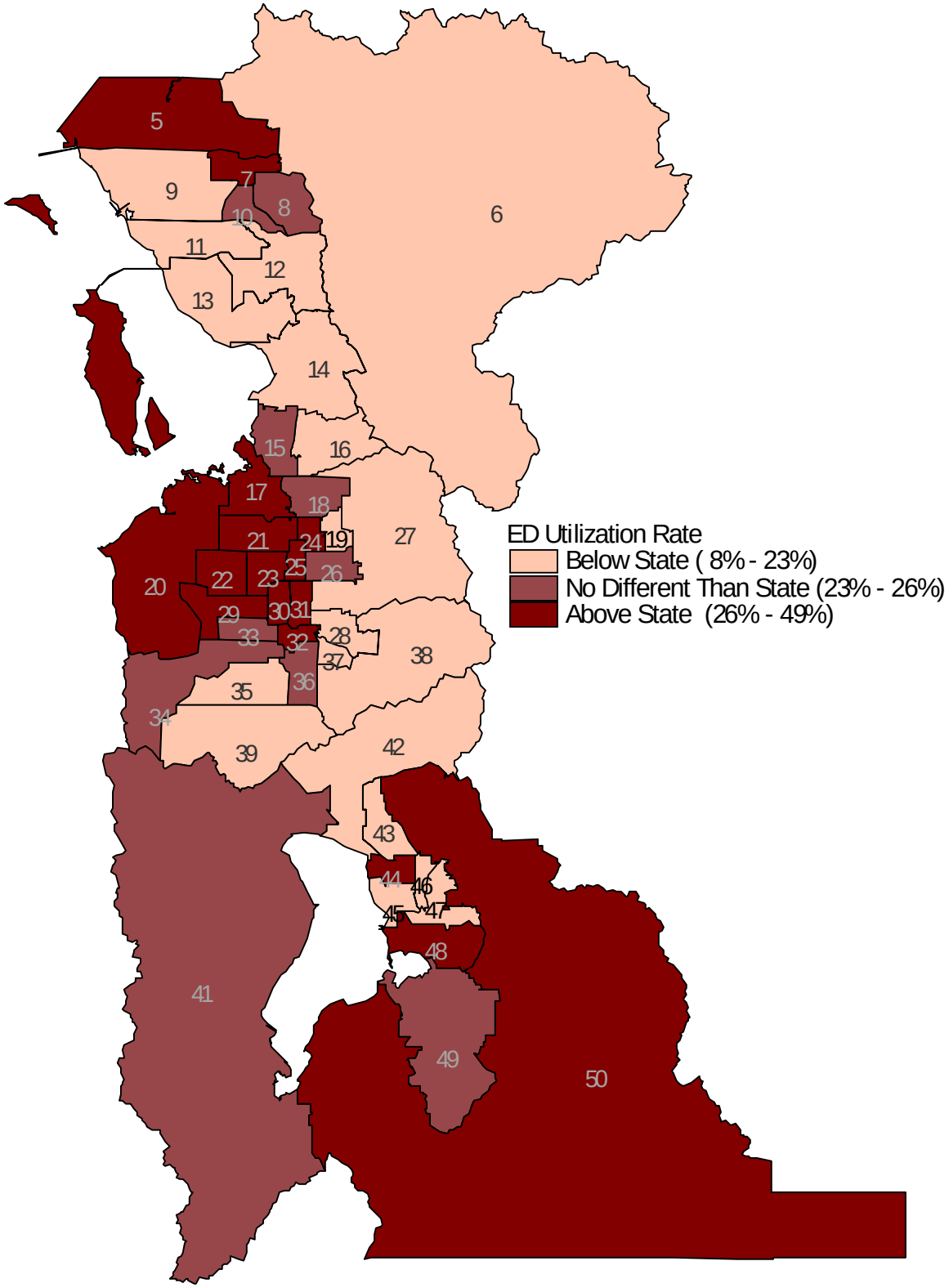
Gender

Table 3 shows the emergency status of outpatient ED visits by gender. PCS ED visits are the sum of the three emergency statuses in the columns to the left in this table. The column percent section (percent of emergency status) reveals a greater proportion of females in each of the ED status categories. The rows containing percentages of all ED visits by each gender suggest a higher percentage of visits by females were for non-emergent conditions (22 %) compared to males (17%). However this difference appears to reflect the fact that a greater proportion of ED visits by males are for injury compared to females.

Figure 3 shows the ED utilization rates by gender and emergency status. Utah women had a higher rate of PCS ED visits than Utah men. In 2001,about 13 PCS ED outpatient visits occurred for every 100 Utah females and about nine for every 100 Utah males. Meanwhile, about two to three ED-warranted visits were made by every 100 Utah men or women.

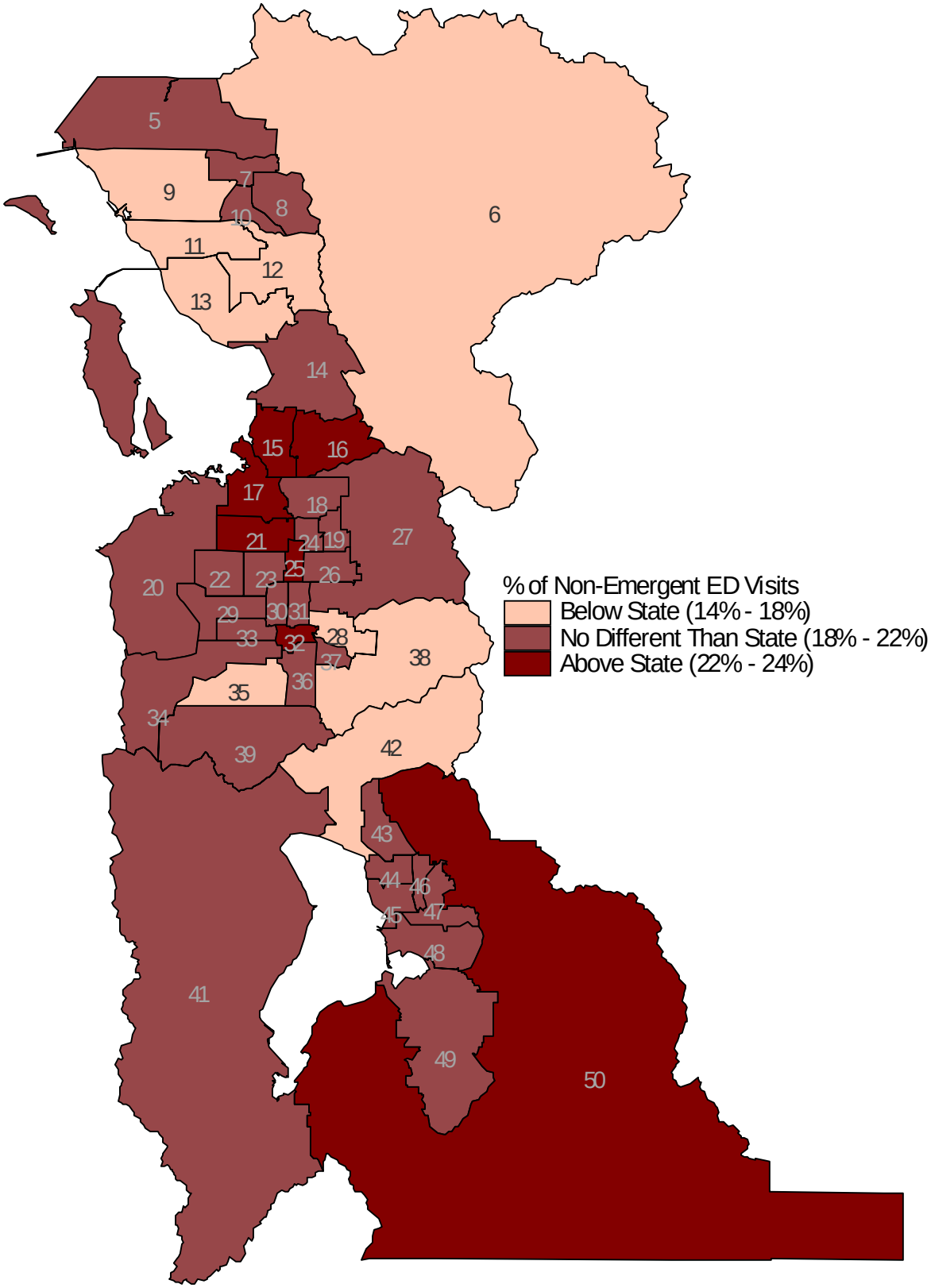
Map Section

Map 1b. Emergency Department Utilization Rate, Outpatient Visits per 100 persons by Small Area: Utah, Wasatch Front, 2001



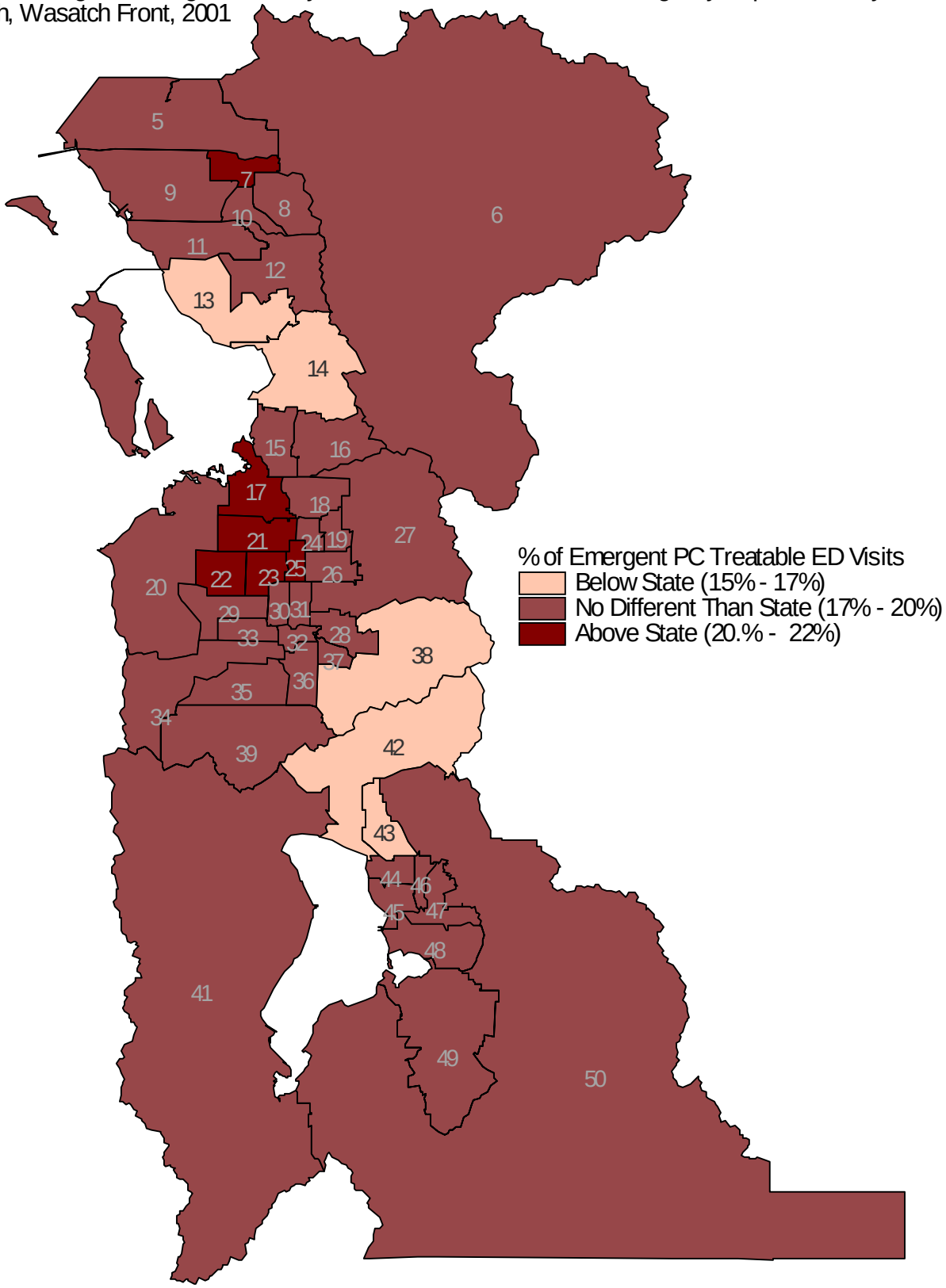
Source: Utah Hospital Emergency Department Outpatient Encounter Data, 2001

Map 2b. Percentage of Non-Emergent Visits to the Emergency Departments by Small Area: Utah, Wasatch Front, 2001



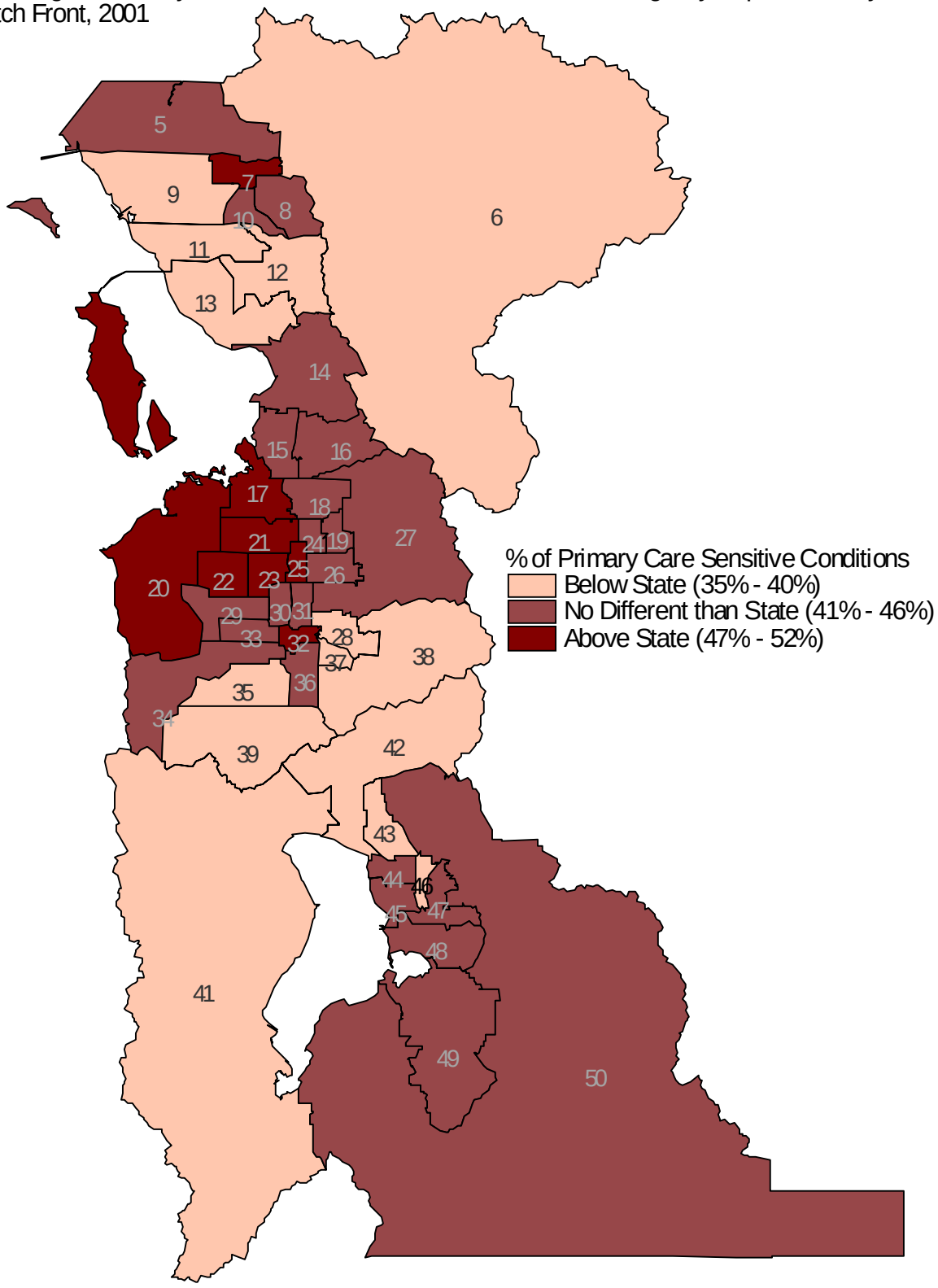
Source: Utah Hospital Emergency Department Outpatient Encounter Data, 2001

Map 3b. Percentage of Emergent, Primary Care Treatable Visits to the Emergency Departments by Small Area: Utah, Wasatch Front, 2001



Source: Utah Hospital Emergency Department Outpatient Encounter Data, 2001

Map 4b. Percentage of Primary Care Sensitive Conditions Visits to the Emergency Departments by Small Area: Utah, Wasatch Front, 2001



Source: Utah Hospital Emergency Department Outpatient Encounter Data, 2001

Small Area Reference Tables

Table 6. Emergency Department Utilization Rate per 100 Residents: Utah, 2001

Table 7. Profile of Emergency Department Visits: Utah Residents, 2001