

Utah Health Status Update:

Prevalence of Diabetes Risk Factors Among Utah Adults

November 2005

Utah Department of Health

Diabetes is a serious, potentially fatal, chronic metabolic disorder that develops when the body is unable to use glucose effectively. Diabetes is a systemic disease and can lead to blindness, renal failure, cardiovascular disease, stroke, and nerve damage.

The vast majority of people with diabetes have type 2, a condition that often begins with insulin resistance. When insulin is deficient or used ineffectively, blood glucose levels become abnormally high and diabetes may develop.

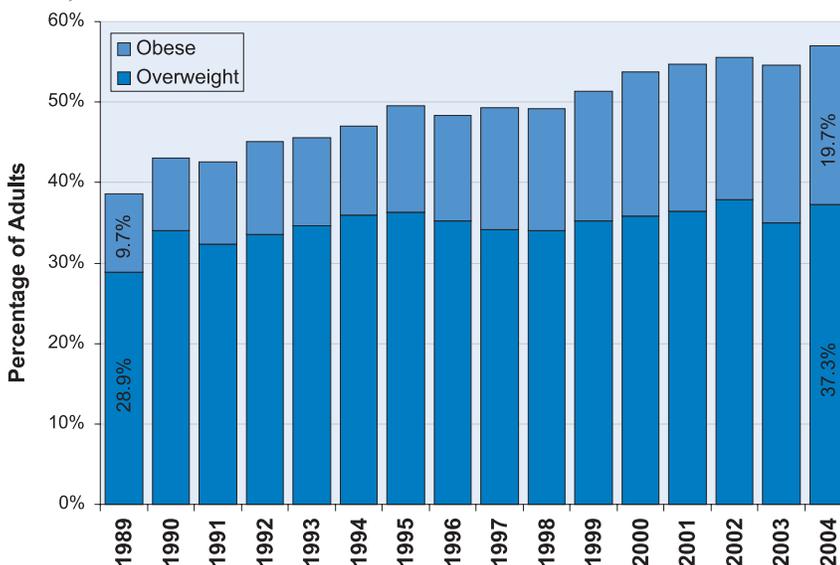
There are a number of risk factors for diabetes. Non-modifiable risk factors for type 2 diabetes include age, family history, and membership in a high-risk racial or ethnic group (e.g., Hispanic/Latino; African American; Native American; Pacific Islander).

There are, however, a number of risk factors that can be modified to reduce the risk of diabetes. These risk factors include hypertension (systolic blood pressure of 140 mmHg or higher or diastolic blood pressure of 90 mmHg or higher), abnormal cholesterol levels (particularly low density lipoproteins [LDL] levels), an unhealthy diet, smoking, being overweight or obese, and being sedentary.

The Diabetes Prevention Program, a clinical trial of over 3,000 people at high risk for diabetes (i.e., with impaired glucose tolerance) demonstrated the significance that lifestyle modifications can have on preventing or delaying the development of diabetes. Being overweight or obese and being sedentary are primary risk factors for diabetes. In this trial, lifestyle interventions, including diet and moderate-intensity physical activity (such as walking for 30 minutes five days a week) reduced the risk for diabetes by more than half (58%) over a three-year period.¹ This study has important implications as overweight and obesity have reached epidemic proportions. In Utah, the percentage of non-diabetic adults who were moderately overweight (BMI over 25 but less than 30) rose about 30% between 1989 and 2004, from 28.9% to 37.3% (Figure 1). The percentage of non-diabetic Utah adults

Overweight or Obese Among Non-diabetics

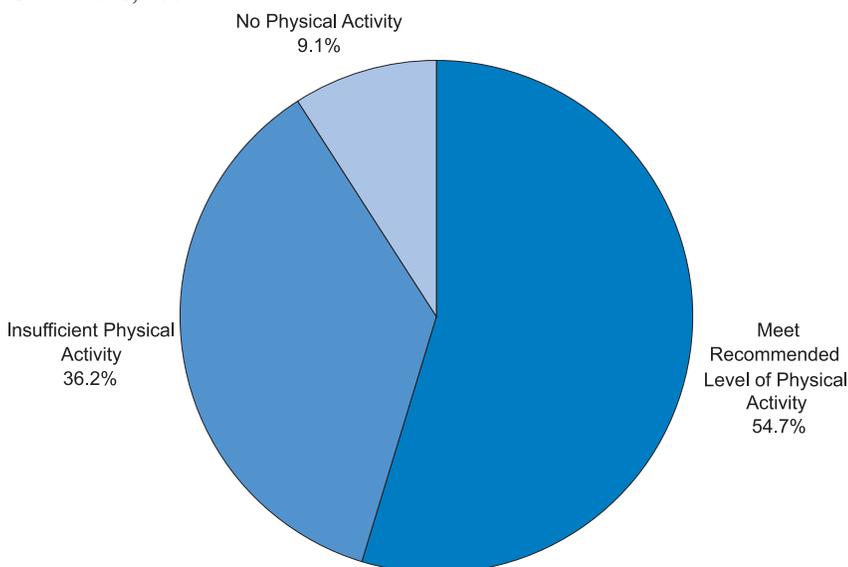
Figure 1. Percentage of non-diabetic Utah adults who were overweight or obese, 1989-2004



Age-adjusted to the U.S. 2000 standard population.
Source: Utah Behavioral Risk Factor Surveillance System

Physical Activity Among Non-diabetics

Figure 2. Percentage distribution of physical activity levels among non-diabetic Utah adults, 2004



Age-adjusted to the U.S. 2000 standard population.
Source: Utah Behavioral Risk Factor Surveillance System

who were obese (BMI greater than or equal to 30), however, more than doubled, from 9.7% to 19.7%. This trend is alarming because the rising percentage of adults who are overweight or obese places an increasing proportion of the population at risk for diabetes.

Participation in regular physical activity has multiple benefits. Physical activity not only improves the way the body uses insulin, it can also lower blood pressure, reduce cholesterol, and promote weight loss.² Healthy People 2010 recommends engaging in moderate physical activity (with small increases in breathing and heart rate) five or more times a week for at least 30 minutes per session or vigorous physical activity (with large increases in breathing and heart rate) three or more times a week for at least 20 minutes per session.

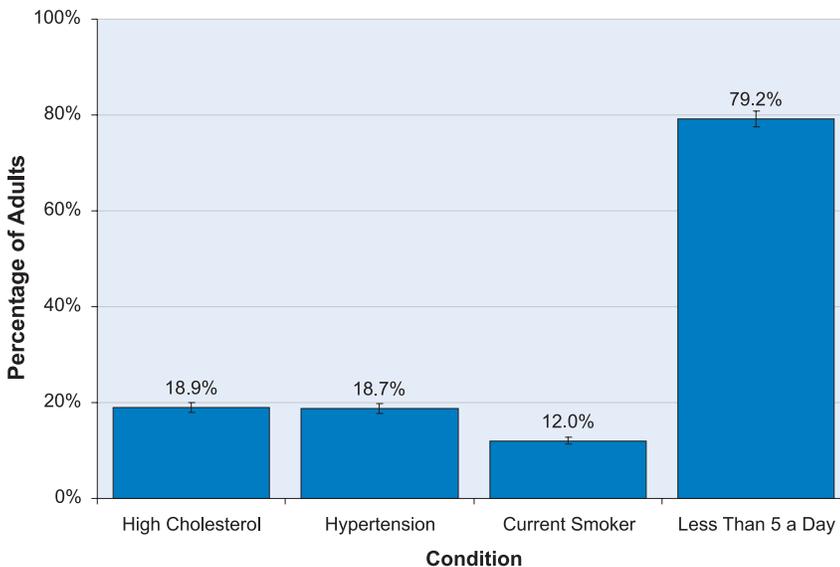
BRFSS data indicate that only about half (54.7%) of Utah adults without diabetes meet the level of physical activity recommended in Healthy People 2010 (Figure 2).³ Over one-third (36.2%) of adults participate in some physical activity but insufficient to meet the Healthy People 2010 recommendation. On the bright side, less than 10 percent (9.1%) of non-diabetic Utah adults report that they do not engage in any physical activity.

A substantial proportion of non-diabetic Utah adults exhibit other risk factors for diabetes. BRFSS findings indicate that 18.9% of adults (18 and over) without known diabetes had elevated cholesterol levels, and 18.7% had hypertension (Figure 3).⁴ Smoking increases the risk for developing not only diabetes but also for cardiovascular disease. Despite the relatively low prevalence of smoking in Utah, nearly one of eight (12.0%) non-diabetic adults uses tobacco. Liberal consumption of foods such as fruits and vegetables, with high fiber and low glycemic indices, can help reduce the risk of type 2 diabetes.⁵ Four out of five non-diabetic Utah adults eat less than the recommended five servings of fruits and vegetables each day.

The prevalence of diabetes has increased dramatically. The percentage of Utah adults with diabetes rose 65% between 1989 and 2004, from 3.1% to 5.1%.⁶ Interventions that promote healthy lifestyles, particularly weight loss and physical activity, are imperative for optimizing public health. Such measures will not only reduce the burden of diabetes, but will improve the overall health status of the population. The Bureau of Health Promotion has addressed this serious issue in its recently produced report, available online, *Tipping the Scales Toward a Healthier Population: A Report on Overweight and Obesity in Utah*.⁷

Non-diabetics With Risk Factors for Diabetes

Figure 3. Percentage of non-diabetic Utah adults with risk factors for diabetes, 1999, 2001, 2003*



* Current smoking was reported for 2002-2004.
Age-adjusted to the U.S. 2000 standard population.
Source: Utah Behavioral Risk Factor Surveillance System

References:

1. Diabetes Prevention Program Research Group (2002). Reduction in the Incidence of Type 2 Diabetes With Lifestyle Intervention or Metformin. *New England Journal of Medicine*, 346(6), 393-403.
2. National Diabetes Information Clearing House. *Am I at Risk for Type 2 Diabetes?* [Data file]. Retrieved September 5, 2005, from <http://diabetes.niddk.nih.gov/dm/pubx/riskfortype2/index.htm>
3. Department of Health and Human Services (2000). Physical Activity and Fitness. In *Healthy People 2010* (2nd ed., Vols. 1 of 2, section 22). Washington, DC: Government Printing Office.
4. Center for Health Data, Office of Public Health Assessment (1999-2004). *Utah Behavioral Risk Factor Surveillance System* [Data file]. Salt Lake City, UT: Utah Department of Health.
5. UC Berkeley (Ed.) (2005, May 27). *Wellness Letter*. Retrieved September 3, 2005, from <http://berkeleywellness.com/html/fw/fwLon09Diabetes.html>
6. Center for Health Data. *Indicator-Based Information System (IBIS) for Public Health Web Site* [Data file]. Retrieved August 13, 2005, from Utah Department of Health Web site: <http://ibis.health.utah.gov>
7. Bureau of Health Promotion (2005). *Tipping the Scale Toward a Healthier Population: A Report of Overweight and Obesity in Utah* (Bureau of Health Promotion). Retrieved September 12, 2005, from Utah Department of Health Web site: <http://health.utah.gov/obesity/docs/ObesityReport.pdf>

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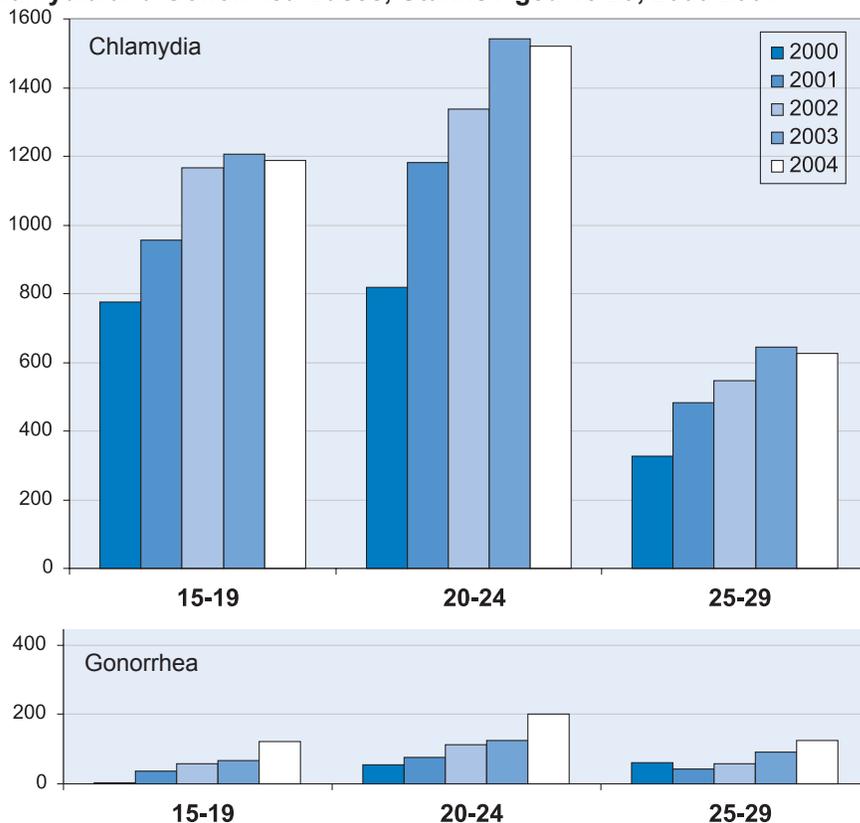
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Breaking News, October 2005

Gonorrhea and chlamydia rates have increased significantly in Utah over the past several years. As with all sexually transmitted diseases (STDs), they are most common among young adults aged 15-29. Both chlamydia and gonorrhea can cause pelvic inflammatory disease (PID) in women. Women who have PID are at risk of suffering from infertility, chronic pelvic pain, or from experiencing an ectopic (tubal) pregnancy, which can be a life-threatening condition. Both men and women may become infertile as a result of untreated infections. These infections can also increase the risk of transmitting or acquiring HIV infection. In addition, pregnant women with chlamydia are at risk of preterm delivery, and can pass the infection to their infant during delivery, potentially resulting in pneumonia or neonatal ophthalmia.

The significant increases in reported rates of chlamydia and gonorrhea in Utah are partly due to increased screening efforts, use of more sensitive diagnostic testing, increased reporting by providers and laboratories, and improved information systems for reporting. However, our analyses indicate that the increased incidence of gonorrhea is not merely due to better detection and counting, but to a real increase in the number of people who are getting this infection. STDs will be featured as a cover story in an upcoming issue of this Health Status Update.

Chlamydia and Gonorrhea Cases, Utahns Aged 15-29, 2000-2004



Community Health Indicators Spotlight, October 2005

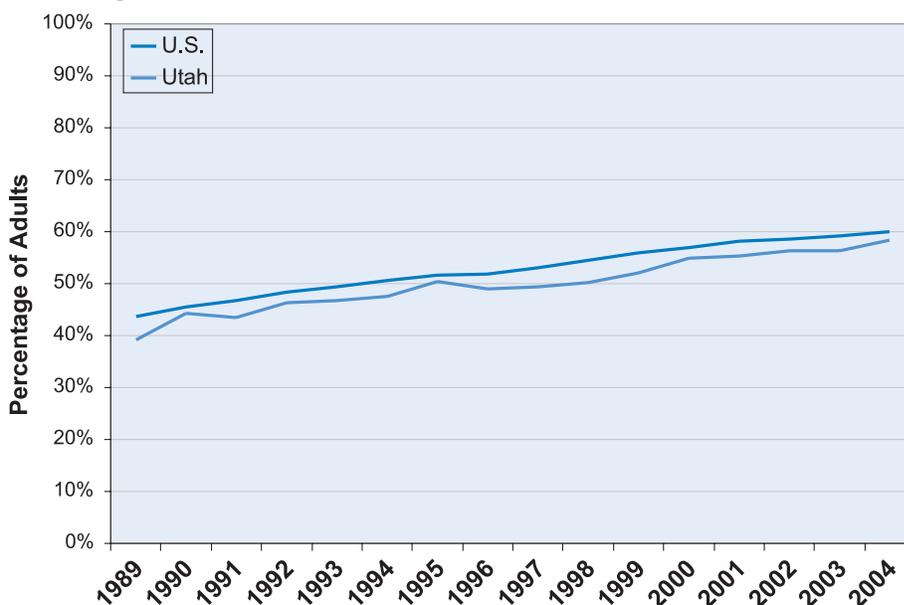
Overweight or Obese

Being overweight increases the risk of many chronic diseases, including heart disease, stroke, hypertension, type 2 diabetes, osteoarthritis, and some cancers. Obesity is the second leading cause of preventable death in the U.S.¹

Utahns have been gaining weight so rapidly that in 2004 over half (56.4%) of all adults were overweight or obese. The obesity epidemic among Utahns threatens to reverse the decades-long progress made in reducing death from chronic disease.

1. Mokdad, A.H., Serdula, M.K., Dietz, W.H. et al. (1999). The spread of the obesity epidemic in the United States, 1991-1998. *Journal of the American Medical Association (JAMA)*, 282 (16), 1519-1522.

Overweight or Obese, Utah and U.S., 1989-2004



Overweight or obese is defined as a BMI of 25 or more. Age-adjusted to the U.S. 2000 standard population. Source: Behavioral Risk Factor Surveillance System

Monthly Health Indicators Report for October 2005

Monthly Report of Notifiable Diseases, September 2005		# Cases	# Expected Cases (5-year average)	# Cases YTD	# Expected YTD (5-year average)	YTD Standard Morbidity Ratio (obs/exp)	
Campylobacteriosis (Campylobacter)		32	42	243	223	1.1	
Escherichia coli (E. coli) 0157:H7		8	14	38	66	0.6	
Hepatitis A (infectious hepatitis)		1	5	17	42	0.4	
Hepatitis B (serum hepatitis)		3	2	35	29	1.2	
Measles (Rubeola, Hard Measles)		0	0	1	1	0.7	
Meningococcal Diseases		0	0	10	5	1.9	
Norovirus		4	0*	27	4*	7.7	
Pertussis (Whooping Cough)		85	18	452	82	5.5	
Salmonellosis (Salmonella)		36	30	341	219	1.6	
Shigella		2	5	37	42	0.9	
Varicella (Chickenpox)		27	32*	416	353*	1.2	
Viral Meningitis		54	33	201	88	2.3	
West Nile (Human cases / Equine cases)		33 / 38	2* / 12*	52 / 68	5* / 17*	10.4 / 4.0	
Notifiable Diseases Reported Quarterly, 3rd Qtr 2005		# Cases	# Expected Cases (5-year average)	# Cases YTD	# Expected YTD (5-year average)	YTD Standard Morbidity Ratio (obs/exp)	
HIV		31	14	73	44	1.7	
AIDS		12	13	33	49	0.7	
Chlamydia		1,093	874	3,264	2,231	1.5	
Gonorrhea		185	98	511	246	2.1	
Tuberculosis		12	13	26	29	0.9	
Program Enrollment for the Month of September 2005		Current Month	Previous Month	% Change From Previous Month	1 Year Ago	% Change From 1 Year Ago	
Medicaid		179,041	178,529	+0.3%	172,290	+3.9%	
PCN (Primary Care Network)		16,123	16,810	-4.1%	14,230	+13.3%	
CHIP (Children's Health Ins. Plan)		32,112	30,484	+5.3%	26,787	+19.9%	
Program Expenditures for the Month of September 2005		Monthly	Expected/ Budgeted for Month	YTD	Budgeted YTD	Variance - over (under) budget	
Ambulatory and Other Care		\$ 517,340	\$ 517,340	\$ 5,033,439	\$ 4,882,450	\$ 210,989	
Fee for Service Hospital Inpatient		\$ 14,594,389	\$ 14,594,390	\$ 135,208,488	\$ 141,302,780	(\$ 6,094,293)	
Long Term Care		\$ 14,364,071	\$ 14,364,070	\$ 136,951,219	\$ 144,352,931	(\$ 7,401,711)	
Pharmacy		\$ 16,605,879	\$ 16,605,880	\$ 162,095,875	\$ 165,385,290	(\$ 3,289,415)	
Health Care System Measures		Current Data Year	Number of Events	Percentage of Utah Population	% Change From Previous Year	Total Charges in Millions	% Change From Previous Year
Overall Hospitalizations		2004	266,195	10.1%	-0.3%	\$ 3,225.0	+11.1%
Non-maternity Hospitalizations		2004	160,302	5.9%	0.0%	\$ 2,692.5	+12.0%
Emergency Department Encounters		2003	638,478	25.2%	+1.0%	\$ 397.8	+18.3%
Outpatient Surgery		2003	279,874	11.1%	+5.6%	\$ 731.2	+17.4%
Annual Community Health Measures		Current Data Year	Population at Risk	Number Affected	Percentage/Rate	Previous Year Rate	% Change From Previous Year
Overweight and Obesity (Adults 18+)		2004	1,698,118	957,739	56.4%	54.7%	+3.1%
Cigarette Smoking (Adults 18+)		2004	1,698,118	178,302	10.5%	11.9%	-11.8%
Influenza Immunization (Adults 65+)		2004	207,920	156,980	75.5%	74.8%	+0.9%
Health Insurance Coverage (Uninsured)		2004	2,469,230	251,861	10.2%	9.11%	+12.0%
Motor Vehicle Crash Injury Deaths		2004	2,469,230	298	12.1 / 100,000	11.6 / 100,000	+4.3%
Suicide Deaths		2004	2,469,230	377	15.3 / 100,000	13.9 / 100,000	+10.1%
Diabetes Prevalence		2004	2,469,230	93,831	3.8%	3.7%	+2.7%
Coronary Heart Disease Deaths		2004	2,469,230	1,603	64.9 / 100,000	70.6 / 100,000	-8.1%
All Cancer Deaths		2004	2,469,230	2,442	98.9 / 100,000	100.9 / 100,000	-2.0%
Births to Adolescents (Ages 15-17)		2004	57,505	854	14.9 / 1,000	16.0 / 1,000	-6.9%
Early Prenatal Care		2004	50,653	39,521	78.0%	78.0%	0.0%
Infant Mortality		2004	50,653	262	5.2 / 1,000	5.0 / 1,000	+4.0%
Childhood Immunization (4:3:1:3:3)		2004	48,619	34,665	71.3%	78.8%	-9.5%

* Due to limited historical data, the average is based upon 2 years of data for norovirus, varicella, and West Nile virus.

Note: % Change could be due to random variation