

# Utah Health Status Update: Community Health Assessment in Utah

February 1999

Utah Department of Health

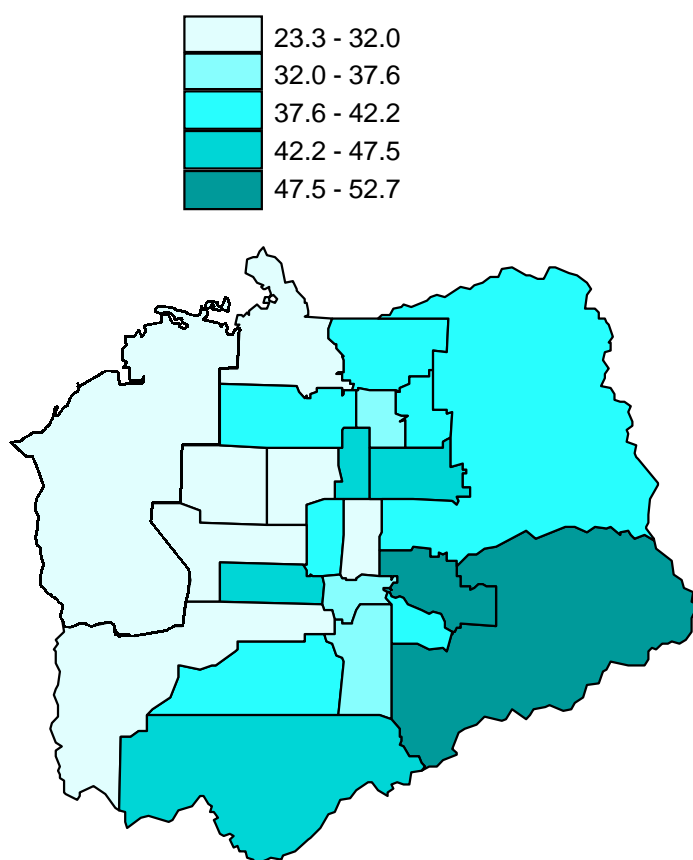
The Utah Department of Health has recently published two reports on health status measures and rates of preventable hospitalizations<sup>1,2</sup> using small area analysis methods to provide information to support community health assessment and planning. Sixty-one small areas, ranging in population size from 15,000 to 62,500 persons (see page 3) were designated based on population size, boundaries of cities and towns, and economic similarity.

This update illustrates some of the findings of those reports and uses of this method of health assessment. Different views and ways of presenting data are illustrated as well as interesting findings. Map 1 uses shading to show the percentage of persons in excellent health for the 24 areas in Salt Lake County. Map 2 uses shading to indicate areas of the Wasatch front where teen birth

rates are higher, lower, or same as the state rate. Map 3 shows areas where the death rate was higher, lower, or same as the state rate for the entire state.

- In north and west Salt Lake County, smaller percentages of persons were in excellent health (Map 1).
- In the Wasatch front, the highest teen birth rates occurred in north and west Salt Lake County and in northern Weber County (Map 2).
- Higher-than-average rates of deaths from all causes were found in several urban and rural areas (Map 3).

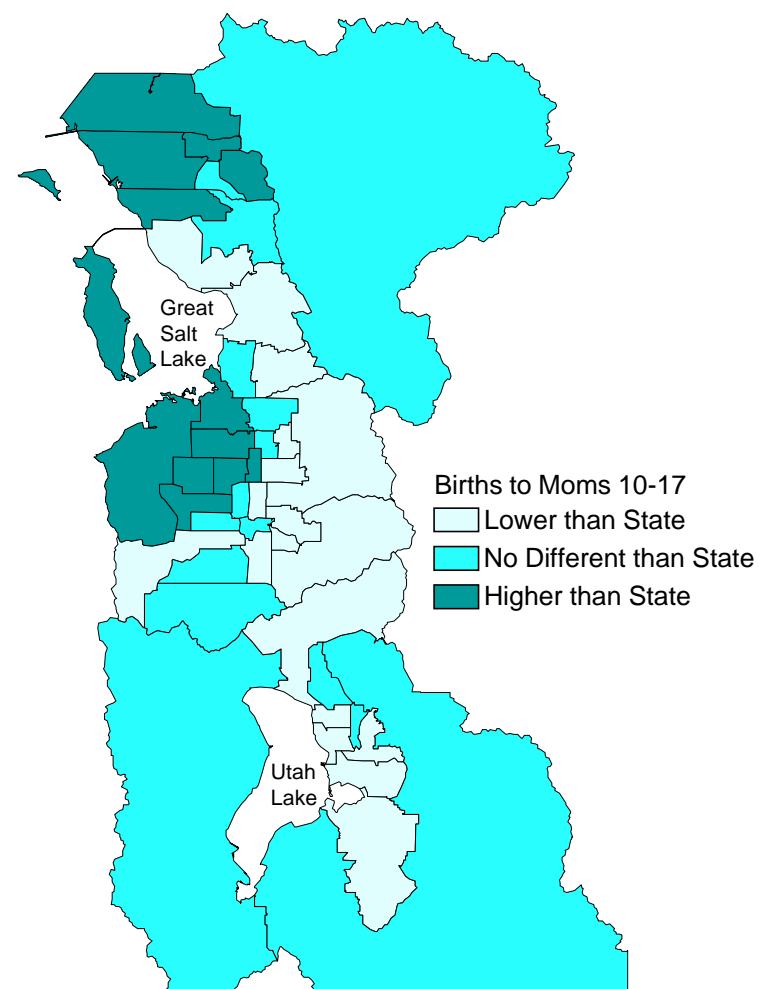
**Map 1. Percentage of Persons Reported to Be In Excellent Health. Salt Lake County Small Areas, 1996.**



Area	Percent	95% Confidence Interval	
28 Cottonwood	52.7%	44.5%	60.9%
38 Sandy, Southeast	48.6%	38.2%	58.9%
39 Riverton/Draper	47.5%	37.2%	57.8%
26 Millcreek	46.7%	39.2%	54.1%
16 Bountiful	46.1%	41.0%	51.2%
25 South Salt Lake	44.8%	32.7%	56.9%
33 West Jordan No.	42.8%	36.1%	49.5%
30 Taylorsville	42.2%	33.5%	50.9%
35 South Jordan	42.1%	31.5%	52.7%
27 Holladay	40.3%	32.8%	47.9%
18 Avenues	39.4%	30.1%	48.6%
21 Glendale	39.2%	27.3%	51.2%
37 Sandy, Northeast	38.8%	29.1%	48.5%
19 Foothill/U of U	38.5%	29.6%	47.5%
32 Midvale	37.6%	25.5%	49.6%
24 Downtown Salt Lake	36.6%	29.5%	43.8%
36 Sandy Center	35.3%	28.1%	42.5%
17 Rose Park	31.9%	21.3%	42.5%
31 Murray	31.9%	22.3%	41.4%
20 Magna	30.1%	19.8%	40.4%
22 West Valley West	29.3%	23.1%	35.6%
34 W. Jordan, Copperton	25.4%	15.5%	35.2%
23 West Valley East	25.1%	16.9%	33.3%
29 Kearns	23.3%	17.9%	28.7%

Number labels refer to area numbers on key map on page 3.  
Data source: Utah Department of Health, 1996 Utah Health Status Survey.  
Percentages were age-adjusted using SUDAAN statistical software.

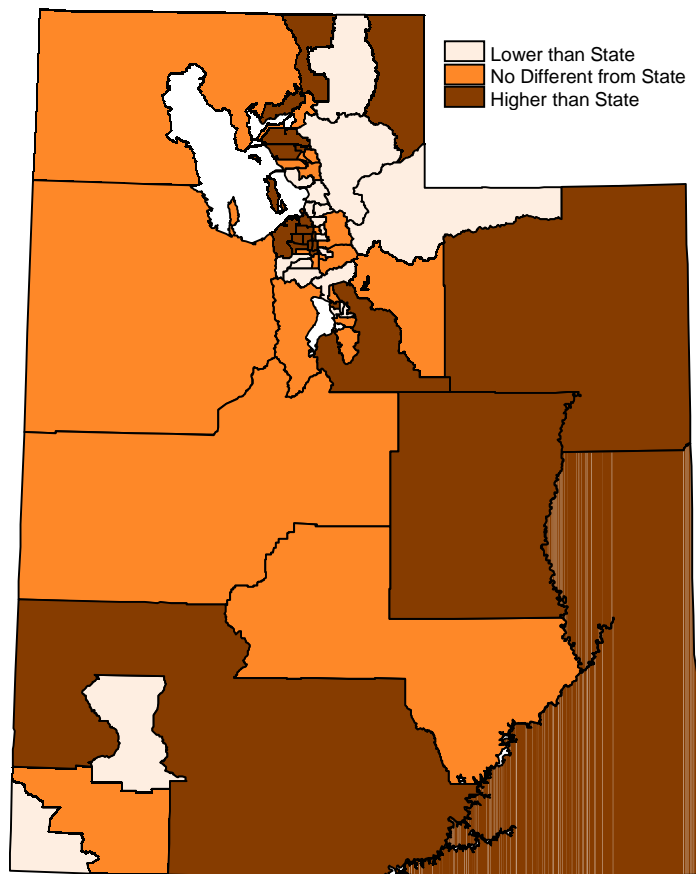
**Map 2. Percentage of Births to Adolescent Mothers (10-17 Years). Wasatch Front Small Areas, 1994-96.**



Area	Birth Rate*	95% Confidence Interval	
Wasatch front areas with the lowest adolescent birth rates:			
19 Foothill/U of U	0.5	0.2	1.1
47 Provo/BYU	1.2	0.9	1.7
16 Bountiful	1.5	1.0	2.0
13 Syracuse/Kaysville	2.0	1.4	2.8
26 Millcreek	2.0	1.5	2.5
28 Cottonwood	2.0	1.4	2.8
37 Sandy, NE	2.0	1.3	3.1
38 Sandy, SE	2.0	1.4	3.0
48 Provo South	2.0	1.7	2.5
45 West Orem	2.2	1.7	2.8
Wasatch front areas with the highest adolescent birth rates:			
25 South Salt Lake	5.2	4.2	6.4
8 South Ogden	5.6	4.6	6.7
23 West Valley II	5.9	5.1	6.9
22 West Valley I	6.0	5.2	6.8
17 Rose Park	6.2	5.2	7.4
5 Ben Lomond	6.6	5.6	7.7
21 Glendale	6.6	5.5	7.9
20 Magna	7.5	6.1	9.1
7 Downtown Ogden	8.4	7.2	9.7
46 East Orem	11.8	2.1	37.7

Number labels refer to area numbers on key map on page 3.  
Data source: Utah Department of Health, 1994-1996 Utah Birth Certificate Database  
\* Percentage of all births that were to adolescents

**Map 3. Average Annual Rates of Death From All Causes per 100,000 Persons. Utah Small Areas, 1992-1996.**



Area	Death Rate	95% Confidence Interval	
State of Utah small areas with the lowest death rates:			
46 East Orem	107.0	73.7	140.3
35 South Jordan	293.3	255.2	331.3
39 Riverton/Draper	350.0	325.9	374.1
45 West Orem	373.0	349.4	396.5
18 Avenues	376.3	354.5	398.2
3 Logan	378.7	360.0	397.4
58 St. George	402.5	358.5	419.4
14 Farmington/Centerville	404.1	368.0	440.2
47 Provo/BYU	407.2	382.6	431.8
19 Foothill/U of U	424.7	400.8	448.5
State of Utah small areas with the highest death rates:			
44 North Orem	741.6	698.6	784.6
17 Rose Park	669.1	633.5	704.7
29 Kearns	668.8	634.4	703.2
21 Glendale	662.7	627.4	697.9
23 West Valley East	658.5	623.7	693.2
22 West Valley West	626.0	592.5	659.4
53 Tri-county LHD	624.7	594.4	655.0
20 Magna	622.4	576.4	668.5
4 Other Cache/Rich Co.	601.1	565.1	637.0
56 Carbon/Emery Co.	594.3	565.8	622.8

Data source: 1992-1996 Utah Death Certificate Database

### Ambulatory Care Sensitive (Preventable) Hospitalizations

Ambulatory care sensitive (ACS) conditions are illnesses such as asthma, bacterial pneumonia, and congestive heart failure that can usually be effectively treated in ambulatory care settings. Most hospitalizations for ACS conditions should be preventable with good access to ambulatory or outpatient care. Small area analysis of rates of these conditions can identify communities that have problems with access to health care.

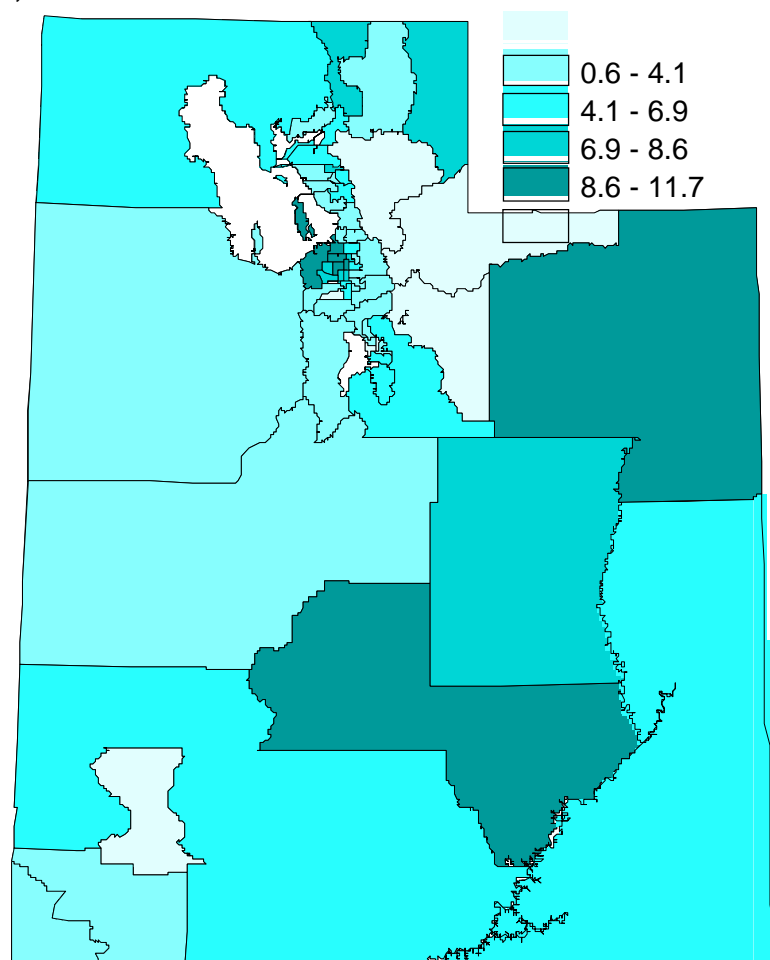
- Analyses of 12 ACS conditions identified several urban and rural areas in which rates were high for several conditions indicating significant access problems. Twelve areas had high rates for  $\geq 23$  conditions, TriCounty

H.D. (area #53), Other Southwest H.S. (#61), Glendale (#21), Kearns (#29), N. Orem (#44), Rose Park (#17), Downtown Ogden (#7), Provo S. (#48), S. Salt Lake (#25), W. Valley I & II (#22, #23).

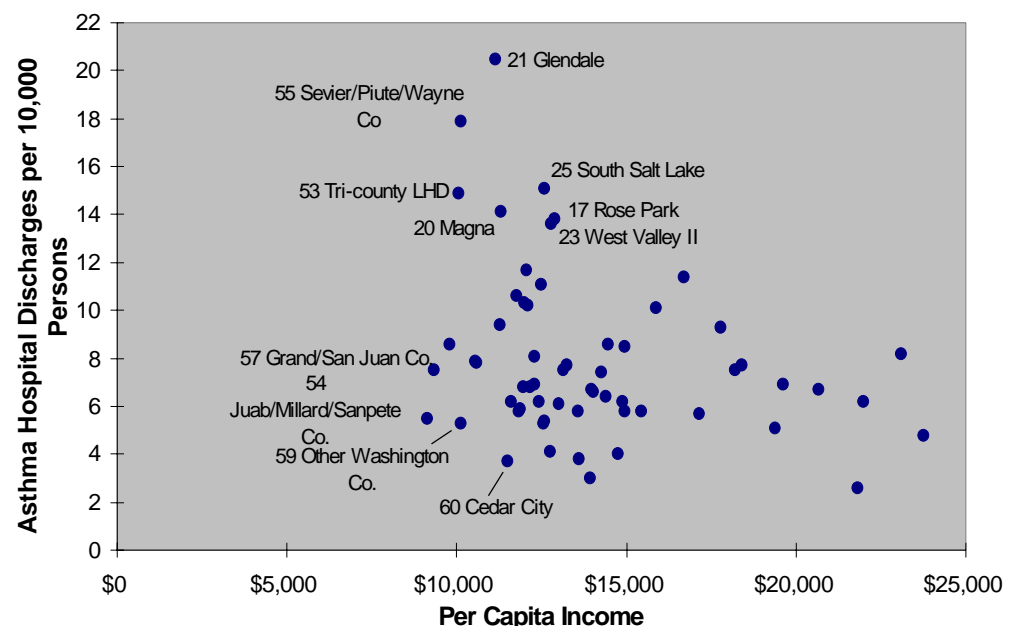
- Lack of access to ambulatory care is believed to cause high ACS hospitalization rates – people with poor access tend to wait to see a doctor until the problem is severe, more often requiring hospitalization.
- Areas with high ACS admission rates tended to be areas with lower income, as shown in the figure below. This “L”-shaped pattern was repeated for each of the 12 conditions examined and for use of early prenatal care.
- Areas with high ACS admission rates also had higher percentages of people who were without health insurance.
- Of note, areas with high hospitalization rates were always lower-income, but not all lower-income areas had high rates of hospitalization. Lessons may be learned by asking, “What distinguishes lower-income areas with high rates from those with low rates?”

### ASTHMA HOSPITAL DISCHARGES

Average Annual Rate of Inpatient Hospital Discharges per 10,000 Persons. Utah Small Areas, 1992-1996.



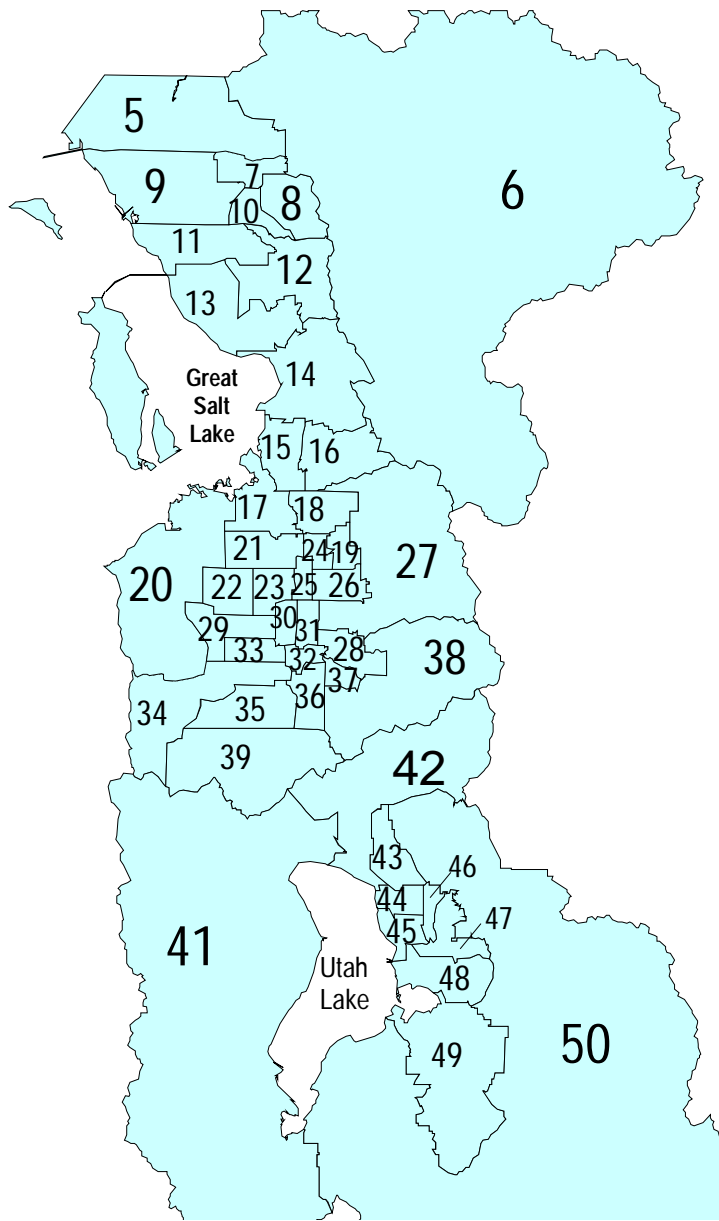
Average Annual Rate of Asthma Hospital Discharges per 10,000 Persons by Per-Capita Income. Utah Small Areas, 1992-1996.



Data source: 1992-1996 Utah Hospital Discharge Database  
Data were age-adjusted to U.S. 2000 population

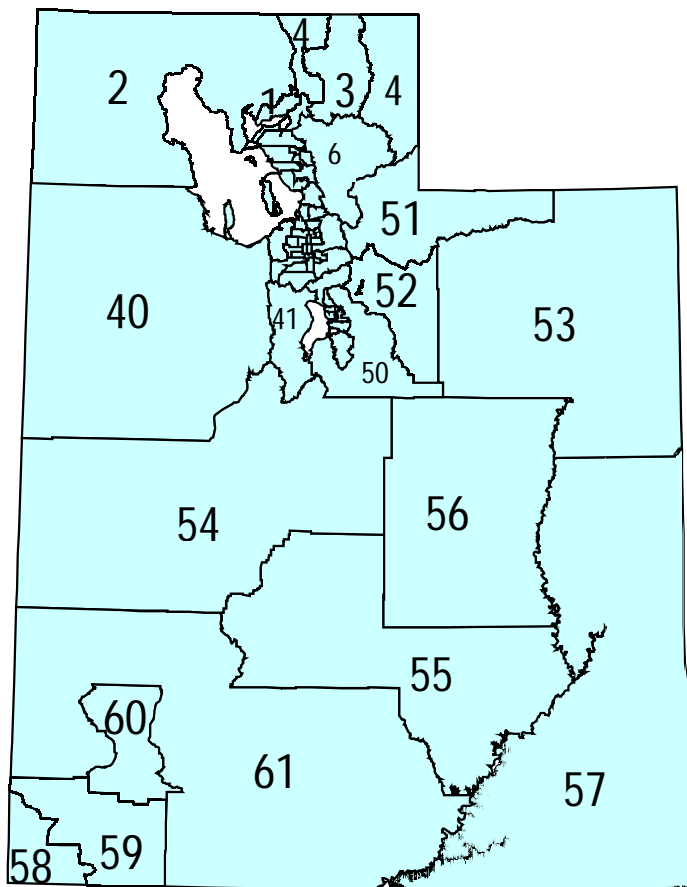
# Utah Small Area Key Maps and Boundary Descriptions

## Wasatch front view



Area #	Area Name	Boundary Designation	1997 Population
	State Total	All counties / ZIP codes in Utah	2,042,003
1	Brigham City	ZIP code 84302	18,915
2	Other Box Elder Co.	Box Elder County except ZIP code 84302	20,712
3	Logan	ZIP codes 84321, 84322, 84341, 84332	60,515
4	Other Cache/Rich Co.	Cache & Rich Co. except ZIP codes 84321, 84322, 84341, 84332	26,325
5	Ben Lomond	ZIP codes 84404, 84407, 84412	39,592
6	Morgan/East Weber Co.	ZIP codes 84310, 84317, 84414, 84050 or Morgan County	32,686
7	Downtown Ogden	ZIP codes 84401, 84402	24,663
8	South Ogden	ZIP code 84403	30,696
9	Roy/Hooper	ZIP codes 84067, 84315	36,276
10	Riverdale	ZIP codes 84405, 84409	23,783
11	Clearfield/Hill AFB	ZIP codes 84015, 84016, 84056	45,593
12	Layton	ZIP codes 84040, 84041	53,648
13	Syracuse/Kaysville	ZIP codes 84037, 84075	29,312
14	Farmington/Centerville	ZIP codes 84025, 84014	24,991
15	Woods Cross/No SL	ZIP codes 84087, 84054	17,596
16	Bountiful	ZIP codes 84010, 84011	44,309
17	Rose Park	ZIP code 84116	26,083
18	Avenues	ZIP codes 84103, 84114	23,277
19	Foothill/U of U	ZIP codes 84108, 84112, 84113	22,917
20	Magna	ZIP code 84044	20,128
21	Glendale	ZIP codes 84104, 84101, 84110, 84152	20,579
22	West Valley West	ZIP codes 84128, 84120, 84170	58,179
23	West Valley East	ZIP codes 84119, 84199	40,174
24	Downtown Salt Lake	ZIP codes 84111, 84102, 84105	48,215
25	South Salt Lake	ZIP codes 84115, 84165	22,416
26	Millcreek	ZIP codes 84106, 84151, 84109	55,943
27	Holladay	ZIP codes 84124, 84117	46,584
28	Cottonwood	ZIP code 84121	45,933
29	Kearns	ZIP code 84118	62,462
30	Taylorsville	ZIP code 84123	33,294
31	Murray	ZIP codes 84107, 84157	30,139
32	Midvale	ZIP code 84047	27,154
33	West Jordan No.	ZIP code 84084	44,308
34	W. Jordan, Copperton	ZIP codes 84088, 84006	28,860
35	South Jordan	ZIP code 84095 (new zip code as of 1993)	32,401
36	Sandy Center	ZIP codes 84070, 84091, 84094	52,784
37	Sandy, NE	ZIP codes 84093, 84090	28,948
38	Sandy, SE	ZIP code 84092	34,139
39	Riverton/Draper	ZIP codes 84065, 84020	37,651
40	Tooele Co.	Tooele County	30,371
41	Lehi/Cedar Valley	ZIP codes 84043, 84013	14,951
42	American Fork/Alpine	ZIP codes 84004, 84003	34,378
43	Pleasant Grove/Lindon	ZIP codes 84062, 84042	26,294
44	North Orem	ZIP codes 84057, 84059	35,107
45	West Orem	ZIP code 84058	27,114
46	East Orem	ZIP code 84097 (new zip code as of 1996)	30,579
47	Provo/BYU	ZIP codes 84602, 84604	47,328
48	Provo South	ZIP codes 84601, 84603, 84605, 84606	47,650
49	Springville/Spanish Fork	ZIP codes 84660, 84663, 84664, 84653	44,774
50	Utah Co. South	ZIP codes 84651, 84655, 84626, 84633	19,920
51	Summit Co.	Summit County	25,301
52	Wasatch Co.	Wasatch County	12,441
53	Tri-county LHD	Daggett, Duchesne and Uintah Counties	39,334
54	Juab/Millard/Sanpete Co.	Juab, Millard, and Sanpete Counties	39,473
55	Sevier/Piute/Wayne Co.	Piute, Sevier, and Wayne Counties	21,373
56	Carbon/Emery Co.	Carbon and Emery Counties	31,108
57	Grand/San Juan Co.	Grand and San Juan Counties	21,083
58	St. George	ZIP codes 84770, 84771, 84790	51,395
59	Other Washington Co.	Washington County except ZIP codes 84770, 84771, 84790	26,263
60	Cedar City	ZIP code 84720	24,424
61	Other Southwest Dist.	Beaver, Garfield, Iron, and Kane Counties other than ZIP code 84720	19,162

## State view



## Conclusions:

Maps and small area analyses are powerful and effective ways to communicate health information.

Depicting data by small areas also allows researchers to combine data from different data sets. By doing so, new relationships between variables may be discovered. We encourage other agencies and organizations to use this small area analysis method to provide community level information.

Methodology Notes: A combination of ZIP code and county boundaries was used to define the areas. Areas with smaller populations will have less stable, that is less precise, estimates. In the accompanying data tables, 95% confidence intervals are published alongside the rates to indicate the precision of the estimates. Most rates have been age-adjusted to control for population age differences. For maps showing rates as lower, higher, or same, a rate was considered statistically different if its confidence interval did not include the state rate. More details on the methods used are in the reports referenced to the right.

## References:

1. Bureau of Surveillance and Analysis. (1998). *Community Health Status: Selected Measures of Health Status by Small Area in Utah*. Salt Lake City, UT: Utah Department of Health.
2. Office of Health Data Analysis and Bureau of Surveillance and Analysis. (1999). *Small Area Analysis of Hospitalizations for Ambulatory Care Sensitive Conditions in Utah*. Salt Lake City, UT: Utah Department of Health.
3. Haggard, L.M., Shah, G., and Rolfs, R.T. (1998) Assessing community health status: Establishing geographic areas for small area analysis in Utah. *Utah's Health: An Annual Review*. Salt Lake City, UT: The Governor Scott M. Matheson Center for Health Care Studies.

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Additional information about this topic is available from the Office of Public Health Data, Utah Department of Health, P O Box 142101, Salt Lake City, Utah 84114-2101, (801) 538-6108, FAX (801) 536-0947, or email: [phdata@doh.state.ut.us](mailto:phdata@doh.state.ut.us); or from the Office of Health Data Analysis, Utah Department of Health, P O Box 144004, Salt Lake City, Utah 84114-4004, (801) 538-7048, FAX (801) 538-9916. Please send any comments on this report to the Office of Public Health Data.

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