Smoking and the Blue-Collar Work Force

An interview with Donald Shopland, Smoking, Tobacco, and Cancer Program, National Cancer Institute Q: What distinguishes the blue-collar work force from the white-collar work force in terms of smoking behavior?

A: The most complete review of occupational differences among smokers is provided by the Surgeon General's 1985 report on cancer and chronic hung disease in the workplace. It reported that blue-collar workers smoke more, tend to start smoking at an earlier age, and have more difficulty quitting than white-collar workers. Their risk of disease is compounded by the fact that they are more apt to be exposed to other disease-causing agents in their work environment than white-collar workers.

Q: What other differences exist between smokers and nonsmokers? A: Smoking varies inversely with education and income. College-educated white-collar workers and high-income earners are less likely to smoke than high school graduates, blue-collar workers, and those with low incomes.

There are also differences in smoking rates among racial and ethnic groups. Proportionately more black men are smokers (40%) than white men (31%), for example, while black women and white women have virtually the same smoking rates (23% versus 27%, respectively).

Q: Does the combination of smoking with exposure to hazardous substances at the workplace present a serious health risk to blue-collar workers?

A: Such risks were clearly identified in the 1979 Surgeon General's report on smoking, which suggested that cigarette smoke could transform existing chemicals into more harmful ones: increase exposure to existing toxic chemicals; add to the biological effects caused by certain chemicals; and interact synergistically with existing chemicals. The conclusion of the 1985 Surgeon General's report is very clear and specific: Workers who smoke and are exposed to hazardous substances have a greater risk of disease than if they face only one of the hazards.

The most frequently cited example in the report is that of lung cancer and asbestos workers. In one study, nonsmoking, heavily exposed asbestos workers had a fivefold increased risk of developing lung cancer than nonsmokers not exposed to asbestos. Smokers not exposed to asbestos have a 10-times greater risk of cancer than nonsmokers not exposed. The risk is increased more than fiftyfold if the asbestos worker also smokes and nearly nineryfold if that worker smokes more than a pack daily.

Q: What is meant by synergy between toxic materials?

A: It is the effect just described; when the total risk is greater than the sum of the risks of independent exposures. It means, in the case of heavily exposed, smoking asbestos workers, that the risk of developing lung cancer is 5,000 percent greater than among workers who neither smoke nor are exposed to asbestos.

Q: Which is more harmful to a worker: exposure to hazardous agents or smoking? A: According to the Surgeon General, "For the majority of American workers who smoke, cigarette smoking represents a greater cause of death and disability than their workplace environment." Because of the combined effects of smoking and occupational exposures to harmful agents, the total risk increases for the worker.

Q: Does this mean that employers can ignore current health and safety efforts if they implement nonsmoking policies?

A: Not at all. The intent of the 1985 Surgeon General's report was to stress the dramatic role smoking plays in employee health and to encourage workers, unions, and employers to



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