Flight attendants have suspected for years that pesticide exposure on aircraft may pose health risks to themselves and other people onboard. OHB’s pesticide illness tracking project, conducted through the support of the National Institute for Occupational Safety and Health (NIOSH) and the U.S. Environmental Protection Agency (EPA), led researchers to document the first cases of flight attendants’ illnesses due to exposure to pesticides routinely used onboard some commercial aircraft.

What was learned?

For many years, permethrin, a pesticide that is toxic to the nervous system, has been used on some aircraft to kill insects that carry diseases that might pose a threat to people, plants, and animals. This process is called “disinsection.” After receiving reports from physicians that some flight attendants were becoming sick after pesticide exposure, OHB began investigating and identified 12 flight attendants on three flights who developed work-related pesticide illnesses. All cases involved exposure to a pesticide formulation that was applied to aircraft flying from Sydney, Australia to Los Angeles between August 2000 and March 2001. The flight attendants experienced a variety of symptoms—including skin, eye, and upper respiratory irritation and pain—that resulted from pesticide exposure.

Australia requires aircraft that arrive from other countries to be treated with a long-lasting pesticide formulation every 56 days. Although the U.S. does not require airlines to use pesticides to kill harmful insects onboard aircraft, U.S.-based airlines are required to perform this procedure to comply with quarantine procedures of other countries, including Australia. As of 2003, 18 countries required aircraft disinsection on all or selected inbound flights; many require the use of an aerosolized spray while passengers are still onboard.

The aerosolized pesticide is typically sprayed into the cabin air and onto cabin surfaces, including carpeting, seats, and bathrooms, where it can eventually come in contact with people, either through the skin, inhalation, or ingestion.

Pesticides in aircraft cabins could be especially dangerous for some people, like young children and people with chronic diseases and lowered immunity, who are more susceptible to the health impacts of pesticides than others. Airlines are not currently required to tell passengers of pesticide use. Alerting passengers beforehand would give them the choice to opt out of this pesticide exposure prior to ticket purchase. Compounding the issue is that the available data suggest that spraying pesticides in aircraft cabins may not be very effective in preventing insect-borne diseases.

As these cases demonstrate, disinsection can pose a health hazard for flight attendants. The findings could also have health implications for passengers in general, because passengers are often exposed to these pesticides without their knowledge. Moreover, these documented illnesses likely underestimate the health risks of disinsection because few people know pesticides are used in aircraft cabins, recognize symptoms of pesticide poisoning, and know where to report the illness.

What should be done?

National and international health officials need to take quick action to find sustainable, nontoxic alternatives to control insects in aircraft cabins. The U.S. Department of Transportation is currently testing the feasibility of air curtains; these tests are promising and should continue to be pursued. Industries, workers, passengers, and others who are impacted by disinsection should vigorously support these measures. In the interim, airlines should undertake measures to reduce worker and passenger exposure.

For more information and our full report on aircraft disinsection, please visit www.afanet.org/afa/aefiles/disinsection.pdf.