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INDOOR POLLUTION GETTING NEW ATTENTION

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IN WASHINGTON, as well as in some laboratories in New Jersey, researchers have begun to sound an alarm about indoor air pollution, which some state and Federal scientists believe may be even more crucial to human health than outdoor pollution.

Indoor air pollution is a general term applied to the presence of pollutants that have been in homes, offices and other buildings for decades but have not been identified as problematic until recently.

The pollutants include ozone, ink and carbon tetrachloride fumes from office copying machines, formaldehyde and asbestos in acoustical tiles, insulation and particle board, fiberglass and formaldehyde from carpets and gases used as propellants in aerosol sprays.

Also classified as common indoor pollutants are fluorescent lighting, which can cause eyestrain and is said to deplete certain vitamins, and video display terminals, which are believed to promote a positive electrical charge in front of their operators, resulting in fatigue, stress and mild illnesses.

Until recently, indoor air quality was thought to be a simple matter of opening a window and letting in fresh air. And while it is still true that proper ventilation and air exchange are mainstays in providing clean air, the synthetic materials, **toxic chemicals and tightly sealed and insulated buildings of the last decade have been producing medical symptoms that are not easily explained.**

"We had problems in several buildings where people complained of chest pains, headaches and malaise," said Dr. Allen N. Copeland, deputy commissioner of the state's Department of Health. "But mostly there was nothing to explain the symptoms, except that these buildings were tight due to energy conservation and were poorly ventilated.

"We call it the stuffy-building syndrome. It's a gray area, but a real syndrome these days."

Researchers at the Center for Energy and Environmental Studies at Princeton University have just proposed a study of the carbon monoxide and nitrogen oxides from natural-gas stoves in the home. Nitrogen oxides are said to cause respiratory ailments when inhaled in high enough concentrations, and carbon monoxide even in non lethal amounts is known to rob the body of oxygen.

Essentially, scientists and medical experts believe that many indoor pollutants - including cigarette smoke, emissions from wood-burning stoves and fireplaces and foam insulation - can seriously impair health and reduce productivity.

Symptoms said to arise from poorly ventilated rooms, or a combination of poorly ventilated rooms and hidden contaminants, include headaches, sore throat, frequent colds, respiratory ailments, listlessness and rashes. Doctors warn that these symptoms are not exclusively from this type of pollution, and that each can be found in numerous other non-related ailments.

Some pollutants, such as benzo(a)pyrene - a byproduct of cigarette smoke, wood-burning stoves and almost anything combustible - asbestos and some types of formaldehyde are believed to be carcinogens.

Spokesmen for the state's Office of Science and Research, the scientific arm of the Department of Environmental Protection, said last week that in May the office would begin a year's investigation of the potential dangers of pesticides applied in and under private homes.

Ronald Harkov, a scientist with the office, said that officials wanted to know exactly how harmful it could be for residues of the pesticides heptachlor, chlordane, aldrin and deldrin to linger in the home after an exterminator visits.

Other aspects of indoor pollution are being examined at the New Jersey Institute of Technology in Newark and the University of Medicine and Dentistry of New Jersey in Piscataway.

Without Federal leadership and funds, research has been sporadic and limited.

(In Washington, an internal report for top officials of the Federal Environmental Protection Agency earlier this month said that the failure of schools to protect children and teachers from asbestos contamination could be ascribed in part to inaction by the E.P.A. itself.)

But some feel that a change may be on the way. For example, in recent weeks, the E.P.A. has been laying plans for a new line of research made possible by a $2 million allocation from Congress in this fiscal year.

Officials say this is the first time that the agency, which had been criticized for ignoring these research needs, has approached the indoor air pollution problem in its entirety.

Overseeing the E.P.A.'s research project is Dr. Bernard Goldstein of Westfield, the assistant administrator in charge of research and development. Long an advocate of indoor- pollution experimentation, Dr. Goldstein was head of the department of environmental and community medicine at the University of Medicine and Dentistry before his White House appointment.

His deputy, David Ehreth, said: "One of the things we're concerned with is the conservation of energy in the last decade and what it's done. "Houses and buildings have been built tighter and tighter to keep the heat in and, as a result, ventilation has decreased and tight construction and heavy insulation have exacerbated the concentrations of air pollutants that otherwise would have been circulated and exchanged for clean air."

One question is how often indoor air should be exchanged. Scientists say the rate should typically be between 1 and 2.5 complete exchanges an hour for a home.

Specific rates depend on the types and quantities of pollutants present. Therefore, much current research seeks to establish ways to filter or exchange the air for optimal health and comfort, depending on the specific design uses of a building.

A panel of 40 scientists has begun advising the E.P.A. on the direction that research should take. Mr. Ehreth said in a telephone interview that the panel had just finished reviewing a set of criteria and guidelines for implementing indoor air-pollution research. The guidelines will be used by government and private institutions, he said.

Dr. Goldstein said that his office had reinstated an interagency committee on indoor air pollution. It comprises representatives of all Federal units concerned with the subject, including the Consumer Product Safety Commission and the Departments of Transportation, Defense, Health and Human Services, Housing and Urban Development and Justice.

The Environmental Protection Agency has no authority to regulate indoor air quality, but by emphasizing research it could bring national attention to the subject and thus influence academic research and possibly industry standards.

Richard A. Ross of Dover, one of the few environmental consultants in New Jersey specializing in indoor air quality, said he did not believe that the E.P.A.'s work would lead to regulations for at least four or five years, but that "it certainly is raising the public's consciousness about indoor air quality."

"What I see happening is regulations like the rules they passed in San Francisco against smoking in restaurants and public buildings, and regulations that protect workers," he said.

"In union contracts now, we're seeing the unions include provisions for workers to have the right to clean air. This is a recent development and, I think, an indication of things to come."

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