UTAH DEPARTMENT OF HEALTH

Utah Health Status Update:

Effect of Improved Survey Methodology on BRFSS Estimates

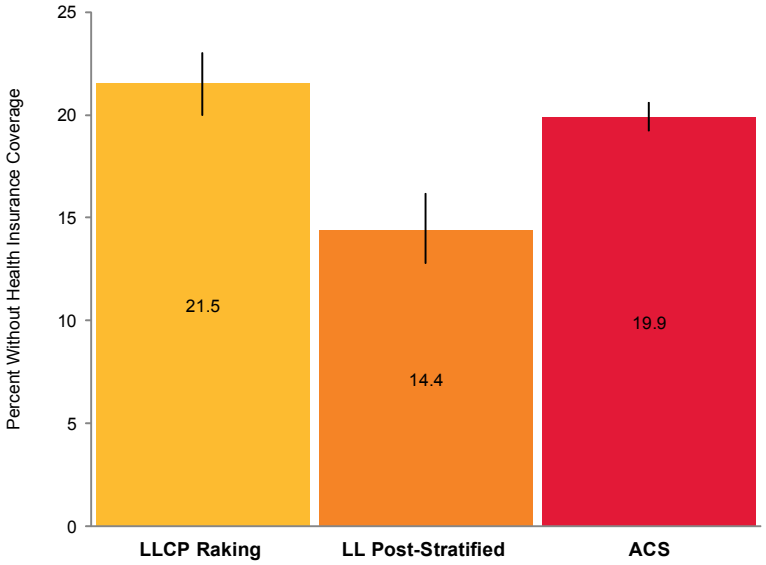
June 2012

The Behavioral Risk Factor Surveillance System (BRFSS) is a health survey overseen by the Centers for Disease Control and Prevention (CDC) and conducted by individual state health departments. Results are analyzed and disseminated annually. To reduce bias and more accurately represent population data, the BRFSS has introduced two changes to the survey methodology. It began conducting surveys by cellular phone in addition to landline phones and it adopted "iterative proportional fitting" (raking) as its weighting methodology. "Post-stratification" which was previously used to weight BRFSS data was based on Utah demographics of age, gender, and Local Health District (LHD). With raking, the following new variables were included in the weighting procedure: education, race/ethnicity, marital status, home ownership/renter, and telephone source. Whereas post-stratification simply adjusts weights to demographic categories, raking adjusts each dimension separately in an iterative process. Cell phone inclusion and raking were introduced to account for increasing numbers of U.S. households without landline telephones and an under-representation of males, adults with less formal education or lower household income, young adults, and racial/ethnic minorities. Since

- **The BRFSS changed its survey methodology to reduce bias and to represent population data more accurately both at the national and local level.**
- **The updated BRFSS rate for Utahns ages 18-64 who have no health insurance coverage is 21.5%, approximately 368,200 people.**
- **The updated age-adjusted BRFSS rate for adult cigarette smoking among Utah adults is 11.2%, approximately 220,000 people.**
- **Although the new BRFSS methodology shows higher estimates for indicators that are strongly related to socioeconomic status such as insurance coverage and smoking, many other health and risk indicators did not change significantly.**

Lack of Health Insurance Coverage by Weighting Method and Survey

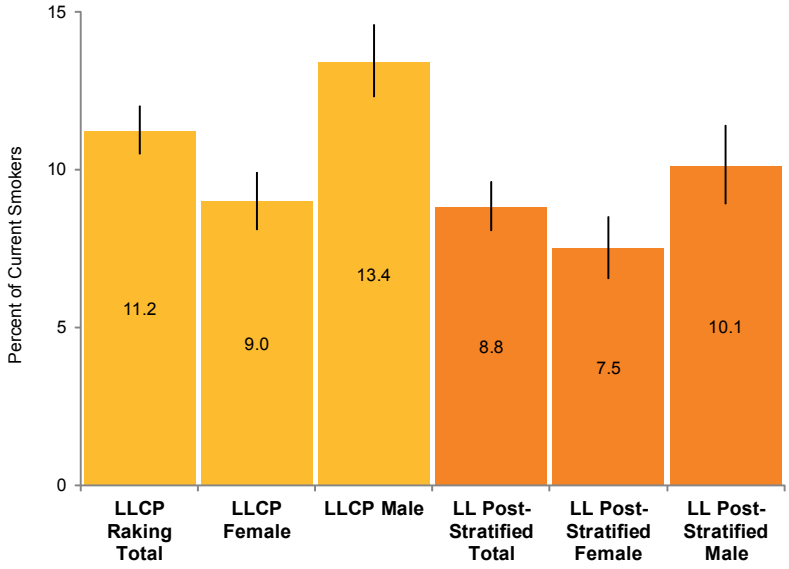
Figure 1. Percentage of Adults (Age 18-64) Who Reported No Health Insurance Coverage, LLCP* Raking, LL Post-stratified, and American Community Survey Estimates, Utah, 2010



Source: Utah Behavioral Risk Factor Surveillance System, 2010; American Community Survey, 2010
* LL = Land Line; CP = Cell Phone.

Smoking Rate by Weighting Method

Figure 2. Percentage of Adults (18+) Who Reported Current Cigarette Smoking, LLCP Raking, and LL Post-stratified by Gender, Utah, 2010 (Age-adjusted)



Source: Utah Behavioral Risk Factor Surveillance System, 2010

lack of health insurance coverage and the risk for smoking are higher among some of these groups, the change to a combined cell phone/landline sample and raking result in higher estimates for Utahns who lack insurance coverage (Figure 1) and for adult smoking (Figure 2).

The old BRFSS methodology estimated that 14.4% of Utahns ages 18 to 64, approximately 247,100 people, were uninsured in 2010. With the new methodology, 21.5% of adults ages 18 to 64, approximately 368,200 people, were uninsured in 2010. This estimate is more in line with the American Community Survey, which is conducted by the Census and has provided estimates of the uninsured by state since 2008. Because both the federal and Utah governments provide services to assist the uninsured, it is essential that the data accurately represent the total number of the uninsured.

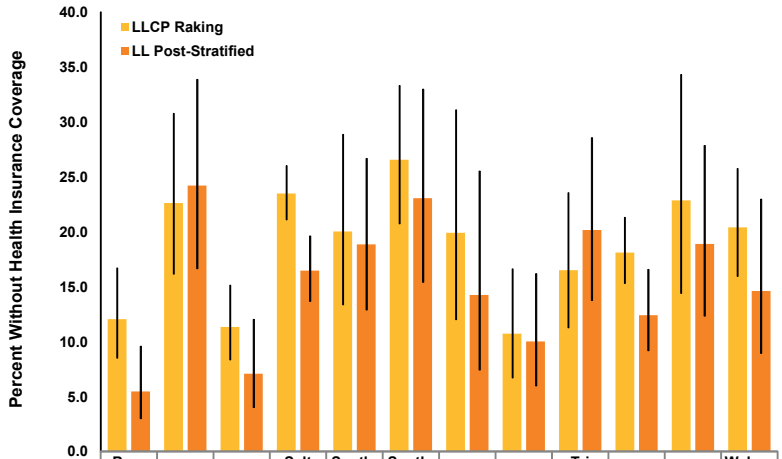
A comparison of estimates of the uninsured by LHD and BRFSS methodologies shows that the inclusion of cell phones and the new weighting procedures produce higher estimates of the uninsured in almost all areas of the state. The new rates of uninsured among adults 18 to 64 in Bear River (12.0%), Davis (11.3%), and Tooele (10.7%) LHDs are statistically lower than the state rate of 21.5%.

According to the old BRFSS methodology, Utah's adult smoking rate was highest in 1990 (16.4%). With increasing availability of evidence-based tobacco prevention and control interventions (the Utah Tobacco Quit Line, Utah QuitNet, tobacco prevention programs and policies at the LHD level, health communication interventions), adult smoking declined to 8.8% or 175,000 people by 2010. Following the nationwide change to the new BRFSS methodology, Utah's adult smoking prevalence is now estimated at 11.2% or 220,000 people. Greater accuracy in estimating the burden of smoking among various population groups is critical for preventing tobacco use and providing adequate services to smokers who want to quit.

A comparison of 2010 smoking rates by LHD shows that the change to the new methodology produced higher estimates in all districts (Figure 4). The LLCP smoking rates in Southeast (19.8%), Tooele (18.6%), and TriCounty (20.3%) are significantly higher than the average state rate of 11.2%.

Lack of Health Insurance Coverage by Weighting Method, Local Health Districts

Figure 3. Percentage of Adults (Age 18-64) Who Reported No Health Insurance Coverage, LLCP Raking, and LL Post-stratified by Local Health District, Utah, 2010 (Age-adjusted)

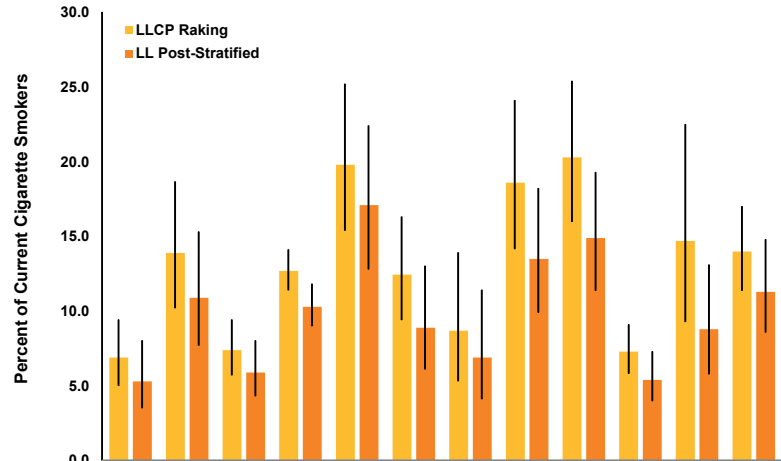


	Bear River	Central	Davis	Salt Lake	South-east	South-west	Sum.	Tooele	Tri County	Utah	Was.	Weber-Morg.
LLCP Raking	12.0	22.6	11.3	23.5	20.0	26.6	19.9	10.7	16.5	18.1	22.9	20.4
LL Post-Stratified	5.5	24.2	7.1	16.5	18.8	23.1	14.3	10.0	20.2	12.4	18.9	14.6

Source: Utah Behavioral Risk Factor Surveillance System, 2010

Smoking Rate by Weighting Method, Local Health Districts

Figure 4. Percentage of Adults (18+) Who Reported Current Cigarette Smoking, LLCP Raking, and LL Post-stratified by Local Health District, Utah, 2010 (Age-adjusted)



	Bear River	Central	Davis	Salt Lake	South-east	South-west	Sum.	Tooele	Tri County	Utah	Was.	Weber-Morg.
LLCP Raking	6.9	13.9	7.4	12.7	19.8	12.5	8.7	18.6	20.3	7.3	14.7	14.0
LL Post-Stratified	5.3	10.9	5.9	10.3	17.1	8.9	6.9	13.5	14.9	5.4	8.8	11.3

Source: Utah Behavioral Risk Factor Surveillance System, 2010

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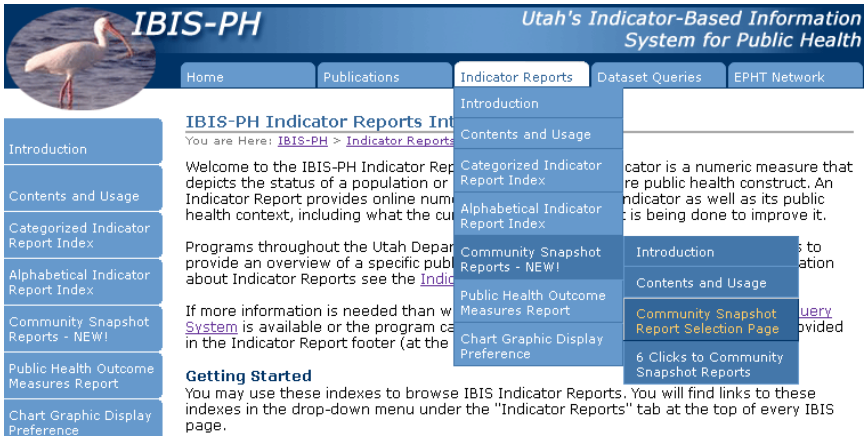
Breaking News, June 2012

Community Snapshot Reports on the Indicator-Based Information System for Public Health (IBIS-PH)

Community Snapshot Reports are now available on IBIS-PH for Utah's 12 local health districts (LHDs). These reports are created using data and text from many online IBIS-PH Indicator Reports organized into a summary table for a single LHD, with comparisons to the entire state and the U.S. when possible. LHDs are the first type of community in Utah to have these reports available. This is because many local public health services in Utah are provided by local health departments, community health centers and other local community-based organizations. Health issues vary between LHDs. We hope that these reports will make it easier for LHDs and their partners to assess the health of their communities and identify public health priorities.

The Utah Department of Health, Office of Public Health Assessment (OPHA), strives to provide an objective and integrated view of the health of the Utah population. One way OPHA does this is by compiling public health data and information from across the Utah Department of Health in over 180 IBIS-PH Indicator Reports. The Community Snapshots are the first IBIS-PH report to summarize Indicators by community. OPHA staff plans to have these reports available by Utah Small Areas soon.



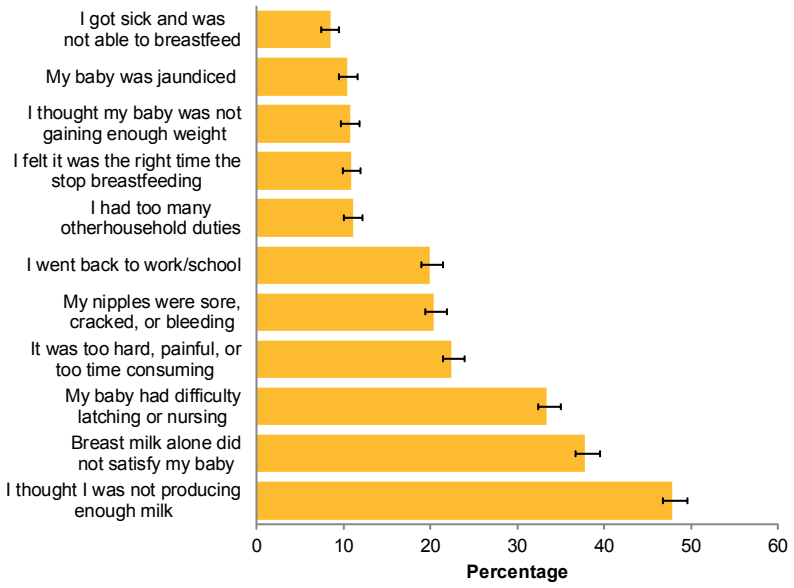
You may try creating one of these reports on IBIS-PH at http://ibis.health.utah.gov/ under the 'indicator Reports' tab. If you hover over the 'Community Snapshot Reports' box, you can also access more information about them in a sub-menu that includes an easy step-by-step guide. For more information about Utah's local public health systems, go to: http://ibis.health.utah.gov/home/LocalHealth.html.

Community Health Indicators Spotlight, June 2012

PRAMS: Barriers to Continuting Breastfeeding in Utah

Breastfeeding is the best way to provide infants with nutrition. Breastfed babies have a lower risk of developing a variety of illnesses. Women who breastfeed their babies reduce their risk for certain diseases as well. Breastfeeding recommendations of early initiation, exclusivity up to 6 months, and breastfeeding with complementary feeding for babies 24 months and beyond, have been developed nationally to optimize the nutrition and health benefits for both mothers and infants.

Self-Reported Reasons for Discontinuation of Breastfeeding, Utah PRAMS, 2009-2010



Utah mothers met the Healthy People 2010 goal of 75% for breastfeeding during the early postpartum period. According to 2009-2010 Utah Pregnancy Risk Assessment Monitoring System (PRAMS) survey, 92% of Utah mothers reported ever breastfeeding their new babies. However, only 68% of mothers reported currently breastfeeding when they completed the survey, usually around 3½ months postpartum.

Many of the barriers to continued breastfeeding can be addressed through lactation support aimed at helping a mother maintain a good milk supply and more supportive work and school environments. A joint resolution passed during the 2012 legislative session to support continued breastfeeding in the workplace.

Monthly Health Indicators Report

(Data Through April 2012)

Monthly Report of Notifiable Diseases, April 2012	Current Month # Cases	Current Month # Expected Cases (5-yr average)	# Cases YTD	# Expected YTD (5-yr average)	YTD Standard Morbidity Ratio (obs/exp)
Campylobacteriosis (Campylobacter)	11	26	58	98	0.6
Shiga toxin-producing Escherichia coli (E. coli)	0	5	7	14	0.5
Hepatitis A (infectious hepatitis)	0	0	1	3	0.4
Hepatitis B, acute infections (serum hepatitis)	0	1	0	4	0.0
Influenza*	Weekly updates at http://health.utah.gov/epi/diseases/flu				
Meningococcal Disease	0	0	0	4	0.0
Pertussis (Whooping Cough)	37	24	208	121	1.7
Salmonellosis (Salmonella)	21	29	65	87	0.7
Shigellosis (Shigella)	2	4	6	11	0.5
Varicella (Chickenpox)	23	64	131	307	0.4
Quarterly Report of Notifiable Diseases, 1st Qtr 2012	**Current Quarter # Cases**	**Current Quarter # Expected Cases (5-yr average)**	**# Cases YTD**	**# Expected YTD (5-yr average)**	**YTD Standard Morbidity Ratio (obs/exp)**
HIV/AIDS†	18	26	18	26	0.7
Chlamydia	1,948	1,587	1,948	1,587	1.2
Gonorrhea	98	114	98	114	0.9
Syphilis	4	6	4	6	0.6
Tuberculosis	9	10	9	10	0.9
Medicaid Expenditures (in Millions) for the Month of April 2012	**Current Month**	**Expected/ Budgeted‡ for Month**	**Fiscal YTD**	**Budgeted‡ Fiscal YTD**	**Variance - over (under) budget**
Capitated Mental Health	$ 11.9	$ 15.0	$ 121.4	$ 124.2	$ (2.8)
Inpatient Hospital	$ 54.8	$ 34.9	$ 293.6	$ 261.4	$ 32.2
Outpatient Hospital	$ 5.7	$ 16.0	$ 71.9	$ 89.8	$ (18.0)
Long Term Care	$ 13.9	$ 24.6	$ 132.1	$ 138.3	$ (6.2)
Pharmacy§	$ 14.5	$ 24.8	$ 148.5	$ 139.5	$ 8.9
Physician/Osteo Services	$ 6.8	$ 15.0	$ 75.1	$ 84.2	$ (9.1)
TOTAL HCF MEDICAID	$ 200.6	$ 175.4	$1,557.5	$1,586.1	$ (28.6)

Program Enrollment for the Month of April 2012	Current Month	Previous Month	% Change¶ From Previous Month	1 Year Ago	% Change¶ From 1 Year Ago
Medicaid	254,394	254,102	+0.1%	239,656	+6.1%
PCN (Primary Care Network)	16,215	13,570	+19.5%	19,697	-17.7%
CHIP (Children's Health Ins. Plan)	36,839	36,995	-0.4%	37,457	-1.6%
	Annual Visits			Annual Charges	
Health Care System Measures	**Number of Events**	**Rate per 100 Population**	**% Change¶ From Previous Year**	**Total Charges in Millions**	**% Change¶ From Previous Year**
Overall Hospitalizations (2010)	274,576	9.0%	-2.6%	$ 5,416.2	+5.9%
Non-maternity Hospitalizations (2010)	167,340	5.3%	-0.9%	$ 4,552.5	+5.9%
ED Encounters - Not Admitted (2010)	645,962	21.5%	-7.7%	$ 1,160.9	+7.4%
Outpatient Surgery (2009)	311,442	10.6%	+1.9%	$ 1,465.7	+14.7%
Annual Community Health Measures	**Current Data Year**	**Number Affected**	**Percent/ Rate**	**% Change¶ From Previous Year**	**State Rank# (1 is best)**
Obesity (Adults 18+)	2010	454,700	23.1%	-4.0%	11 (2010)
Cigarette Smoking (Adults 18+)	2010	180,100	9.1%	-6.9%	1 (2010)
Influenza Immunization (Adults 65+)	2010	175,900	68.2%	-0.8%	23 (2010)
Health Insurance Coverage (Uninsured)	2010	301,900	10.6%	-5.6%	n/a
Motor Vehicle Traffic Crash Injury Deaths	2010	231	8.1 / 100,000	+0.1%	19 (2009)
Poisoning Deaths	2010	342	12.0 / 100,000	-38.1%	47 (2009)
Suicide Deaths	2010	479	16.8 / 100,000	+5.8%	n/a
Diabetes Prevalence (Adults 18+)	2010	128,000	6.5%	+6.2%	15 (2010)
Poor Mental Health (Adults 18+)	2010	296,100	15.0%	-0.2%	17 (2010)
Coronary Heart Disease Deaths	2010	1,488	52.2 / 100,000	-0.4%	2 (2008)
All Cancer Deaths	2010	2,791	98.0 / 100,000	+7.9%	1 (2008)
Stroke Deaths	2010	736	25.8 / 100,000	-1.4%	13 (2008)
Births to Adolescents (Ages 15-17)	2010	876	14.3 / 1,000	-13.2%	17 (2009)
Early Prenatal Care	2010	38,124	73.1%	+2.1%	n/a
Infant Mortality	2010	251	4.8 / 1,000	-9.0%	3 (2008)
Childhood Immunization (4:3:1:3:3:1)	2010	38,900	70.6%	-7.8%	12 (2010)

* Influenza activity remains minimal in Utah. Influenza-like illness activity is below baseline statewide. As of November 16, 2011, 1 influenza-associated hospitalization has been reported to the UDOH. More information can be found at http://health.utah.gov/epi/diseases/flu.

† Diagnosed HIV infections, regardless of AIDS diagnosis.

‡ Budget has been revised to include supplemental funding from 2011 General Session.

§ Only includes the gross pharmacy costs. Pharmacy Rebate and Pharmacy Part-D amounts are excluded from this line item.

¶ % Change could be due to random variation.

State rank based on age-adjusted rates.

Notes: Data for notifiable diseases are preliminary and subject to change upon the completion of ongoing disease investigations. Active surveillance for West Nile virus has ended until the 2012 season.