Work-Related Asthma in Washington State:

A summary of SHARP's asthma surveillance data 2001-2008

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REPORT SUMMARY

The Safety & Health Assessment & Research for Prevention (SHARP) program at the Washington State Department of Labor and Industries (L&I) conducts work-related asthma surveillance for Washington State. From October 2001 through December 2008 there were a total of 1,343 occupational asthma claims captured by the surveillance system (which includes both workers' compensation claims and physician reporting) and SHARP conducted follow-up telephone interviews for 604 of these cases. This report describes these 1,343 claims by occupation, industry, frequency, asthma type, and source agent.

Because case follow-up interviews can be resource intensive, we sought to determine whether medical records, available through the workers' compensation database at L&I, could be used to document asthma source and asthma classification in lieu of follow-up interviews. Asthma source agents were documented in the medical records 84% of the time. For cases in which the medical record did attribute asthma to a specific source(s), the medical record-derived source matched the interview-derived source 88% of the time. Asthma classification for new onset asthma (NOA) or work aggravated asthma (WAA) relies in part on identifying whether the injured worker was symptomatic with asthma in the two years prior to exposure. Medical record-derived classification of pre-existing asthma matched interview-derived classifications only 47% of the time. The medical records are a viable data source for determination of the source agent, but not for pre-existing symptomatic asthma in the past 2 years.

Overall, asthma status was classified as New Onset Asthma (NOA, caused solely by exposures in the workplace) in 55% of the cases. Within these NOA cases, 20% were classified as Reactive Airways Dysfunction Syndrome cases (RADS, new-onset asthma caused by a one-time high-dose workplace irritant exposure). Another 44% of cases were classified as Work-Aggravated Asthma (WAA, pre-existing asthma that is made worse by workplace exposures). Prevention efforts should address agents causing NOA, and the most frequent sources causing NOA include: Minerals & Inorganic Dusts, Isocyanates, and Plant Materials.

The surveillance of work-related asthma in Washington suggests that prevention resources are required in a wide variety of industries and for exposure to a wide variety of sources. A table for 19 different Industry Sectors is presented for the purpose of understanding what sources may be causing asthma within a given industry. Regarding the source agents that cause asthma, an index listing 231 sources illustrates all the industries that require prevention for a given source. Both the industry tables and the source index can be used to prioritize prevention efforts.

From an industry perspective, Manufacturing and Health Care have the highest number of asthma cases. Manufacturing requires prevention from sources such as Miscellaneous Chemicals and Plant Materials while Health Care requires asthma prevention from sources including Molds, Indoor Environmental Quality (i.e. Perfume), and Cleaning Materials.

Unlike other U.S. States conducting work-related asthma surveillance, Plant Materials are a major source of work-related asthma in Washington. They are seen in Agriculture (Hops production) and Agriculture-related Warehouse and Transportation industries. Plant materials are also a frequent exposure source in Manufacturing, due to red cedar and other wood dust exposures in primary and secondary wood processing. Plant Materials, along with a high number of cases for exposure to Mold, reflect the nature of Washington's industries and climate. An in-depth focus on isocyanate exposures revealed that prevention is needed for paint spray application on large or awkward objects that do not fit inside a spray booth; six isocyanate claims referenced working on objects like aircraft parts or fire engines at the time of exposure.

Washington's work-related asthma surveillance system provides insight into causative agents, many of which are unique or commonly handled in our geographic region, that cause respiratory illness in our state. The system can direct prevention resources to workers who, because of their occupation or the materials they handle, are at high risk for the burden of work-related asthma.