CHAPTER 10: DIABETES

Diabetes Awareness in 2004 and 2005

Definition	Responding "Yes" to the following question: "Have you ever been told by a doctor that you have diabetes?" Women told they had diabetes only during pregnancy are treated as an answer of "No." Those with pre-diabetes and borderline diabetes also are treated as an answer of "No."
Prevalence	WV: 10.9% (95% CI: 9.8-12.1) in 2004; 10.4% (95% CI: 9.4-11.5) in 2005. US: 7.2% (95% CI: 7.1-7.4) in 2004; 7.8% (95% CI: 7.6-7.9) in 2005. West Virginia ranked 1 st highest among 52 BRFSS participants in 2004 and 2 nd highest among 53 BRFSS participants in 2005.
Time Trends	The rate of diabetes among West Virginia adults increased during 8 of the past 10 years. Awareness of having diabetes increased steeply and significantly between 2000 (7.6%) and 2004 (10.9%). The statewide prevalence declined to 10.4% in 2005.
Gender	Men : 11.6% (95% CI: 9.7-13.5) in 2004; 9.7% (95% CI: 8.1-11.3) in 2005. Women : 10.3% (95% CI: 8.9-11.6) in 2004; 11.1% (95% CI: 9.7-12.5) in 2005. There were no significant differences in how frequently men and women reported a diagnosis of diabetes in either 2004 or 2005.
Age	The oldest adults (65 and older) had the highest diabetes prevalence among all age groups in West Virginia, 22.1% in 2004 and 21.1% in 2005. Adults aged 18-54 were significantly less likely to be diabetic in both years. The prevalence was lower at the younger ages.
Education	Adults with less than a high school education carried the greatest risk of diabetes, with a prevalence of 18.0% in 2004 and 15.1% in 2005. The risk for college graduates was significantly lower at 7.5% in 2004 and 6.6% in 2005. Each increase in education was associated with a lower risk of diabetes, although the differences were not significant between every group.
Household Income	At the lowest income levels, less than \$15,000 annually, more than 15 people in every 100 were diabetic. In contrast, adults living in households with annual incomes of \$50,000 and above experienced significantly lower risks, around 5 in every 100. The prevalence generally decreased with increasing income.

Characteristic		Me	en		Wo	men	Total			
	# Resp.	Resp. % 95% CI # Resp. % 95% CI					# Resp.	%	95% CI	
TOTAL	1,319	11.6	9.7-13.5	2,119	10.3	8.9-11.6	3,438	10.9	9.8-12.1	
Age										
18-24	75	* 1.4	0.0-4.2	115	* 1.4	0.0-3.4	190	* 1.4	0.0-3.1	
25-34	181	* 1.9	0.0-4.5	282	* 2.0	0.4-3.6	463	* 1.9	0.4-3.5	
35-44	237	8.4	4.1-12.8	362	4.8	2.1-7.6	599	6.6	4.1-9.2	
45-54	298	11.6	7.4-15.7	401	9.6	6.5-12.7	699	10.6	8.0-13.2	
55-64	255	21.1	15.5-26.6	379	17.8	13.7-21.9	634	19.4	16.0-22.8	
65+	271	24.5	18.7-30.3	576	20.5	16.8-24.1	847	22.1	18.9-25.3	
Education										
Less than H.S.	225	17.1	11.6-22.6	401	18.8	14.7-22.8	626	18.0	14.7-21.3	
H.S. or G.E.D.	526	11.9	8.9-14.9	797	11.2	8.8-13.5	1,323	11.6	9.7-13.5	
Some Post-H.S.	260	8.5	4.9-12.2	471	6.3	4.2-8.4	731	7.3	5.3-9.3	
College Graduate	306	9.8	5.9-13.7	447	5.4	3.1-7.7	753	7.5	5.3-9.8	
Income										
Less than \$15,000	167	16.0	9.8-22.2	464	18.5	14.8-22.3	631	17.5	14.2-20.9	
\$15,000-24,999	261	13.8	9.0-18.7	403	10.8	7.3-14.3	664	12.3	9.3-15.2	
\$25,000- 34,999	165	14.8	8.6-20.9	253	12.3	8.0-16.7	418	13.5	9.8-17.2	
\$35,000- 49,999	215	10.9	6.6-15.2	305	7.8	4.6-10.9	520	9.3	6.6-12.0	
\$50,000- 74,999	214	9.4	5.1-13.8	230	* 2.9	0.7-5.1	444	6.6	3.9-9.2	
\$75,000+	187	7.7	3.4-12.0	189	* 2.6	0.4-4.8	376	5.5	2.8-8.1	

Table 10.1 Diabetes awareness by demographic characteristics: WVBRFSS, 2004

* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

Table 10.2 Diabetes awareness by demographic characteristics: WVBRFSS, 2005

Characteristic		Me	n		Woi	men	Total			
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI	
TOTAL	1,359	9.7	8.1-11.3	2,192	11.1	9.7-12.5	3,551	10.4	9.4-11.5	
Age										
18-24	68	na	Na	102	* 1.7	0.0-5.1	170	* 0.8	0.0-2.5	
25-34	182	* 2.9	0.3-5.4	282	* 2.2	0.7-3.8	464	2.6	1.1-4.1	
35-44	226	8.0	4.2-11.8	351	7.9	4.7-11.1	577	8.0	5.5-10.4	
45-54	286	8.9	5.5-12.2	458	10.2	7.0-13.4	744	9.5	7.2-11.8	
55-64	276	15.1	10.5-19.7	366	17.7	13.5-21.9	642	16.4	13.3-19.5	
65+	319	21.7	16.6-26.7	624	20.8	17.2-24.3	943	21.1	18.2-24.1	
Education										
Less than H.S.	250	14.1	9.5-18.7	382	16.2	12.2-20.2	632	15.1	12.1-18.2	
H.S. or G.E.D.	556	9.5	7.0-12.0	869	12.6	10.2-15.0	1,425	11.0	9.3-12.8	
Some Post-H.S.	249	8.9	5.6-12.3	503	9.1	6.4-11.9	752	9.1	7.0-11.2	
College Graduate	303	7.0	4.1-9.9	435	6.3	4.0-8.6	738	6.6	4.8-8.5	
Income										
Less than \$15,000	167	14.9	8.9-21.0	434	15.6	12.0-19.1	601	15.3	12.1-18.5	
\$15,000- 24,999	270	13.6	9.2-17.9	462	12.5	8.9-16.1	732	13.0	10.2-15.8	
\$25,000- 34,999	214	11.9	7.2-16.5	254	12.1	7.8-16.4	468	12.0	8.8-15.2	
\$35,000- 49,999	207	8.3	4.7-11.9	265	9.8	5.9-13.7	472	9.0	6.3-11.7	
\$50,000- 74,999	209	7.6	4.0-11.1	262	7.9	4.4-11.4	471	7.7	5.2-10.2	
\$75,000+	175	* 4.0	1.4-6.5	211	* 2.4	0.3-4.6	386	3.2	1.6-4.9	

* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.









Key Control Issues among Adults with Diabetes in 2004 and 2005

Definitions	No A1c test - Responding "None" or "Never heard of 'A one C' test" to the following question: "A test for 'A one C' measures the average level of blood sugar over the past three months. About how many times in the past 12 months has a doctor, nurse, or other health professional checked you for hemoglobin 'A one C'?"								
	No Eye exam - Responding with "More than 12 months ago" to the following question: "When was the last time you had an eye exam in which the pupils were dilated? This would have made you temporarily sensitive to bright light."								
	No Foot exam - Responding "None" to the following question: "About how many times in the past 12 months has a health professional checked your feet for any sores or irritations?"								
Prevalence	<i>No A1c test</i> WV: 12.3% (95% CI: 8.1-16.5) in 2004; 12.1% (95% CI: 8.6-15.7) in 2005.								
	<i>No eye exam</i> WV: 33.0% (95% CI: 27.5-38.5) in 2004; 29.6% (95% CI: 24.6-34.7) in 2005.								
	<i>No foot exam</i> WV: 35.3% (95% CI: 29.8-40.9) in 2004; 30.2% (95% CI: 25.3-35.1) in 2005.								
Time Trends	Between 2004 and 2005, there were slight declines in the prevalence of all these risk factors.								

WV HEALTHY PEOPLE	E 2010 OBJECTIVES
Objective 5.6	Increase to 85% the proportion of persons with diabetes who have a glycosylated hemoglobin measurement at least once a year. (Baseline: 80.1% in 2000; Current: 87.9% in 2005)
Objective 5.7	Increase to 73% the proportion of persons with diabetes who have an annual dilated eye exam.

(Baseline: 65.5% in 1998; Current: 70.4% in 2005)

Table 10.3 No A1c test among adults with diabetes by demographic characteristics: WVBRFSS, 2004 and 2005

Characteristic		200	4	2005			
	# Resp. %		95% CI	# Resp.	%	95% CI	
TOTAL	374	12.3	8.1-16.5	358	12.1	8.6-15.7	
Males	146	12.8	6.1-19.4	136	12.4	6.7-18.1	
Females	228	11.8	6.6-17.1	222	11.9	7.5-16.3	
Age							
18-44	39	* 33.8	15.7-51.8	55	* 11.7	3.6-19.7	
45-54	68	* 1.4	0.0-3.5	61	* 15.2	6.1-24.3	
55-64	120	* 7.3	1.4-13.2	95	* 9.7	3.4-16.1	
65+	147	12.9	7.1-18.7	147	12.5	6.6-18.4	
Education							
Less than H.S.	109	17.1	8.9-25.4	83	* 23.9	13.8-34.0	
H.S. or G.E.D.	159	14.5	7.0-21.9	155	7.2	3.2-11.1	
Some Post-H.S.	54	* 5.4	0.0-11.5	67	* 9.8	2.3-17.4	
College Graduate	51	* 3.9	0.0-11.5	53	* 12.6	2.8-22.5	
Income							
Less than \$15,000	116	16.6	7.7-25.6	84	19.4	10.3-28.5	
\$15,000- 24,999	66	* 13.3	4.2-22.4	80	* 10.2	3.5-16.9	
\$25,000- 34,999	53	* 18.9	3.8-33.9	55	* 14.0	3.9-24.2	
\$35,000-49,999	48	* 13.9	1.7-26.1	44	* 5.2	0.0-12.8	
\$50,000+	47	* 0.0	na	50	* 7.6	0.0-15.2	

* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

Table 10.4 No eye exam prevalence among adults with diabetes by demographic characteristics: WVBRFSS, 2004 and 2005

Characteristic		200)4	2005			
	# Resp.	%	95% CI	# Resp.	%	95% CI	
TOTAL	409	33.0	27.5-38.5	412	29.6	24.6-34.7	
Males	160	34.3	25.5-43.0	155	33.2	24.8-41.7	
Females	249	31.8	25.2-38.3	257	26.7	20.7-32.7	
Age							
18-44	43	* 59.5	42.8-76.3	55	* 46.2	31.2-61.1	
45-54	73	* 33.8	21.0-46.5	69	* 26.7	14.7-38.7	
55-64	121	30.7	21.5-40.0	105	28.8	19.4-38.2	
65+	172	24.3	16.8-31.8	183	24.0	17.1-31.0	
Education							
Less than H.S.	122	35.7	25.8-45.5	107	* 42.1	31.2-53.1	
H.S. or G.E.D.	168	37.5	28.7-46.4	173	30.5	22.5-38.5	
Some Post-H.S.	62	* 26.3	12.5-40.2	77	22.2	12.6-31.9	
College Graduate	56	* 22.0	7.9-36.0	55	* 13.4	3.8-23.0	
Income							
Less than \$15,000	128	31.3	21.5-41.0	99	* 30.9	20.0-41.8	
\$15,000- 24,999	74	* 42.9	29.6-56.1	97	33.1	22.3-43.9	
\$25,000- 34,999	58	* 37.9	23.1-52.8	58	* 34.6	20.7-48.6	
\$35,000-49,999	50	* 25.9	12.4-39.4	47	* 21.8	8.6-34.9	
\$50,000+	49	* 31.1	15.0-47.3	53	* 28.8	15.5-42.1	

* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

Table 10.5 No foot exam prevalence among adults with diabetes by demographic characteristics:WVBRFSS, 2004 and 2005

Characteristic		200)4	2005			
	# Resp. %		95% CI	# Resp.	%	95% CI	
TOTAL	405	35.3	29.8-40.9	413	30.2	25.3-35.1	
Males	160	30.7	22.3-39.0	156	28.1	20.4-35.7	
Females	245	40.2	33.1-47.3	257	31.9	25.7-38.2	
Age							
18-44	43	* 61.7	45.3-78.2	56	* 29.7	16.9-42.5	
45-54	73	* 30.5	18.6-42.4	71	* 19.9	9.7-30.1	
55-64	120	25.2	16.6-33.7	103	27.2	18.0-36.4	
65+	169	34.2	26.2-42.2	183	36.9	29.1-44.7	
Education							
Less than H.S.	120	30.8	21.3-40.4	107	* 34.4	24.3-44.5	
H.S. or G.E.D.	167	36.3	27.7-44.9	172	26.7	19.4-34.0	
Some Post-H.S.	62	* 41.8	27.2-56.4	78	* 32.9	21.7-44.2	
College Graduate	55	* 35.2	19.9-50.5	56	29.5	16.3-42.7	
Income							
Less than \$15,000	124	* 39.1	28.4-49.8	101	25.2	16.0-34.4	
\$15,000-24,999	75	* 33.5	21.0-46.1	98	* 30.3	20.2-40.5	
\$25,000- 34,999	57	* 45.4	30.3-60.5	57	* 40.6	26.5-54.7	
\$35,000-49,999	50	* 33.3	19.1-47.5	46	* 18.9	5.8-31.9	
\$50,000+	48	* 23.8	9.8-37.7	53	* 28.4	15.9-40.9	

Note. Excludes amputees.

* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

Additional Diabetes Issues in 2004 and 2005

Disketia usar andarta raka	Men				Wome	en	Total		
Diabetic respondents who	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	_%	95% CI
Now take insulin	164	15.6	10.0-21.2	253	24.6	18.4-30.7	417	20.0	15.7-24.2
Now take diabetes pills	163	76.1	68.4-83.7	253	70.2	63.7-76.8	416	73.2	68.1-78.3
Never check blood glucose at home or check it less than once daily	160	47.1	38.3-55.9	251	32.1	25.6-38.6	411	39.7	34.1-45.3
Never self-check feet for sores or check them less than once daily	159	18.1	11.5-24.7	246	19.4	13.9-24.9	405	18.7	14.4-23.1
Have ever had a foot sore that took more than four weeks to heal	164	9.7	4.8-14.6	253	11.4	6.7-16.1	417	10.5	7.1-13.9
Did NOT visit a doctor, nurse, or other health professional even once in the past 12 months for their diabetes	162	* 6.6	1.6-11.6	250	* 5.8	1.8-9.8	412	6.2	3.0-9.4
Were told by a doctor that they have diabetic retinopathy	160	30.6	22.7-38.4	247	24.3	18.0-30.6	407	27.5	22.4-32.5
Have NEVER taken a class in self- management of diabetes	163	57.1	48.5-65.6	253	58.2	51.4-65.1	416	57.7	52.2-63.1

Table 10.6 Other health care issues among adults with diabetes: WVBRFSS, 2004

* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

Table 10.7 Other health care issues among adults with diabetes: WVBRFSS, 2005

Diskotis norman danta mka	Men			Women			Total		
Diabetic respondents who	# Resp.	%	95% CI	# Resp.	_%	95% CI	# Resp.	_%	95% CI
Now take insulin	161	25.1	17.5-32.7	264	28.3	22.0-34.7	425	26.9	22.0-31.8
Now take diabetes pills	161	71.8	64.0-79.7	264	69.9	63.4-76.3	425	70.8	65.8-75.7
Never check blood glucose at home or check it less than once daily	154	42.3	33.9-50.8	260	29.2	23.1-35.3	414	34.9	29.9-40.0
Never self-check feet for sores or check them less than once daily	151	24.9	17.4-32.4	260	15.0	10.2-19.7	411	19.3	15.0-23.6
Have ever had a foot sore that took more than four weeks to heal	159	18.9	12.0-25.8	263	13.9	9.1-18.7	422	16.1	12.1-20.2
Did NOT visit a doctor, nurse, or other health professional even once in the past 12 months for their diabetes	158	* 5.7	2.1-9.3	257	* 3.5	1.3-5.8	415	4.5	2.5-6.6
Were told by a doctor that they have diabetic retinopathy	157	19.2	12.6-25.9	262	16.2	11.4-20.9	419	17.5	13.6-21.5
Have NEVER taken a class in self- management of diabetes	160	61.5	53.0-70.0	263	48.8	42.0-55.5	423	54.5	49.1-59.8

* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

WV HEALTHY PEOPLE 2010 OBJECTIVES

Objective 5.8

Increase to 55% the proportion of persons with diabetes who perform self blood-glucose monitoring (SBGM) at least daily. (Baseline: 50.3% in 1998; Current: 65.1% in 2005)