

1 In addition, subpopulations based on age group also comprise substantial segments of the  
 2 population that may be potentially at risk for SO<sub>2</sub>-related health impacts. Based on U.S. Census  
 3 data from 2000, about 72.3 million (26%) of the U.S. population are under 18 years of age,  
 4 18.3 million (7.4%) are under 5 years of age, and 35 million (12%) are 65 years of age or older.  
 5 Hence, large proportions of the U.S. population are included in age groups that are considered  
 6 likely to have increased susceptibility and vulnerability for health effects from ambient SO<sub>2</sub>  
 7 exposure. For example, Figure 4-6 demonstrates that the SO<sub>2</sub>-related excess risk for asthma is,  
 8 on average, 50% higher among children when compared to risk estimates that include all ages  
 9 with a 10 ppb increase in 24-h avg SO<sub>2</sub> concentration.

**Table 4-2. Prevalence of selected respiratory disorders by age group in the United States (2004 [U.S. adults] and 2005 [U.S. children] National Health Interview Survey).**

CHRONIC CONDITION/DISEASE ADULTS (18+ YEARS)	AGE (YEARS)					
	ALL ADULTS		18-44	45-64	65-74	75+
	CASES (× 10 <sup>6</sup> )	%	%	%	%	%
Respiratory Conditions: Asthma	14.4	6.7	6.4	7.0	7.5	6.6
COPD: Chronic Bronchitis	8.6	4.2	3.2	4.9	6.1	6.3
COPD: Emphysema	3.5	1.7	0.3	2	4.9	6.0
CHRONIC CONDITION/DISEASE CHILDREN (<18 YEARS)	ALL CHILDREN		0-4	5-11	12-17	
	CASES (× 10 <sup>6</sup> )	%	%	%	%	
Respiratory Conditions	6.5	8.9	6.8	9.9	9.6	

Source: National Center for Health Statistics (2006a,b)

10 Evidence indicates that several groups are potentially at increased risks from SO<sub>2</sub>  
 11 exposures compared to the average population. Susceptible subgroups include individuals with  
 12 preexisting disease, especially asthma, and children and older adults. Other individuals with  
 13 potentially increased vulnerability include those who spend a lot of time outdoors at increased  
 14 exertion levels (e.g., outdoor workers, children, individuals who exercise or play sports) and  
 15 those in proximity to large uncontrolled or poorly controlled sources. The considerable size of  
 16 the population groups at risk indicates that exposure to ambient SO<sub>2</sub> could have a potentially  
 17 significant impact on public health in the United States, with the greatest public health risks for  
 18 the smaller subset of susceptible individuals exposed to relatively high peak SO<sub>2</sub> concentrations.