

BANGOR DAILY NEWS

Blue Hill researcher to begin 15-year study of cancer risk in Maine firefighters



Tom Walsh | BDN

In this April 2013 file photo, volunteer firefighters from Addison, Columbia Falls, Harrington and Jonesport were among the responders to a house fire on Indian River Road in Addison.

By [Mario Moretto](#), BDN Staff

Posted Oct. 03, 2013, at 2:42 p.m.

AUGUSTA, Maine — An environmental health scientist is about to embark on a 15-year study of Maine firefighters in an effort to investigate the long-term health effects of exposure to controversial flame-retardant chemicals.

Dr. Susan Shaw, president and founder of the Blue Hill-based Marine Environmental Research Institute, announced the study Thursday during the annual meeting of the Maine Fire Chiefs Association at the Augusta Civic Center.

She said that because of the chemical byproducts created when flame-retardants burn, “today’s residential fires resemble hazmat situations more than they resemble traditional home fires.”

The study, which will analyze the blood of 50 Maine firefighters over five-year intervals, follows Shaw’s [earlier pilot study](#) of firefighters in San Francisco, which showed that levels of polybrominated diphenyl ethers, or PBDEs, were three times higher than levels in the general U.S. population, at a rate of 135 parts per billion compared with the national average of 40 parts per billion.

PBDEs are used as flame retardants in household furniture, carpets, plastics, computers and foam insulation. A growing body of evidence suggests the chemicals are toxic to human beings and animals.

The great irony, Shaw said Thursday, is that the chemicals not only produce carcinogenic byproducts when they combust, they also don't prevent fire injuries. She said the products delay ignition by about three seconds but create far more smoke, carbon monoxide and soot when they do burn.

"There's no hard data saying these compounds save lives," she said. "They create a slight burn delay but weighed against the carcinogenic properties, they aren't worth the risk."

While the earlier study revealed the high levels of PBDEs, the new one aims to identify which chemicals are the likely culprits for increased cancer risks. Firefighters' blood will be analyzed immediately after a fire and tested for a wide range of carcinogens as well as pre-cancer and cancer indicators.

Knowing that firefighters develop cancer at an alarming rate and that their blood contains higher than normal amounts of PBDEs, the new study seeks to connect the dots between the chemicals and cancer.

Ron Green is a Bangor firefighter and district vice president of the Professional Fire Fighters of Maine. He said he knows several active or retired firefighters who have developed cancer, and the connection between the job and the health risk is widely assumed in the industry.

"It's tough to say that you fought a fire in Augusta in '92 and that's why you have non-Hodgkins lymphoma," he said. "But we know it's cumulative, and it happens over a long time."

Shaw's new study will include both professional and volunteer firefighters from around the state, she said. It will begin in 2014.

The American Chemistry Council, an industry trade group, [issued a statement last year defending chemical flame retardants](#), saying they are necessary to meet safety standards and doubting studies that show a causal link to cancer.

But a [2012 investigation by the Chicago Tribune](#) into flame retardants found that the chemical industry has manipulated scientific findings to overstate the effectiveness of flame retardants and downplay the health risks.

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