



# ASTHMA BURDEN UPDATE

■ This edition reports on the use of the Chronic Disease Calculator, Version 2 to estimate the financial impact of asthma on Illinois' health care costs.

## CHRONIC DISEASE COST CALCULATOR

The Chronic Disease Calculator, Version 2 was developed by the U.S. Centers for Disease Control and Prevention (CDC) and RTI International (formerly Research Triangle Institute) to support state-specific estimates of the encumbering expenditures related to chronic diseases.<sup>1</sup> The calculator is used to report cost for three types of payers; Medicaid, Medicare, and private insurers.

## THE COST OF ASTHMA

According to the Chronic Disease Calculator, in 2010, approximately 4.8 percent of Illinoisans across all payers and ages received asthma treatment (Table 1). Among different age groups, adolescents (ages 0-17) were the largest age group (6.3%) receiving asthma treatment. The impact of age on Illinois' asthma expenditures is seen in treatment costs per person. Adults 65 and older incurred the highest treatment costs of \$5,300 per adult, which is nearly six times the cost of treating an adolescent. In Illinois, the total cost of treating asthma across all payers and ages was \$1.3 billion annually.

Table 1. Asthma Expenditures by Age Group, U.S. vs. Illinois, 2010

Age (years)	U.S.	Illinois				
	All	All	0-17	18-44	45-64	65+
<b>Population</b>	304,059,724	12,901,563	3,197,260	4,907,822	3,239,173	1,575,308
<b>Percent Treated</b>	4.9	4.8	6.3	3.8	4.6	5.7
<b>Treated Population</b>	14,757,200	622,900	199,900	184,600	148,200	90,200
<b>Cost Per Person</b>	\$2,090	\$2,130	\$950	\$1,490	\$2,590	\$5,300
<b>*Total Costs</b>	\$30,825	\$1,328	\$190	\$276	\$384	\$478

\*Total costs are reported in millions.

## ABSENTEEISM

Asthma-related absenteeism is a concern in Illinois (Table 2). Approximately 63% of the treated Illinois population is employed, but asthma complications have caused individuals to miss an average of 2.1 employment days per year, which is equivalent to the number of missed employment days in the U.S. overall. Across age groups in Illinois, adults older than 65 years of age have the highest number of missed employment days, 3.8. The missed employment days for Illinois residents resulted in a total absenteeism costs of \$150 million across all age groups.

<sup>1</sup> Centers for Disease and Control and Prevention. Chronic disease cost calculator version 2. 2015; <http://www.cdc.gov/chronicdisease/calculator/>.

Table 2. Cost of Absenteeism Due to Asthma, U.S. vs. Illinois, 2010

	U.S.	Illinois				
Age (years)	All	All	0-17 <sup>†</sup>	18-44	45-64	65+
Percent Employed	60.8	62.6	72.7	76.6	62.3	11.9
Treated Employed Population	8,974,200	389,800	145,400	141,400	92,400	10,700
Missed Days Per Employed Person	2.1	2.1	2.5	1.5	2.1	3.8
Total Missed Days	18,683,000	800,000	356,000	212,000	192,000	40,000
Daily Wage	\$189	\$188	\$156	\$181	\$248	\$222
*Total Cost of Absenteeism	\$3,523	\$150	\$55	\$38	\$48	\$9

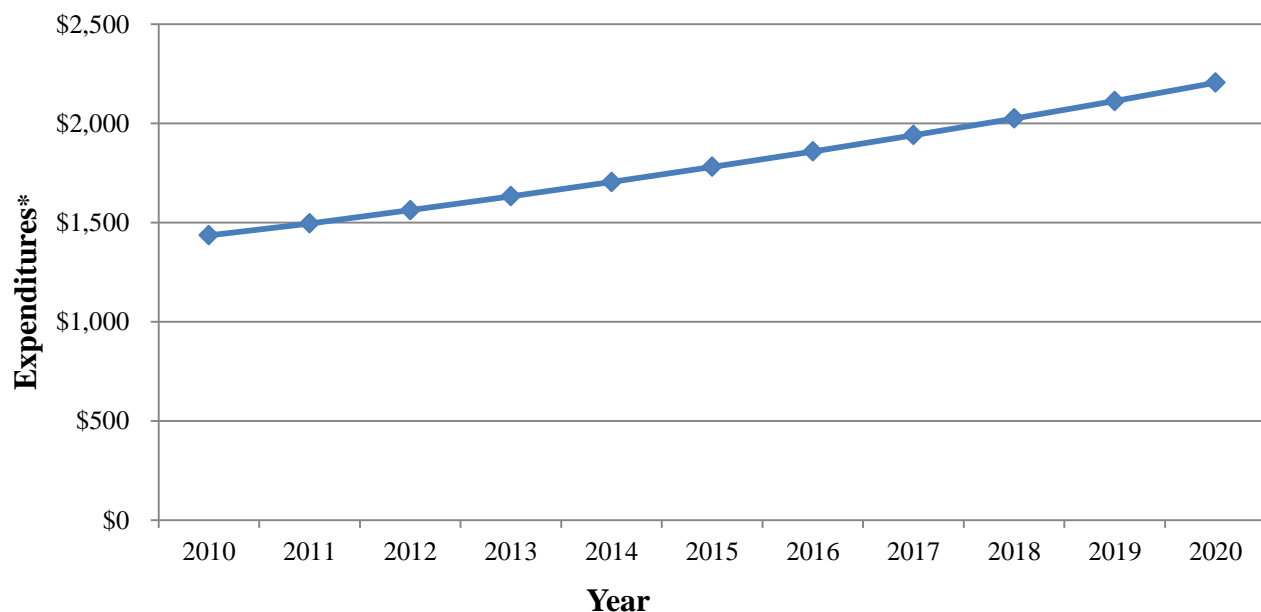
\*Total absenteeism is reported in millions.

<sup>†</sup>Absenteeism cost for children 0-17 includes the annual number of school days missed due to illness. It also assumes working parents missed work because of children's absence from school.

## ASTHMA COSTS WILL RISE

Illinois' asthma expenditures, excluding absenteeism, are forecast to increase from \$1.4 billion in 2010 to \$2.2 billion by 2020 (Figure 1). The forecasted increase will result in a 53.6% growth in asthma expenditures. The medical cost projections include nursing home costs but exclude absenteeism costs. The projections are reported in real 2010 dollars and do not project inflation. The projections assume no changes in policy or technology and exclude changes due to the Affordable Care Act (PL 111-148). All the changes in the real medical cost of disease are driven by growth in real medical costs and change in the treated population, which is in turn driven by changes in population size and age and gender distributions.

Figure 1. Forecasted Asthma Expenditures in Illinois, 2010-2020



\*Asthma expenditures are reported in millions.