

West Virginia Asthma State Plan Long-Term Outcome Indicators and Baseline Measures

Outcome 1: Decreased Asthma Morbidity

Indicator	Population	Data Source	Baseline		
			Year	Rate/%	95% CI
Asthma Episodes/Attacks <i>Had asthma episode/attack in the past 12 months</i>	Adults (age 18+)	BRFSS ACS	2007	55.9%	47.1-64.6
			2008	57.0%	48.9-65.2
			2009	58.0%	48.7-67.2
			2007-2009	57.0%	51.9-62.0
	Children (age 0-17)	NSCH	2003	59.9%	51.7-68.2
Asthma Symptoms <i>Symptoms 2 or more times per week in past 30 days</i>	Children (age 0-17)	BRFSS ACS	2007	56.3%*	42.0-70.6
			2008	58.4%*	43.5-73.3
			2007-2008	57.4%*	27.2-67.6
	Youth (MS)	YTS	2007	48.9%	39.7-58.1
	Youth (HS)	YTS	2009	44.4%	38.3-50.5
Asthma Sleep Disturbances <i>Difficulty sleeping 3 or more nights in past 30 days</i>	Adults (age 18+)	BRFSS ACS	2007	52.6%	43.8-61.5
			2008	43.4%	35.2-51.7
			2009	48.4%	38.9-57.9
			2007-2009	48.0%	43.0-53.1
	Children (age 0-17)	BRFSS ACS	2007	22.5%	12.0-33.1
Quick-relief Medication Use <i>Medication use 1+ times in past 30 days</i>	Adults (age 18+)	BRFSS ACS	2008	22.6%*	9.6-35.6
			2007-2008	22.6%	14.2-31.0
			2007	30.5%	22.9-38.0
	Children (age 0-17)	BRFSS ACS	2008	30.8%	23.2-38.5
			2009	35.0%*	24.9-45.1*
		2007-2009	32.0%	27.2-36.9	
Quick-relief Medication Use <i>Medication use 1+ times in past 30 days</i>	Adults (age 18+)	BRFSS ACS	2007	30.3%*	16.5-44.0
			2008	21.3%*	8.0-34.7
			2007-2008	25.7%	16.2-35.1
	Children (age 0-17)	BRFSS ACS	2007	**	
			2008	**	
		2007-2008	**		

Indicator	Population	Data Source	Baseline		
			Year	Rate/%	95% CI
Asthma-related Missed School Days <i>YTS = 1+ missed days this school year</i> <i>BRFSS = 2 or more missed days in past 12 months</i>	Children (age 0-17)	BRFSS ACS	2007	49.8%*	34.7-65.0
			2008	47.8%*	31.9-63.7
			2007-2008	48.7%*	37.9-59.6
	Youth (MS)	YTS	2007	28.2%	19.5-36.9
			2009	25.3%	17.7-32.9
	Youth (HS)	YTS	2007	29.4%	20.0-38.8
2009			20.2%	13.4-27.0	
Asthma-related Missed Work Days/ Limited Activity Days <i>Limited 2 or more days in past 12 months</i>	Adults (age 18+)	BRFSS ACS	2007	41.2%	32.0-50.4
			2008	36.6%	28.3-44.9
			2009	39.8%*	29.7-50.0*
			2007-2009	39.2%	33.9-44.5
Asthma-related Activity Limitations <i>Limited usual activities a little to a lot in past 12 months</i>	Adults (age 18+)	BRFSS ACS	2007	75.1%	67.5-82.6
			2008	73.2%	66.3-80.1
			2009	72.0%	63.1-80.9
	Children (age 0-17)	BRFSS ACS	2007-2009	73.4%	68.9-77.9
			2007	54.7%*	40.3-69.2
			2008	55.9%*	40.6-71.2
			2007-2008	55.4%*	44.9-65.8

* Use caution in interpreting this estimate. It does not meet one or more of the reliability criteria.

** Formulas for calculating this value are still in development stage with CDC workgroup. Formula expected in the Summer of 2009.

Outcome 2: Decreased Asthma Acute Care Visits

Indicator	Population	Data Source	Baseline			
			Year	Rate/%	95% CI	
Asthma Sick Care Visits <i>Visited Dr for urgent treatment in past 12 months</i>	Adults (age 18+)	BRFSS ACS	2007	25.2%	18.9-31.6	
			2008	23.5%	16.2-30.8	
			2009	33.3%	23.5-43.1	
				2007-2009	27.2%	22.6-31.9
	Children (age 0-17)	BRFSS ACS	2007	39.5%*	25.1-53.9	
			2008	31.3%*	17.3-45.2	
			2007-2008	35.2%	25.2-45.1	
Asthma Emergency Room Visits <i>Visited ER for asthma treatment in past 12 months</i>	Adults (age 18+)	BRFSS ACS	2007	17.6%	11.9-23.2	
			2008	18.0%	11.2-24.8	
			2009	12.5%	6.6-18.4	
				2007-2009	16.1%	12.5-19.7
	Children (age 0-17)	BRFSS ACS	2007	30.6%*	17.0-44.2	
			2008	22.7%*	9.4-35.9	
			2007-2008	26.4%	17.0-35.9	
Asthma Hospitalizations <i>UB Data = Hospitalizations with primary asthma Dx^a</i> <i>BRFSS, NSCH = Overnight stay in past 12 months</i>	Total	Uniform Billing Data	2007	14.7 per 10,000	N/A	
				2008	15.1 per 10,000	
	Adults (age 18+)	BRFSS ACS	2007	7.7%	3.6-11.8	
			2008	6.5%	3.3-9.6	
			2009	5.2%	2.5-7.9	
				2007-2009	6.4%	4.5-8.4
	Children (age 0-17)	BRFSS ACS	2007	12.3%*	1.1-23.6	
			2008	7.4%*	0.0-18.0	
			2007-2008	9.7%	2.1-17.4	
Children (age 0-17)	NSCH		2003	4.0%*	1.3-6.7	

* Use caution in interpreting this estimate. It does not meet one or more of the reliability criteria.

a. Primary diagnosis of ICD-9-CM 493. Excludes newborns.

Outcome 3: Decreased Asthma Mortality

Indicator	Population	Data Source	Baseline		
			Year	Rate	95% CI
Asthma Mortality <i>Deaths with primary cause of asthma (ICD-10 J45,J46)</i>	WV Residents	Vital Records	2006	1.5 per 100,000	1.1-2.2
			2007	2.0 per 100,000	1.4-2.8
			2008	0.9 per 100,000	0.5-1.4

Outcome 4: Decreased Asthma Health Disparities

Indicator	Population	Data Source	Baseline		
			Year	Rate	95% CI
Asthma Hospitalizations <i>Hospitalizations with primary asthma Dx (ICD-9-CM 493)</i>	Males	Uniform Billing Data	2007	10.4 per 10,000	N/A
			2008	9.9 per 10,000	
	Females	Uniform Billing Data	2007	18.9 per 10,000	N/A
			2008	20.2 per 10,000	
	<15	Uniform Billing Data	2007	20.9 per 10,000	N/A
			2008	19.3 per 10,000	
	15-44	Uniform Billing Data	2007	7.3 per 10,000	N/A
			2008	7.3 per 10,000	
	45-64	Uniform Billing Data	2007	15.5 per 10,000	N/A
			2008	16.3 per 10,000	
≥ 65	Uniform Billing Data	2007	25.1 per 10,000	N/A	
		2008	27.5 per 10,000		
Asthma Mortality <i>Deaths with primary cause of asthma (ICD-10 J45,J46)</i>	Males	Vital Records	2000-2006	0.8 per 100,000	0.6-1.1
			2000-2008	0.8 per 100,000	0.6-1.0
	Females		2000-2006	2.2 per 100,000	1.8-2.6
			2000-2008	2.1 per 100,000	1.8-2.4

Data Sources

ACS = Asthma Call-back Survey

AHM = Asthma History Module

BRFSS = Behavioral Risk Factor Survey

NSCH = National Survey of Children's Health

YTS = Youth Tobacco Survey