Selling Their Future Short?

Engler Panel Admits State Rules Don't Protect Kids from Pollution, Yet Ignores Doctors' Call for Action

by Dave Dempsey

In February, after more than a year's study, Governor Engler's Michigan Environmental Science Board (MESB) issued a major report which admits flaws in the state's pollution risk assessment policies. Despite those conclusions, the report recommends more research rather than action to protect children at risk. The Ecology Center and Michigan Environmental Council blasted the Board's reluctance to act.

The report concludes that the state fails to take into account the effect of multiple chemicals on children's health, but recommends waiting for more research before steps are taken to protect children. Two pediatricians on the MESB panel took issue with the report. Their minority report recommends that an additional safety factor be added to the risk assessment process to better protect children.

"Are Michigan's children adequately protected? The answer is clearly no. And the MESB report acknowledges this," said Mary Beth Doyle of the Ecology Center. "It is inexplicable that the board failed to take the obvious next step and support additional protection of children."

U.S. children are suffering increased rates of asthma, certain cancers, and other health effects which may be associated with pollution, and studies have linked exposure to some pollutants with neurological and behavioral problems.

The two pediatricians on the panel, Dr. William Weil and Dr. Ruth Etzel, supported a minority report which disagrees with the MESB conclusions. The safety factor they recommend would reduce the amount of pollution to which children are exposed by ten-fold. It would help account for the lack of data on thousands of chemicals currently in use which have never been tested to determine their developmental toxicity.

The Ecology Center and MEC urged the Legislature to move immediately to protect children by:

• Changing state pollution laws to require the "safety factor" recommended by the two pediatricians on the MESB report.

• Barring the siting of new facilities that emit hazardous pollutants within a half-mile of places where children spend considerable time, including residential areas, schools, and day care centers.

• Requiring industries to phase out the use of persistent toxic chemicals and other hazardous pollutants known or suspected of causing health effects in children.

Origin of the MESB Report

MESB took up the question of protecting children from pollution after the Michigan Environmental Council won legislative approval of a 1998 amendment sponsored by State Senator Alma Wheeler Smith to the Department of Environmental Quality budget. The amendment required the agency to consider whether its pollution standards adequately protect children's health. DEQ then asked Engler to refer the question to the MESB. The report, which the Legislature requested by October 1, 1999 to help shape state policies, was released more than four months after the legal deadline.

Wheeler Smith's amendment grew out of increasing recognition on the part of the U.S. EPA, scientists, and many children's health experts that current exposures to chemical pollutants may be having harmful effects on America's children. Some states are aggressively investigating and taking precautionary measures to protect kids from both toxic chemicals and conventional pollutants such as ozone while the MESB has recommended the state do little more than await further action by the federal government.

EPA has established a children's environmental health protection office to spearhead the agency's efforts to protect children from pollution. Illinois has launched an initiative to identify and reduce the presence of chemicals that have been linked to children's health effects. Indiana has created an Initiative to Protect Children from Environmental Threats and posted helpful information on its Internet site to increase the awareness of parents of pollution risks.

MESB Report a Predictable Dodge

Appointed by Governor Engler, the Michigan Environmental Science Board has more often than not produced results that support his Administration's policies which elevate economic interests over environmental and public health protection. The panel created by MESB to consider the question of children's health includes a representative of General Motors Corporation who has opposed standards authored by U.S. EPA to protect children and the elderly from ozone and

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Pollution and Children's Health

continued from preceding page

particulate pollution, and a member of the Michigan State University faculty who has been consistently skeptical of health risks associated with environmental pollution.

Significantly, however, the only pediatricians on the panel, Dr. William B. Weil and Dr. Ruth Etzel, supported a minority report calling for state action in the current absence of comprehensive data about the effect of pollution on children's health. "Under such circumstances, it is reasonable to conclude that the only prudent approach for protecting these especially vulnerable groups would require inclusion of such an added factor in the regulations at this time," Weil wrote.

Weil, who has had over 50 years of experience in the medical treatment of children, disagrees with the recommendations sent to Engler. The nationally-respected Weil was a member of a National Academy of Sciences panel which, in 1993, recommended the extra "safety factor" to protect children from pesticide exposures. Congress incorporated this recommendation in the 1996 Food Quality Protection Act.

Why Children Need Special Protection from Pollution

Children are bathed in chemicals even before they are born. The more than 70,000 synthetic chemicals and heavy metals now in use in United States commerce expose all citizens to unknown cumulative risks. Some of these materials cross the placental barrier and are passed along to the developing fetus.

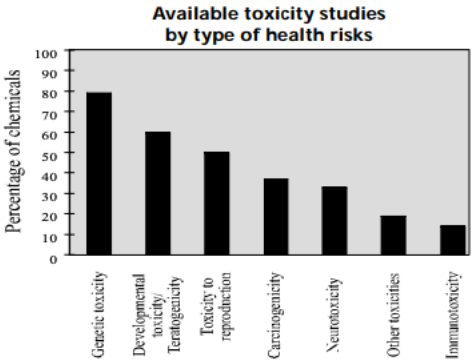
Children's health and developmental experts offer several reasons why such protection is critical:

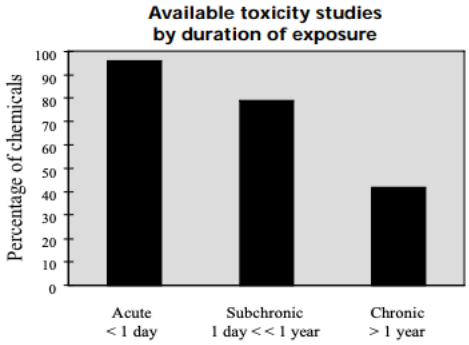
• Children, beginning at the fetal stage and through adolescence, are in a dynamic stage of growth, with cells multiplying and organ systems developing at a rapid rate. Nervous, respiratory, reproductive and immune systems are not fully developed at birth. There are critical periods in the development of these organ systems when brief exposures may produce life-long damage.

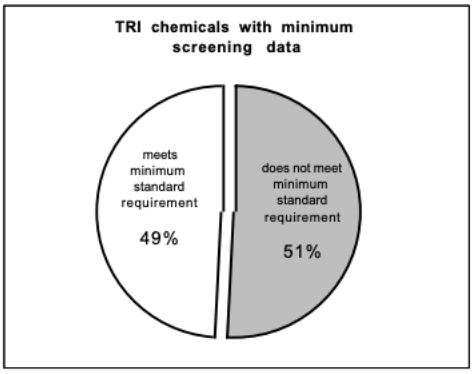
• Children breathe more rapidly, take in more air, have higher metabolic rates, and have higher proportionate food and liquid intakes than adults, resulting in higher relative exposure to pollutants in air, food and beverages. An average infant consuming six ounces of formula or breast milk per kilogram of body weight daily is equivalent to an adult male drinking 35 cans of soda a day. Infants and children also eat a smaller variety of foods than adults, and therefore, they consume these foods at rates that are many times those of an adult.

• Absorption rates are different for children. Lead is absorbed in place of calcium when present in the gastrointestinal tract. An adult will absorb 10% of ingested lead, while a toddler will absorb 50%.

• Children's exposures to pollutants are different because their environment is different than that of adults. In the womb, lead, PCBs, methylmercury, and ethanol can cross the placental barrier and cause permanent damage. Other chemicals are







increasingly suspected of harming the fetus. These so-called "endocrine disruptors" have been shown to disrupt reproductive and hormone systems in wildlife.

• Children's behavior exposes them to chemicals in ways different from adults. Normal child development includes a great deal of hand-to-mouth behavior. Lead dust, lead paint chips, and pesticides may reach children through such behavior. Children spend more time outdoors than most adults and are thus more highly exposed to particulates, ozone, and other airborne pollutants.

Effects of Pollution on Children's Health

The incidence of certain childhood diseases linked to pollution has increased. Childhood asthma has increased by over 40% since 1980, affecting more than 4.2 million children. Asthma has been associated with elevated levels of ozone air pollution, among other factors. A 1997 study demonstrated a relationship between particulate air pollution and infant mortality.

Incidence of two types of childhood cancers has risen significantly over the past 15 years. Acute lymphocyctic leukemia is up 10% and brain tumors are up more than 30%. There are widely reported increases in learning disabilities and attention deficit disorders among children. Exposure to environmental pollutants is one suspected source of these health effects.

Why the MESB Report Fails to Protect Children

The traditional regulatory approach to pollution fails to consider the unique sensitivity and vulnerability of children. State and federal standards usually: are based on healthy adult males; don't consider children's differing behavior or exposures; don't consider the vulnerability of developing systems; assume exposure to one chemical at a time; and, balance health with other considerations, including cost to industry.

Reacting to these shortcomings, a National Academy of Sciences panel recommended, and Congress enacted in 1996, an amendment to the Food Quality Protection Act that provides an extra "safety factor" to govern standard-setting for these chemicals. In the absence of conclusive test data to the contrary, U.S. EPA must assign the safety factor as a precaution to prevent unnecessary exposures to children.

The MESB report acknowledges that the Michigan DEQ takes into account the effects of pollutants on developing fetuses and children "when such data are available." MESB rejects the extra safety factor relying on the assertion that "uncertainty factors already used in risk assessment have incorporated concerns of sensitive populations." This is disingenuous. Uncertainty factors used by DEQ are not designed to protect children, but rather to allow for the difference in pollutant effects on animal species compared to humans and to the variations in the adult population. The MESB analysis in effect ducks the issue by relying on inadequate current risk assessment methods.

Michigan's health standards are largely based upon those set by the EPA. However, there is growing concern that these standards set by the EPA may not be based upon adequate data. As reported in the 1998 recommendations in a report from EPA's Children's Health Protection Advisory committee, the Chemical Hazard Data Availability Study found that "publicly available data on all six basic screening tests necessary for a minimum understanding of a chemical's toxicity are missing for 43% of the chemicals used in high volumes in the U.S." And, with the exception of pharmaceuticals, less than 10% of the 70,000 chemicals in common use have been tested for effects on the central nervous system.

When MESB does agree that DEQ's risk assessment methods are inadequate, it again ducks the implications. MESB notes that DEQ methods "are designed to examine one chemical at a time. Possible interactions between chemicals are not readily accounted for using these methods." That children are exposed to more than one toxic compound at a time is not in dispute. A 1996 USDA study found 67 different pesticides in only 12 fruits and vegetables, including 10 pesticides on a single sample of apples. One must also consider other pathways including inhalation, dermal exposure and exposure through drinking water.

Rather than supporting an assumption of chemical additivity, a safety factor or other precautionary step in governing children's protection, MESB says the uncertainty "warrants continued research efforts." It recommends no precautionary actions pending the results of the research.

MESB had an excellent opportunity to develop a health policy protecting children from increasingly troublesome exposures to environmental pollutants, and except for its dissenting members, has failed in the task. Its primary interest appears to be protection of current policies that put children at risk.

Dave Dempsey is the policy advisor of the Michigan Environmental Council. This article is excerpted from *No Time to Waste: Why Michigan Must Do More Now to Protect Children from Pollution*, which he wrote for MEC and the Ecology Center. For a copy of the full report, please contact Mary Beth Doyle at (734) 663-2400 x108 or marybeth@ecocenter.org.