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ECHO

Study of the effectiveness of the US safety standard for child resistant cigarette lighters

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Objective: The purpose of this research is to evaluate the effectiveness of the US Consumer Product Safety Commission's (CPSC) Safety Standard for Cigarette Lighters, which requires that disposable cigarette lighters be resistant to operation by children younger than age 5.

Methods: Fire data on children playing with lighters were solicited from selected US fire departments for incidents occurring from 1997–99, to identify the proportion of such fires caused by children younger than age 5 playing with cigarette lighters. These data were compared with similar data from 1985–87. An odds ratio was used to determine if there was a significant decrease in cigarette lighter fires caused by children younger than age 5 compared to children ages 5 and older. To estimate fires that would have occurred without the standard, the odds ratio, adjusted for population, was applied to 1998 national estimates of fires occurring. National estimates of 1998 fire losses were based on data from the National Fire Incident Reporting System and the National Fire Protection Association to which the 1997–99 age and lighter type distributions were applied. The difference between the fire losses that would have occurred and those that did occur represented fire losses prevented.

Results: In the post-standard study, 48% of the cigarette lighter fires were started by children younger than age 5, compared with 71% in the pre-standard study. The odds ratio of 0.42 was statistically significant ($p < 0.01$). This represented a 58% reduction in fires caused by the younger age group compared to the older age group. When applied to national fire loss data, an estimated 3300 fires, 100 deaths, 660 injuries, and \$52.5 million in property loss were prevented by the standard in 1998, totaling \$566.8 million in 1998 societal savings.

Conclusions: The CPSC standard requiring child resistant cigarette lighters has reduced fire deaths, injuries, and property loss caused by children playing with cigarette lighters and can be expected to prevent additional fire losses in subsequent years.

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