

2012 Pennsylvania Asthma Fact Sheet

Pennsylvania Department of Health: Asthma Control Program

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Asthma is a critical public health issue nationwide. Seventy percent of those living with asthma are adults, and a significant fraction of asthma in adults is work-related asthma (WRA). WRA is the most common chronic occupational lung disease in industrialized countries. According to the American Thoracic Society, one in seven U.S. adults suffers from WRA.

WRA is a condition characterized by symptoms including airway inflammation (partially or completely reversible), bronchoconstriction and hyper-responsiveness induced by workplace exposures. WRA is a debilitating and sometimes fatal disease. The causal mechanism can be either allergic (for asthma that occurs after a latency period needed to acquire allergic sensitization) or irritant induced (as in the case of accidental inhalational exposure to products with irritant properties encountered in the workplace).

Symptoms of WRA often worsen during the work week, improve on the weekend and recur when the worker returns to the job. The prevention strategy for WRA should include an exposure-control program, recognition of early symptoms and identification of the potential workplace exposures.

Triggers that cause work-related asthma

Triggers are things that start asthma attacks. Each person can have unique triggers. Some workplace triggers include:

- Chemicals in paints, cleaning products and other items;
- Dust (dander) from animals and insects;
- Dust from wood, latex gloves, flour and/or poorly cleaned buildings; and
- Mold in damp or water-damaged areas of buildings.

Try to avoid your workplace triggers

Your physician and employer can help you avoid your workplace triggers. This may include:

- Wearing an appropriate face mask;
- Moving to a different work area; and
- Increasing the air flow in your work area.

Table 1: List of ACBS job-related questions and percentage of respondents (age 18+) with asthma who reported their asthma was work-related

2010 PA Asthma Call-back Survey Questions:	%	95% CI
Was your asthma caused by chemicals, smoke, fumes or dust in your current job?	9.9	(5.7-16.6)
Is your asthma made worse by chemicals, smoke, fumes or dust in your current job?	22.9	(15.7-32.0)
Was your asthma caused by chemicals, smoke, fumes or dust in any previous job you ever had?	17.2	(13.1-22.2)
Was your asthma made worse by chemicals, smoke, fumes or dust in any previous job you ever had?	32.8	(26.8-39.3)
Did you ever change or quit a job because chemicals, smoke, fumes, or dust caused your asthma or made your asthma worse?	32.6	(22.0-45.3)
Were you ever told by a doctor or other medical person that your asthma was related to any job you ever had?	9.3	(5.6-15.1)
Did you ever tell a doctor or other medical person that your asthma was related to any job you ever had?	10.9	(7.0-16.6)

Data Source: Pennsylvania Behavioral Risk Factor Surveillance System (BRFSS)

In Pennsylvania, there is limited information about prevalence of WRA, defined as new and chronic asthma cases which are aggravated by occupational exposures among Pennsylvanian workers. However, two sources: 1) the "PA Asthma Call-back Survey", and 2) Pennsylvania Health Care Cost Containment Council (PHC4) provide the information presented here in terms of discrepancies by gender, race/ethnicity, age group and charges for asthma hospitalization.

As with asthma generally, there is evidence of health disparities among sufferers of WRA. In 2012, the PA Asthma Control Program (ACP) began to utilize the 2010 Asthma Call-back Survey (ACBS) that was conducted as a follow-up to the 2006 standard Behavioral Risk Factor Surveillance System (BRFSS). Data in Table 1 include WRA questions from PA 2010 ACBS and demonstrate weighted percentages of respondents who said "yes" to those questions. Each of the questions was analyzed using the subset of responses.

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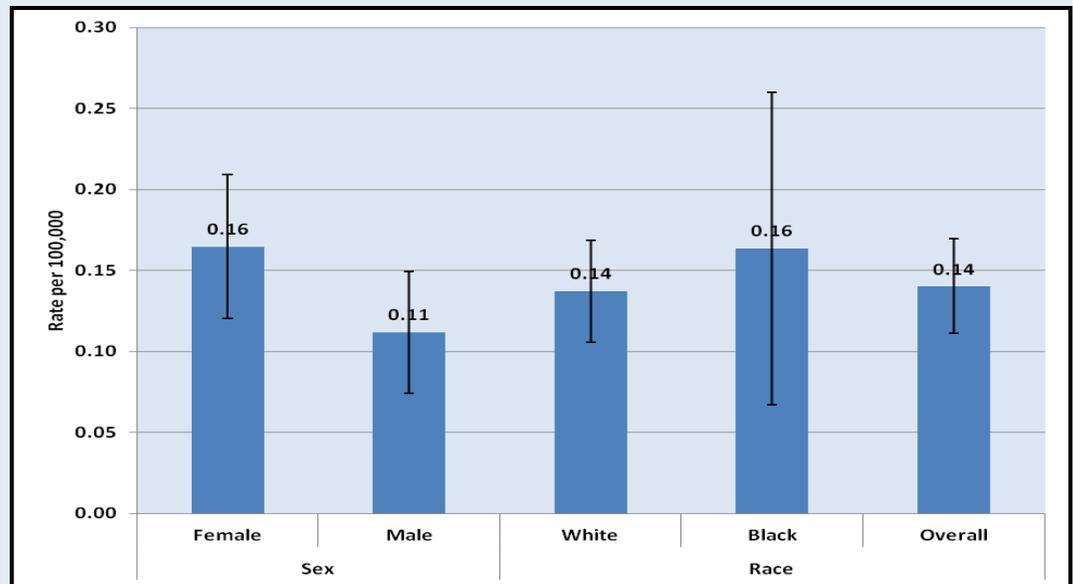
Table 2: Average Hospitalization Charges for Inpatient Hospitalization with Asthma as the Primary Discharge Diagnosis in the General Population and Group Compensated Through Worker's Compensation, PA 2006-2010

Selected Characteristics	Average asthma hospitalization charges in general population	Average asthma hospitalization charges in group compensated through worker's compensation
Sex		
Female	\$23,182	\$27,569
Male	\$18,291	\$16,475
Race		
White	\$18,884	\$20,506
Black	\$24,925	\$25,777
Ethnicity		
Hispanic	\$24,143	\$24,180
Non-Hispanic	\$21,173	\$23,200
Overall	\$21,410	\$23,233

Table 2: In 2006-2010, the average charges for inpatient hospitalization with asthma as the primary discharge diagnosis were higher among people whose hospital bills were paid by worker's compensation (WC) compared to those using other mechanisms for payment (except for male). Between 2006 and 2010, average hospital charges for people paid by WC were almost 8.5 percent higher compared to numbers in the general population (\$23,233 and \$21,410, respectively).

Between 2006 and 2010, total charges for work-related asthma hospitalizations account for over one percent of the total, or more than \$24 million. Due to the small number of admissions, however, data is limited and more descriptive than statistical.

Figure: Rates of Inpatient Hospitalization with Asthma as the Primary Discharge Diagnosis in People Compensated Through Worker's Compensation, PA 2006-2010



Data Source: Pennsylvania Health Care Cost Containment Council (PHC4)

Note: Vertical bars on the graph denote the 95% confidence interval

Figure: In 2006-2010, there were asthma disparities by sex and race for work-related asthma hospitalizations. Inpatient hospitalization rates with asthma as the primary discharge diagnosis were higher among females compared to males, as well as among blacks compared to whites (approximately 45.5 percent and 14.2 percent, respectively).

Conclusions: Improvements in asthma work-related data would be useful to determine professional groups and areas where interventions, including asthma education and mitigation, will prevent and reduce asthma attacks.

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The Pennsylvania Department of Health (PA DOH) specifically disclaims responsibility for any analyses, interpretations or conclusions made by the user of this report. The Pennsylvania Health Care Cost Containment Council (PHC4) is an independent state agency responsible for addressing the problem of escalating health costs, ensuring the quality of health care and increasing access to health care for all citizens. While PHC4 has provided data for this study, PHC4 specifically disclaims responsibility for any analyses, interpretations or conclusions.