ALASKA LEGISLATURE COMMITTEE FILES, 2003-2004 8672
11131 SENATE HEALTH, EDUCATION & SOCIAL SERVICES

Chlorpyrifos accounted for 7,000 of 116,225 (6%) of unintentional pesticide exposures to single products reported in 1996 to Poison Control Centers in the United States.

"Chlorpyrifos is part of a class of older, riskier pesticides, some going back 50 years. Exposure to these kinds of pesticides can cause neurological effects. Now that we have completed the most extensive evaluation ever conducted on the potential health hazards from a pesticide, it is clear that the time has come to take action to protect our children from exposure to this chemical." (EPA Administrator Carol Browner).

EPA Regulations designate as "false or misleading" claims "as to the safety of the pesticide or its ingredients, including statements such as 'safe,' 'nonpoisonous,' 'noninjurious,' 'harmless' or 'nontoxic to humans and pets' with or without such a qualifying phrase as 'when used as directed.'"

Dow AgroSciences claimed:

"... no significant adverse health effects will likely result from exposures to Dursban, even at levels substantially above those expected to occur when applied at label rates."

"Are chlorpyrifos (Dursban) products safe for use around children?
Used as directed, chlorpyrifos products provide wide margins of safety for both adults and children."

"...three decades of use have shown that unless seriously misused, products containing chlorpyrifos have wide margins of safety that protect users and consumers, including infants and children "

"there is simply no credible scientific evidence that Dursban products harm people or the environment when used properly."

DowAgroSciences' advertising claims about its herbicide products are contradicted by the product labels, other Dow documents (such as Material Data Safety Sheets), and government findings.

According to the product labels and Material Safety Data Sheets for
Dow's herbicides:

Product label for Garlon 3A states that it "causes irreversible eye damage" and is "harmful if swallowed or absorbed through skin."

Product label for Dow's Conserve SC warns that the product is "highly toxic to bees ... [and] ... molluscs."

Product label for Snapshot 2.5 TG states that this pesticide is "extremely toxic to freshwater marine, and estuarine fish and aquatic invertebrates including shrimp and oyster."

Dow's safety data sheet for Surflan A.S. herbicide warns that the product "may cause skin irritation," and, "in animals, has been shown to cause liver, kidney, bladder, spleen and blood effects. Human signs and symptoms may include central nervous system depression (headache, dizziness, drowsiness and incoordination)."

According to the U.S. Environmental Protection Agency (EPA):

"[B]y their very nature, most pesticides create some risk of harm to humans, animals, the environment because they are designed to kill or otherwise adversely affect living organisms."

Surflan A.S. and Team Pro Technical contain active ingredients that are classified as possible carcinogens by EPA

EPA Regulations designates as false or misleading "[n]on-numerical and/or comparative statements on the safety of the [pesticide] product . . . ."

DowAgroSciences claimed:

"No risk to the consumer from the use of pesticides when they are used as directed."

"Herbicides are tested thoroughly for their ... safety to wildlife, humans, and the environment."

"[S]afe at high rates" (referring to Conserve SC)...."

"There's safety and savings in Snapshot herbicide."

"They [pesticides] are essentially 'environmental medicines'..."

"Its easy on beneficial insects and is not harmful to the environment or ornamentals." (Referring to Conserve SC and Spinosad).

". . . offering an environmentally sound approach . . ." (referring to Spinosad as the active ingredient in Conserve insecticide).

". . . if ingested, Garlon 3A has low toxicity when compared to many substances we come in contact with daily. For instance, table salt is about as toxic as Garlon 3A; and caffeine is 15 times more toxic than Garlon 3A."

#1 IN A SERIES

Johnny can't read, sit still, or stop hitting the neighbor's kid. Why?

Toxic chemicals can cause learning disabilities.

We are physicians and scientists. We are deeply troubled that an estimated twelve million American kids suffer from developmental, learning, or behavioral disabilities. Attention deficit disorder affects three to six percent of our schoolchildren.

These disabilities are caused by a complex interplay of genetic, environmental, and social factors. Evidence reviewed by the National Academy of Sciences indicates that toxic chemicals contribute to these problems. Environmental factors take on great importance because they can be prevented.

What We Know

Studies show that lead, mercury, industrial chemicals, and certain pesticides cross the placenta and enter the brain of the developing fetus where they can cause learning and behavioral disabilities. This is true in young animals – and in young children.

Exposures to organophosphate pesticides during pregnancy can result in abnormally low brain weight and developmental impairment in offspring. A Duke University study conducted on rodents found that hyper-activity and brain cell death can be caused by small exposures to the widely used organophosphate pesticide Dursban. That study led to the ban on the production and sale of Dursban. But similar-acting pesticides are still on the market.

A University of Arizona study found that children exposed to a combination of pesticides before birth and through breast milk exhibited less stamina, and poorer memory and coordination, than other kids.

Mercury released by coal-fired power plants contaminates waterways and accumulates in fish. Many thousands of the pregnant women in America who eat fish consume enough mercury to potentially harm their children's neurological development. Some states warn that children should not eat more than a can of tuna per week; based on EPA guidelines, a twenty-pound child may exceed a level considered safe for the most sensitive populations with just 1.3 ounces.

Though PCBs have been banned, residual PCBs still do much damage. Children whose mothers ate Great Lakes fish contaminated with PCBs showed lowered IQs and shortened attention spans. And these effects on intelligence and behavior have been shown to persist throughout childhood. A Dutch study confirmed that increased maternal levels of PCBs can impair cognition in infants. Young monkeys exposed to PCBs at low levels show learning disabilities and hyperactivity.

What We Can Do

There is much that parents can do to protect their children, beginning with the elimination of many pesticides both outside and in the home. And the choice of a wise diet. There are more suggestions on our website, www.childenvironment.org.

But we must do more. We have enough scientific evidence to phase out those chemicals known to harm children's behavior and development. If a medicine caused these problems in kids, we'd ban it.

We don't allow food or drugs to be sold before being shown to be safe. Yet there are thousands of chemicals on the market that affect human biology and have never been tested. Most importantly, we must demand that new chemicals be tested for safety before being allowed on the market. We do not have a system that does that now.

A summary of the supporting scientific evidence, and a list of scientific endorsers, can be found at www.childenvironment.org.

Center for Children's Health and the Environment

MOUNT SINAI SCHOOL OF MEDICINE

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#2 IN A SERIES

More kids are getting brain cancer.

Why?

Toxic chemicals appear linked to rising rates of some cancers.

As scientists and physicians, we've seen a drop in the death rates of many adult and childhood cancers because of earlier detection and better treatment. But we are also seeing a disturbing rise in the reported *incidence* of cancer among young children and adolescents, especially brain cancer, testicular cancer, and acute lymphocytic leukemia. In fact, after injuries and violence, cancer is the leading cause of death in our children.

The increase in childhood cancers may be explained in part by better detection or better access to medical care. But evidence suggests the rise in these childhood cancers, as well as in cancers like non-Hodgkin's lymphoma and multiple myeloma among adults, may also be partially explained by exposure to chemicals in the environment, chemicals found in many products, from paints and pesticides to dark-colored hair dyes.

What We Know

Pound for pound, kids are exposed to more toxic chemicals in food, air, and water than adults, because children breathe twice as much air, eat three to four times more food, and drink as much as two to seven times more water. Recent epidemiologic studies have shown that as children's exposures to home and garden pesticides increase, so does their risk of non-Hodgkin's lymphoma, brain cancer, and leukemia. Yet, right now, you can go to your hardware store and buy lawn pesticides, paint thinner and weed killers, all containing toxic chemicals linked to these diseases.

In both children and adults, the incidence rate for non-Hodgkin's lymphoma has increased thirty percent since 1950. The disease has been linked to industrial chemicals, chemicals found in agricultural, home, and garden pesticides, as well as dark hair dyes.

Studies have shown that Vietnam veterans and chemical workers exposed to Agent Orange, a phenoxy herbicide, are especially at risk for non-Hodgkin's lymphoma. American farmers who use phenoxy herbicides have an increased risk of the cancer. A Swedish study showed that among the general population, the risk of non-Hodgkin's lymphoma rises with increased exposure to these herbicides. And, a study in Southern California found that children of parents who use home pesticides have seven times the risk of non-Hodgkin's lymphoma. Multiple myeloma, a bone marrow cancer, is also associated with toxic chemicals. Its incidence has tripled since 1950. Farmers are especially at risk: a recent analysis of thirty-two studies worldwide showed "consistent, positive findings" of an association between farming and multiple myeloma.

What We Can Do

There is much that parents can do to protect their children from carcinogenic chemicals, beginning with the elimination of many pesticides both outside and in the home. And, of course, the cessation of smoking. There are more suggestions on our website, www.childenvironment.org.

But more needs to be done. As a society, we've done much to protect people, especially children, from the toxic chemicals in cigarettes. But too many toxic chemicals are being marketed without adequate testing. We should demand that new chemicals undergo the same rigorous testing as medicines before being allowed on the market. And we should phase out those chemicals linked with a wide range of health problems from neurological impairment to cancer in children.

A summary of the supporting scientific evidence, and a list of scientific endorsers, can be found at www.childenvironment.org.

MSSM

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#3 IN A SERIES

Our most precious natural resource is being threatened. Why?

Toxic chemicals are being passed on to infants in breast milk.

We've never created a product with the effectiveness of breast milk. Breast milk is a unique source of nourishment and protection against disease. But the chemical industry has created a myriad of toxic synthetic chemicals that ultimately collect in breast milk and are passed to infants. Some of these chemicals can pose risks to the health and neurological development of our children.

As pediatricians and scientists, we are convinced that breast milk is still the best choice for mother and child. However, we see disturbing evidence that in the future, breast milk may not be as effective as it once was in guarding children against disease. Unless classes of chemicals that accumulate in breast milk are phased out, we believe the health risks to our children could increase.

What We Know

From DDTs first appearance in the 1950s to PCBs in the 1960s to pesticides on sale today, persistent organic chemicals find their way into the fatty tissue of women's breasts. And they stay there for years until passed to infants during breast-feeding.

Today's breast milk still contains toxic remnants of DDT, passed from grandmother to mother to child. Though DDT has been banned, today's persistent organic pollutants accumulate in a similar way. A breast-fed infant can absorb in one year thirty to ninety percent of the maximum recommended lifetime dose of dioxin, a chemical known to be both hormonally-active and carcinogenic. Other toxic chemicals – heptachlor, chlordane, mirex, dieldrin, aldrin, benzene, and chloroform – are also finding their way into breast milk. So are perchloroethylene, the main chemical used to dry clean clothes, and polybrominated flame retardants. We know that during gestation and in the early months after birth, an infant's brain is particularly susceptible to harm from toxic chemicals. We don't know what the minimum safe levels of exposure are. It may be that no exposure is safe.

Although there is only limited research on how chemicals in breast milk affect children, the available facts are disturbing. A North Carolina study of 800 nursing mothers showed that as PCB levels in breast milk increase, children have poorer motor coordination. Even more disturbing, several studies in the Netherlands show that as levels of PCBs in breast milk increased, infants had more immune impairment, evidence that toxic pollutants in breast milk can negate the milk's immunologic benefits.

There is some good news as well: a Swedish study showed that as government efforts severely limited maternal exposure to PCBs and other toxic chemicals, the levels of these chemicals in breast milk decreased.

What We Can Do

Pregnant women and those who are nursing should limit their exposure to pesticides, lead, and mercury. Fish species known to be contaminated by mercury and PCBs should be avoided. Dry cleaning should be aired out before it is brought into the house. Nursing mothers should choose a wise diet. There are more suggestions on our website.

But more needs to be done. We must phase out chemicals that pose a risk to our health, especially to our children's health, beginning with the toxic chemicals which have been detected in breast milk. We should demand that new chemicals undergo the same rigorous testing as medicines before allowed on the market. There can be no more important public health mission than ensuring the safety of mother's milk.

A summary of the supporting scientific evidence, and a list of scientific endorsers can be found at www.childenvironment.org.

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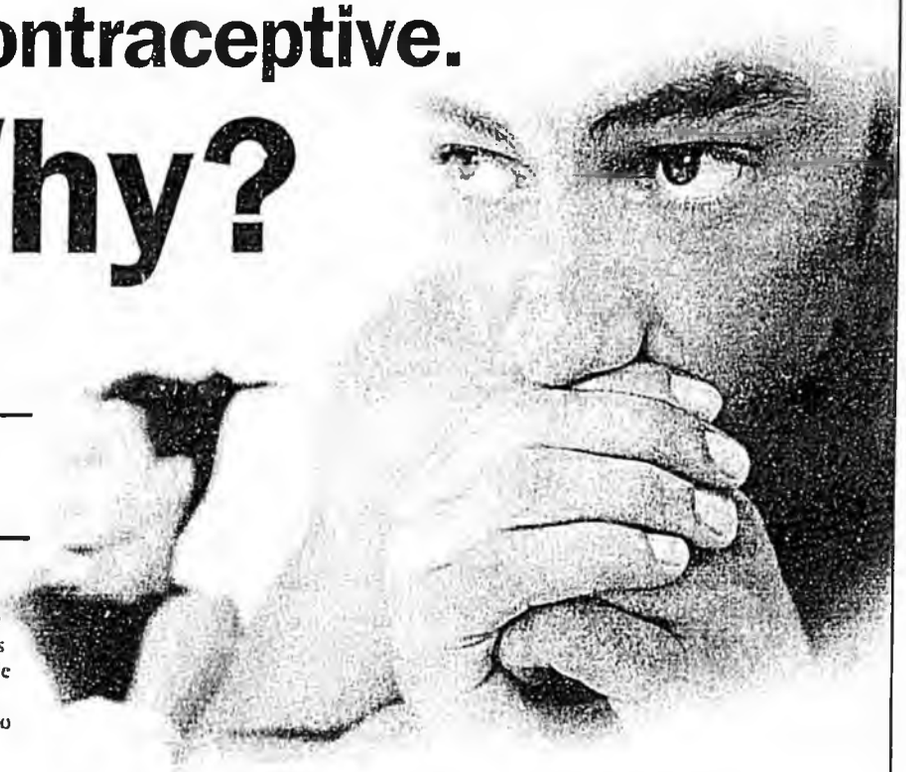
#4 IN A SERIES

Pesticides could become the ultimate male contraceptive.

Why?



Sperm defects, sex reversals and other abnormalities.

Something is happening to the reproductive system of the males of many species. It's happening to male birds of prey around the Great Lakes and male alligators in Florida. To male harbor seals in the Netherlands and male polar bears in the Arctic. And to boys and men throughout the industrialized world.

Scientists have amassed a great deal of evidence linking reproductive system abnormalities, reduced sperm motility, sperm defects, sex reversals and altered sex ratios with exposure to an array of synthetic chemicals known as endocrine disruptors. These include pesticides and certain industrial chemicals like dioxin, PCBs, and phthalates, as well as arsenic, lead, and mercury. Some of these chemicals "mimic" estrogen; others interfere with testosterone and some block the thyroid function.

As physicians and scientists, we are concerned that despite the growing scientific evidence, these chemicals are still on the market.

What We Know

Medical studies have indicated that the sperm counts of males in America and Europe have decreased over the last fifty years. Despite gaps in the data, sperm counts have clearly declined in many places and are inexplicably low in others. The most sophisticated analysis, published in *Environmental Health Perspectives*, the journal of the National Institute of Environmental Health Sciences, indicates the decline may be as great as forty percent.

We know that some chemical workers exposed to endocrine-disrupting pesticides have been made temporarily, and in some cases, permanently sterile.

Dioxin, produced in the incineration of trash containing polyvinyl chloride plastic and chlorine-treated paper, has been shown to be responsible for birth defects and other reproductive problems in birds of prey around the Great Lakes. Dioxin is extremely toxic, and exposure as low as 25 parts per trillion causes feminizing effects in animals. A dioxin accident in Seveso, Italy, was followed by a decrease in the number of boys being born. The ratio of boys to girls is also decreasing in the U.S., Canada, and Denmark. A Danish study found a link between endocrine disruptors and the increasing incidence of undescended testicles in boys.

Endocrine disruptors affect women as well. Several animal studies link small exposures to dioxin with endometriosis.

What We Can Do

Parents should limit their children's exposure to pesticides, both outside and in the home. Organically produced foods should be purchased whenever possible. And care should be taken to see that no fish from contaminated waters are consumed. There are more suggestions on our website, www.childenvironment.org.

But we must do more. Though not the sole cause, it's clear that exposures to endocrine disruptors can be contributors to reproductive problems in both animals and humans. Some synthetic chemicals already shown to adversely affect animals and humans are still being sold today. And other chemicals in the same chemical families have not been tested. Wouldn't we all be better off if chemicals had to be tested for safety before they were put on the market? Certainly males would be better off.

A summary of the supporting scientific evidence, and a list of scientific endorsers, can be found at www.childenvironment.org.

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#5 IN A SERIES

Medicines are the only chemicals that have to be proven safe.

Why?

A double standard threatens our health.

Before a chemical can be marketed as a drug, it must go through extensive testing, on animals and humans. It must pass a series of safety tests before it can be sold. There's a well-established FDA process in place if a drug manufacturer wants to sell a hormonal medication like a birth control pill, or post-menopausal hormone replacement therapy.

But if a company wants to sell an industrial chemical that may bind to the same cells as these hormonal medications and acts identically or very similarly – there is no regulatory agency or governmental oversight to ensure the product is safe. Unlike chemicals sold as medicine, industrial and commercial chemicals are presumed safe until proven hazardous.

What We Know

Hundreds of synthetic chemicals that affect human biology, including known carcinogens, chemicals that cause birth defects, and chemicals that can disrupt the endocrine system are being sold and widely dispersed today. These toxics can be found in everything from pesticides, paints and paint thinners, to industrial detergents and hair dyes. You know them as PCBs and phthalates and dioxin. Many accumulate over time. These chemicals now permeate our water, soil and food. You can find them in the tissue of humans in every area of the world. And you will likely find them in your body and in your children's bodies.

Some endocrine disrupting chemicals mimic the female sex hormone estrogen; others block testosterone; some interfere with the thyroid function. In the animal world, scientists have linked exposure to these chemicals with reproductive abnormalities including feminization of males, hermaphroditism, birth defects, and high infant death rates.

Toxic chemicals are threatening the future effectiveness of human breast milk. Breast milk now contains small but biologically active amounts of scores of industrial chemicals. Some of these chemicals are known to cause neurological impairment in the very young.

Some exposure to certain chemicals is now associated with an increase in the incidence of some cancers among children and of non-Hodgkin's lymphoma and multiple myeloma in adults.

What We Can Do

There is much that parents can do to protect their children against endocrine distrupting chemicals, beginning with the elimination of many pesticides both outside and in the home. Organic foods should be purchased wherever possible. There are more suggestions on our website.

But more needs to be done. Like medicines, industrial chemicals that affect human biology must be tested and regulated. We have good experience when we do regulate chemicals. Removing lead from gasoline resulted in a 90% reduction in lead poisoning. But most of the chemicals being sold today have never been fully tested for safety. We need to phase out those that are unsafe. And we must move to a regulatory system that fully tests all chemicals, no matter how they are to be used, before they are sold.

A summary of the supporting scientific evidence, and a list of scientific endorsers, can be found at www.childenvironment.org.

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Chemicals combine in our bodies, but are rarely tested that way.

Why?

Multiple exposures pose unknown risks.

A good pharmacist will alert you that a newly-prescribed medicine may adversely interact with some other medicine you're already taking. That is, two medications that are individually benign can cause problems in combination. Careful studies have been undertaken to identify those drug interactions.

But when it comes to toxic chemicals in everyday products, there is surprisingly little information available about how they behave in combination. How, for example, are our bodies affected when the chemicals in paint thinners interact with those in dark hair dyes, or when we are exposed to one pesticide on a fruit, and another from our neighbor's lawn?

What We Know

Here is an analogy: Compared with non-smokers, cigarette smokers have ten times the risk of contracting lung cancer. We also know that workers exposed to asbestos have five times the lung cancer risk compared with those never exposed. You might think, therefore, that smokers exposed to asbestos would have 15 times the risk of getting lung cancer. In fact, they face 55 times the risk. A powerful interaction.

We know that the tissue of nearly every human on earth contains detectable levels of a range of chemicals called persistent organic pollutants or POPs. We find POPs in pesticides, industrial chemicals, indeed in a broad range of products introduced over the past sixty years. We know that occupational exposure to PCBs, dioxin, and other POPs has been linked to several cancers and to a broad range of reproductive problems, including birth defects in offspring. Clinical and epidemiological studies suggest that non-occupational exposures to POPs at much lower levels may also cause significant harm, especially to developing fetal organs. And the little we know of exposure to a multiplicity of these chemicals should cause concern.

Dutch scientists have documented that when PCBs, at a non-toxic level, are mixed with dioxin, at a level that produced only minor liver damage, the combination produced 400 times the damage of the dioxin alone.

A study at Tufts University tested the effects of 10 pesticides which mimicked estrogen in the body. At low levels, none of the pesticides alone had an effect on human tissue. But in various combinations, there was a strong estrogen-mimicking effect ... even at low levels.

In a study at the University of Wisconsin, mice showed no effect when exposed to atrazine or aldicarb, two pesticides commonly found in drinking water in the Midwest. When mice were exposed to both chemicals, as humans often are, the combination produced immune system ..npairment.

What We Can Do

Parents should limit their children's exposure to pesticides, both in and outside the home. Organically produced foods should be purchased whenever possible. The use of paints, solvents, and cleaning products containing toxic and volatile chemicals should be limited. There are more suggestions on our website.

But we must do more. Of the thousands of synthetic chemicals on the market, relatively few have been tested for safety. And even fewer have been tested in combination with other chemicals. For our health, for our children's health, such testing should be in place for all chemicals.

A summary of the supporting scientific evidence, and a list of scientific endorsers, can be found at www.childenvironment.org.

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She's the test subject for thousands of toxic chemicals. Why?

Industry falsely discredits current animal testing.

In previous ads in this series, we physicians and scientists have presented a body of scientific evidence linking toxic chemicals to a wide range of health problems in humans, from learning disabilities and brain injury in children to certain cancers in both children and adults.

We have emphasized that these health problems are preventable. We have stressed that thorough pre-market testing of chemicals is a critical component of disease prevention.

There is a well-established and respected FDA approval process that a company must follow before it can market a chemical as a medicine. That process includes testing at various doses on animals. Only if the medicine is shown to be safe for animals is it approved for tests on humans.

America's pharmaceutical industry acknowledges, indeed embraces, these animal testing regimes for medicines. At the same time, however, certain segments of the chemical industry are making false claims about similar pre-market testing for chemicals other than medications.

They claim that testing has little value "because at a high enough dose all chemicals cause cancer." That's not true. The National Cancer Institute and the National Toxicology Program find that only 5-10% of commercial chemicals cause cancer at any dose. The industry also claims that animal testing bears little connection to human risk. That's not true either – the Human Genome Project has shown that laboratory animals and humans have very great genetic similarity and share very similar endocrine, immune and nervous systems.

The industry claims that testing has little value unless it involves tens of thousands of animals at low dose levels. Not true – the National Toxicology Program has developed sophisticated technologies for testing chemicals at a range of doses in small numbers of animals and then predicting human risk.

Inaccurate and false as all these claims are, they have found a certain audience in government and the press. These claims have paralyzed the regulatory process. They are preventing whole classes of chemicals from being properly tested. And that puts everybody's health at risk, especially the health of our children.

What We Know

– Every known human carcinogen causes cancer in animals.

– Every chemical known to cause brain damage in humans causes damage to the brain and nervous system in animals.

– Every chemical known to interfere with reproductive function in humans interferes with reproduction in animals.

– Almost every known cause of birth defects in humans also causes birth defects in animals.

– And, with few exceptions, when toxic chemicals harm animals, they almost always cause similar harm in humans.

What We Can Do

Parents should limit their children's exposure to synthetic chemicals. They should minimize use of pesticides outside and inside the house. They should choose safe cleaning products. Wherever possible, they should purchase organically produced food. Fish from contaminated waters should be avoided. There are more suggestions at www.childenvironment.org

We must do more. The evidence is incontrovertible. We must move quickly to phase out those toxic chemicals that are known to pose a danger to human health. And we must institute a system of regulation that tests new synthetic chemicals and proves them safe before they are allowed to be sold, before our children are exposed. Isn't that the system you thought we already had?

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ACAT
Alaska Community Action on Toxics

CHEMICAL TRESPASS:

Off-Target Drift from Aerial Application of Pesticides Threatens Water Quality and Health in Alaska

The Alaska Department of Environmental Conservation is proposing regulations that would allow the aerial application of pesticides for forestry purposes. Timber corporations prefer aerial applications by helicopter because they can quickly spray pesticides over large areas. However, aerial applications of pesticides are notoriously inaccurate because they allow substantial quantities of the chemicals to contaminate surrounding areas outside the intended target. Pesticide drift can contaminate surrounding lands and waters, including: drinking water sources, salmon streams, organic farms, homes and property, berry-picking areas, traditional areas for gathering of greens and medicinal plants, parks, and schools.

What is Drift?

Drift is defined by the Environmental Protection Agency (EPA) as the physical movement of a pesticide through air to any site other than that intended for application (often referred to as off-target). Pesticide droplets, particles, and gas-phase chemicals are carried away from the intended application area by wind. Drift inevitably occurs whenever pesticides are applied, but especially during and after aerial applications. The Office of Technology Assessment estimates that about 40% of an aerial pesticide application leaves the "target area" and that 1% actually reaches the target pest.[i] The National Research Council characterizes the amount of drift as "considerable" and notes that the amount of drift varies from about 5% (under optimal low-wind conditions) to 60% (under more typical conditions).[ii]

How Far Can Pesticides Drift?

Pesticide drift after aerial application typically ranges from 100 meters (330 feet) to 1600 meters (5250 feet). However, in virtually every study available and reviewed in the Journal of Pesticide Reform (16 articles), pesticides were detected as far away from the area of application as samples were taken.[iii] A 1994 report from the EPA Ecological Effects Branch states that during an aerial application, "a predictable percentage of spray will transport potentially as far as 2 or more miles from the treatment site."[iv] In a study of pesticide drift in central Washington, the herbicide 2,4-D drifted up to 50 miles from the application site in hilly terrain under windy conditions.[v]

Pesticide Drift Causes Harm

Pesticide drift can poison people and cause serious economic damage. In June of 1993, 55 workers at the Cameron Nursery became ill when they were exposed to drift following the aerial application of the pesticides methamidophos, azinphos-methyl, and mancozeb.[vi] After an aerial application of the herbicide 2,4-D in Newport, Oregon, a woman who was walking on her property became ill for the next two years, suffering from chronic fatigue, ovarian cysts, and endometriosis.[vii] In California where pesticide illness reporting is more complete than in other states, over 350 illnesses and injuries were reported as a result of drift in 1991.[viii] Off-target transport of the herbicide sulfometuron methyl (Oust) caused several million dollars worth of crop damage on over 100,000 acres from an aerial application.[ix] In the first well-documented large-scale Oust drift incident, wind transport caused over one million dollars of damage following a roadside application to over 700 miles of roadside in Franklin County, Washington. Over 300,000 young trees were damaged in one nursery.[x] Research has demonstrated that drift from sulfonylurea herbicides may "severely reduce both crop yields and fruit development on

native plants, an important component of the habitat and food web for wildlife." Dramatic reductions in fruit production occurred at levels where there were no visible signs of damage to the vegetative parts of the plants.[xi] Imazapyr, an herbicide proposed for use by Klukwan on Long Island, is an imadazolinone herbicide with a similar mode of action as the sulfonylurea herbicides.

Proposed Buffers Won't Protect Our Waters and Lands

The Alaska Department of Environmental Conservation (ADEC) is proposing to allow aerial application of pesticides. They propose minimal buffer zones of only 200 feet around drinking water sources and a no-application zone of only 35 feet around fish streams and other water bodies. ADEC does not restrict aerial applications in windy or hilly conditions that would exacerbate the problem of pesticide contamination from drift.

Pesticide drift is inevitable, so what is the solution? No pesticide can drift if it is not used. The only way to prevent pesticide contamination is to require sustainable non-toxic, non-chemical management practices, such as mechanical removal of unwanted vegetation.

Comment on the proposed regulations—Comment Period Closes May 1

The State of Alaska should require non-chemical measures and prohibit the aerial application of pesticides. They should prohibit the use of pesticides in areas of traditional fishing, hunting, and gathering of greens, berries, medicinal plants, and basketry materials. If they allow pesticide applications, buffer zones must be much larger—at least 1 mile around drinking water sources and 100 yards around fish streams.

Submit comments to: Kimberly Stryker, ADEC, 555 Cordova Street, Anchorage, Alaska 99501. Fax (907) 269-7510 or by email at Kimberly_Stryker@dec.state.ak.us. You can review the proposed regulations at www.state.ak.us/dec.

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National Conference of State Legislatures
ENVIRONMENTAL HEALTH SERIES

July 1999
No. 1

Pesticides and Human Health

by Glen Andersen, M.S.
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Pesticides play a vital role in ensuring the quality of the United States food supply—but the potential for pesticides to cause human and environmental harm has required the creation of numerous regulations. Pesticide use affects a large number of people the United States: the Environmental Protection Agency (EPA) estimates that approximately 100,000 pesticide poisonings occur annually. Pesticides have been detected in a large number of the nation's water bodies, including those that provide drinking water[1]. Congress, through the Food Quality Protection Act, has required the EPA to review and revise all pesticide residue limits to ensure that they adequately protect children. This review, which will impact the use of the most harmful pesticides, is an effort to ensure that regulations keep pace with the complex and changing science that determines pesticide safety. State laws that regulate pesticide use will need modification to account for federal rules and scientific advancement.

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Overview

The importance of pesticides in world agriculture should not be understated, as their introduction in the 1940s began a trend marked by crop yields that continually increased in size and quality. This "Green Revolution," which relied heavily on chemical pesticides and fertilizers, led to healthier populations by providing an increasingly varied food supply, controlling food borne disease, and reducing malnutrition. Agricultural dependence on pesticides has steadily increased since their introduction—each year more than 2 million metric tons of pesticide products are used to control pests and diseases.

Although the use of pesticides to produce healthier and more abundant crops has been beneficial for human health, some aspects of pesticide use still trouble scientists, lawmakers and the public. Problems with pesticides were not widely known until the publication of the book *Silent Spring* by researcher Rachel Carson in 1962. Her book presented a detailed study of ecosystem damage

caused by the indiscriminate use of pesticides. Later work by other researchers supported Carson's book, and suggested negative effects for humans as well. Due to mounting evidence against hazardous pesticides, the federal government banned DDT and chlordane.

Sources of Exposure

Food

The U.S. Environmental Protection Agency defines a pesticide as "any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest. Pests can be insects, mice and other animals, weeds, fungi, or microorganisms like bacteria and viruses."

Many modern pesticides are designed to break down into non-toxic substances with the passage of time. Pesticides are most potent just after application, but should break down to relatively safe levels by the time treated food reaches the table. If the pesticide has not had the required amount of time to break down, is applied too liberally, or a more persistent pesticide is used, some pesticide residue may still be in food at the time of consumption.

The U.S. Food and Drug Administration's Pesticide Program found that 60 percent of the fruits and 37 percent of the vegetables that were sampled in 1995 contained detectable pesticide residues. Approximately 2 percent of these fruit and vegetable samples contained residue amounts that exceeded maximum residue limits set by the EPA. The EPA sets the maximum residue limit (MRL) to be the maximum level of residue legally permitted in or on a crop in commerce. This level is set to insure that there are no adverse effects to the consumer over a lifetime of dietary exposure.

Under the 1996 the Food Quality Protection Act, many of the current MRLs are likely to change, largely since the new act requires that levels be reduced by 90 percent if uncertainty about effects on children exists. The EPA must review all pesticides and their health effects using current methodology, taking into account exposure to pregnant women and developing children, while also including exposures from other sources. Using this new data, EPA must set residue limits accordingly by the year 2000.

Water

Pesticides enter water resources in a variety of ways, including:

- Runoff from field application;
- Direct entry from spray operations;
- Sewage dumping;
- Settling from the atmosphere;
- Leaching from waste dumps;
- Leaching from field application through soils into groundwater.

The amount each of these methods of entry contributes varies, depending upon the environment and nature of the source. However, runoff and leaching tend to be the main pesticide pathways to water.

Groundwater, which supplies drinking water to approximately 50 percent of the U.S. population, was until recently thought to be safe from chemical pollution. However, researchers are detecting a greater variety of pesticides in a growing number of groundwater resources across the United States. In 1988, the EPA documented the presence of 46 pesticides in groundwater from 26 states. A 1990 study found one or more pesticides in 10.4 percent of community water systems. Contamination of these important water resources may threaten human health, since the millions of Americans who rely on groundwater use it without pre-treatment. Residues that reach groundwater may linger for long periods of time, or eventually find their way to surface waters by emerging through springs and lake bottoms. In 1986, EPA testing found pesticide residues in half of the 2,000 wells they tested in Iowa. Groundwater contamination can have long-lasting effects, since the cold temperatures and a lack of organic substances impede the decomposition of pesticide compounds.

In 1998, the U.S. Geological Survey finished the largest pesticides and water study ever conducted. Within the study regions, they found that 95 percent of streams and 50 percent of wells near agricultural and urban areas contain one or more pesticides. Although most did not violate current safe drinking water standards, these standards are valid only for exposure to individual pesticides, not to the mixtures of different pesticides that are present in most contaminated sources. For most of the streams tested—half of which supply drinking water—pesticide levels exceeded EPA's guidelines for aquatic life.

Air

Workers can be exposed to pesticides through direct skin contact or inhalation during application. Such exposure also may occur when safety periods between application and harvest are ignored or when pesticides are overused or used improperly. Pesticides from aerial spraying may also drift into neighboring areas and expose residents.

In 1995, an international study conducted by the World Health Organization estimated that approximately 3 million cases of pesticide poisonings occur annually, including 220,000 pesticide-related deaths, mainly among those who use and apply pesticides.

The most common type of pesticide poisoning results from ingestion, inhalation, or skin absorbtion of relatively large amounts of pesticides. This type of acute poisoning is most common among agricultural workers. While much is known about the toxic effects of pesticides at these higher levels, uncertainty about long term low level exposures—similar to what one could experience through food and water consumption—remains.

Health Effects

The nature of a pesticide is to kill or otherwise adversely affect the target pest, be it fungus, insect, weed or rodent. Although efforts are made to design the pesticide in such a way that it

affects only the target organism, pesticides do cause harm to non-target organisms. Toxic effects range from acute (poisoning occurring through single or a few exposures) to chronic (occurring through long-term exposure). In humans, pesticides can affect the nervous, reproductive and endocrine systems, and may cause cancer. Laboratory studies conducted on animals also have linked chronic exposure of pesticides to birth defects, tumor development and cancers. The EPA's has classified approximately 165 chemical pesticides as known, probable or possible human carcinogens.

The U.S. Environmental Protection Agency estimates that approximately 100,000 pesticide poisonings occur annually.

New research suggests that some pesticides may disrupt the body's endocrine system—the set of glands, hormones and target cells that help control growth, development, reproduction and behavior. Endocrine disruptors interfere with this system, causing biological dysfunction. Some endocrine disruptors mimic hormones that occur naturally in the body, fooling the body into a response. Other endocrine-disrupting chemicals can inhibit or stimulate the body's production of hormones. Such disruption is known to cause birth defects in wildlife and laboratory test animals, and is suspected of causing cancer and birth defects in humans. Much is yet to be learned about the effects of pesticides on the human endocrine system, and research in this area is ongoing.

Children, in particular, are susceptible to pesticides for various reasons—they are still developing, have faster metabolisms and are involved in play activities that increase their exposure. A child's small size and quick metabolism means that he or she consumes more fresh produce, breathes more air, and drinks more water than adults relative to his or her body weight. They also play on the ground, swim in lakes and rivers and mouth toys and other objects, all of which lead to increased pesticide exposure. Additionally, a child's growing body is more sensitive to chemical exposures because development is taking place in the brain, nervous system and many other areas. Some studies have shown that children of parents who use pesticides occupationally or in the household are three to nine times more likely develop leukemia. (1, 2)

Determining the levels at which a pesticide causes harm is a complex, scientifically demanding task. Pioneering biomonitoring efforts by the Centers for Disease Control and Prevention have helped reduce the uncertainty involved in estimating human risk involved in pesticide and other chemical exposures. Biomonitoring involves the direct measurement of a toxic substance in blood or urine to assess exposure, and will help to determine which of the thousands of known chemical compounds cause birth defects, cancer and other diseases.

Approaches for Managing Pesticide Use

Reducing the human health threat of pesticides is possible through combined efforts in different areas, such as improved risk assessment and toxicity testing, better education and training for users of pesticides, and integration of farming practices that require fewer pesticides. Ways

to reduce the potential hazards of pesticide use could involve the following:

- Crop rotation helps mitigate weed, disease and pest problems, increases soil nitrogen, and reduces the need for fertilizers. Monoculture—the practice of repeatedly growing one type of crop, such as corn, in the same field year after year—is a common practice throughout the United States. This practice promotes pest problems and depletion of soil nutrients.
- Natural predators and parasites can be used to control pests. Pesticides often destroy predators while the pest gradually grows more tolerant to the pesticide, requiring that increasing amounts of the pesticide be applied.
- Soil and water conserving tillage reduces runoff and helps maintain soil quality.
- Integrated pest management is encouraged by the EPA and U.S. Department of Agriculture. This approach to pest control uses the tactics mentioned above—such as crop rotation, biological controls, resistant varieties of plants, pheromones to attract beneficial insects, efficiently timed spraying—and other methods. Integrated pest management can be more economical because it minimizes the use of costly chemicals.
- The majority of children's pesticide exposure comes from home, lawn, and garden application—reducing this exposure requires a more prudent and controlled use of pesticides in private and public areas. (3)

Pesticides and International Trade

In 1996, the United States exported 687 million pounds of pesticides, mostly to developing countries. Workers in developing nations such as Mexico often lack proper training and handle pesticides without masks or protective clothing. In the highly agricultural Culiacan Valley of Mexico, nearly 3,000 field workers are hospitalized for pesticide poisoning each year.

Ten million pounds of 1996 U.S. pesticide exports were pesticides that were banned or forbidden for use in the United States due to their hazardous nature. In addition, testing of produce imported into the United States has uncovered traces of banned pesticides. Chlordane and lindane, extremely hazardous pesticides that are banned for food use in the United States, have appeared in canola seed imports from Canada and carrot imports from Mexico. Adding to the safety uncertainties of imported produce is the decline in the testing of imported produce since the implementation of the North American Free Trade Agreement.

To address this growing problem, 95 countries have signed the Prior Informed Consent Convention. The convention contains provisions for the exchange of information among parties about potentially hazardous chemicals that may be exported and imported. This convention requires that 1) all chemicals designated for occupational use must be accompanied by an international safety data sheet; and 2) all chemicals that are banned or severely restricted domestically must have labeling that provides information with regard to risks and hazards to

human health and the environment. The convention has been signed by the president, but has yet to be ratified by the Senate.

Several attempts have been made to address the problem in the United States through "Circle of Poison" legislation. These bills, none of which have passed, were designed to stop companies from exporting banned and unregistered pesticides, as well as to introduce tougher testing standards to keep these pesticide residues from showing up in consumers' food.

Federal Policy

The United States has a complex set of chemical safety statutes and regulations that are administered by a number of federal agencies. The principal statutes are described briefly below.

Toxic Substances and Control Act (TSCA)—Regulates industrial chemicals, including heavy metals. Identifies and controls industrial chemical hazards that are toxic to human health and the environment. Administered by the U.S. Environmental Protection Agency.

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)—Also administered by the EPA, requires the agency to register all pesticides sold in the United States. FIFRA makes it a violation to use a pesticide in a manner inconsistent with its label, including the specified uses. FIFRA was revised and strengthened substantially by the Food Quality Protection Act in August 1996.

Federal Food, Drug and Cosmetic Act (FFDCA)—Regulates the establishment of pesticide tolerances (maximum residue levels). FFDCA was revised and strengthened substantially by the Food Quality Protection Act in August 1996. Administered by the EPA and the Food and Drug Administration.

Food Quality Protection Act (FQPA)—Amends both FIFRA and FFDCA to make a more consistent, protective regulatory system that is supported by sound science. It mandates a single, health-based standard for all pesticides in all foods and provides special protection for infants and small children.

Emergency Planning and Community Right-to-Know Act (EPCRA)—Requires local emergency planning for responses to industrial chemical or pesticide accidents; requires industries to notify their communities and states of releases; provides information from companies about possible industrial chemical or pesticide hazards in the facility's community; and mandates a national inventory of toxic chemical releases (Toxics Release Inventory [TRI]). Administered by the EPA.

Clean Air Act (CAA)—Establishes criteria and standards for regulating toxic air pollutants to safeguard public health and the environment. Administered by the EPA.

Clean Water Act (CWA)—Establishes criteria and standards for pollutants—including some

pesticides—in surface water bodies to protect against chronic ecosystem effects. Administered by the EPA.

Safe Drinking Water Act (SDWA)—Establishes enforceable maximum contaminant levels (MCLs) for pesticides and health advisories. Major revisions strengthening SDWA were enacted in August 1996. Administered by the EPA.

Resource Conservation and Recovery Act (RCRA)—Requires appropriate handling and disposal of hazardous waste. Administered by the EPA.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)—Covers incidents with hazardous materials and mandates the EPA Superfund program to clean up the highest priority sites contaminated by chemicals. The Agency for Toxic Substances and Disease Registry (ATSDR) evaluates data on the release of hazardous substances to assess effects on public health, initiates toxicological research, establishes and maintains registries for persons exposed to hazardous substances, and provides response to emergency release of substances.

Hazardous Materials Transportation Act (HMTA)—Ensures the safe and environmentally sound transportation of hazardous materials by all modes of transportation through a comprehensive, risk-based national program. Administered by the U.S. Department of Transportation (DOT).

Federal Hazardous Substances Act (FHSA) Consumer Product Safety Act (CPSA) and Poison Prevention Packaging Act (PPPA)—Regulates the safety of consumer products, including chemical safety. (Consumer Product Safety Commission)

Occupational Safety and Health Act (OSHA)—Regulates toxic chemicals related to occupational safety. Administered by the Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH).

Notes

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2. J.D. Buckley, L.L. Robison, R. Swotinsky, D.H. Garabrant, M. LeBeau, P. Manchester, M.E. Nesbit, L. Odom, J.M. Peters, W.G. Woods, and G.D. Hammond, "Occupational Exposures of Parents of Children with Acute Nonlymphocytic Leukemia: A Report from the Children's Cancer Study Group," *Cancer Research* 49, (1989): 4030-4037.

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National Conference of State Legislatures
ENVIRONMENTAL HEALTH SERIES

September 1999
No. 2

Children's Health and the Environment

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Children tend to be more vulnerable to substances in the environment because they breathe more air, drink more fluids and eat more food in proportion to their body weight than adults. Exposures that would not harm an adult can cause permanent damage to a child's developing body. The U.S. Environmental Protection Agency is presently revising pesticide residue limits insure sure they provide a margin of safety for children as well as adults. States may be required to update environmental standards to comply with federal regulations. Currently, most state and federal regulations are based on adults, only recently has legislation been introduced to take children's special vulnerabilities into account.

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Overview

Traces of man-made synthetic compounds can be found throughout the world, even in the plants and animals of our planet's most remote regions. With more than 70,000 chemicals in use in the United States and 2,000 new compounds being introduced every year, the average citizen is likely to be exposed to a large cocktail of chemical substances. These compounds are present in food, water and air, and little is known about many of their effects on children's health. A child's environment also contains particles and chemicals that result from incineration, smelting, transportation and other industrial processes.

Although state and federal regulatory agencies attempt to set standards that protect the public's health—including children, pregnant women, and the elderly—most standards are based on data collected from adult humans or adult animals. As differences between the adult and child response to environmental hazards become more apparent, government agencies are realizing that testing and standard setting should accommodate the sensitivities of developing children.

Why are children more susceptible?

Children's quick development and growth make them more vulnerable to environmental pollutants. The complex processes of cell division, development of the nervous system and hormonal activity can easily be disrupted by toxic exposure, particularly in the case of the fetus. The resulting abnormal growth and development can lead to permanent immunological disorders, brain disor ers, cancer and birth defects. The cause of most birth defects is unknown and may be due to unidentified environmental exposures. In addition, the immune systems of the very young, being less well developed than those of adults, make them less resistant to environmental risks. (1)

A child's faster metabolism and small size subjects them to higher exposures than adults. Also, because children breathe, eat and drink more than adults relative to their body mass, they will ingest more pollutants per pound of body weight. Children's diets, which often include proportionally larger amounts of fruits and vegetables, also contribute to increased pesticides exposure.

An additional risk factor involves activities that engage the typical child. Children tend to play on the ground, amplifying chemical exposure through the inhalation of ground-level contaminants and hand-to-mouth behavior. These behaviors dramatically increase exposure in the case of lead, and in all likelihood, pesticides.

Developing organs and other physiological differences often cause children to absorb a higher percentage of the toxics to which they are exposed. A child's liver and kidneys may not be as efficient as an adult's when it comes to removing toxic substances, while differences in skin and the gastrointestinal tract also can increase absorption. Due to physiological differences, children absorb nearly five times more of the lead they ingest than adults.

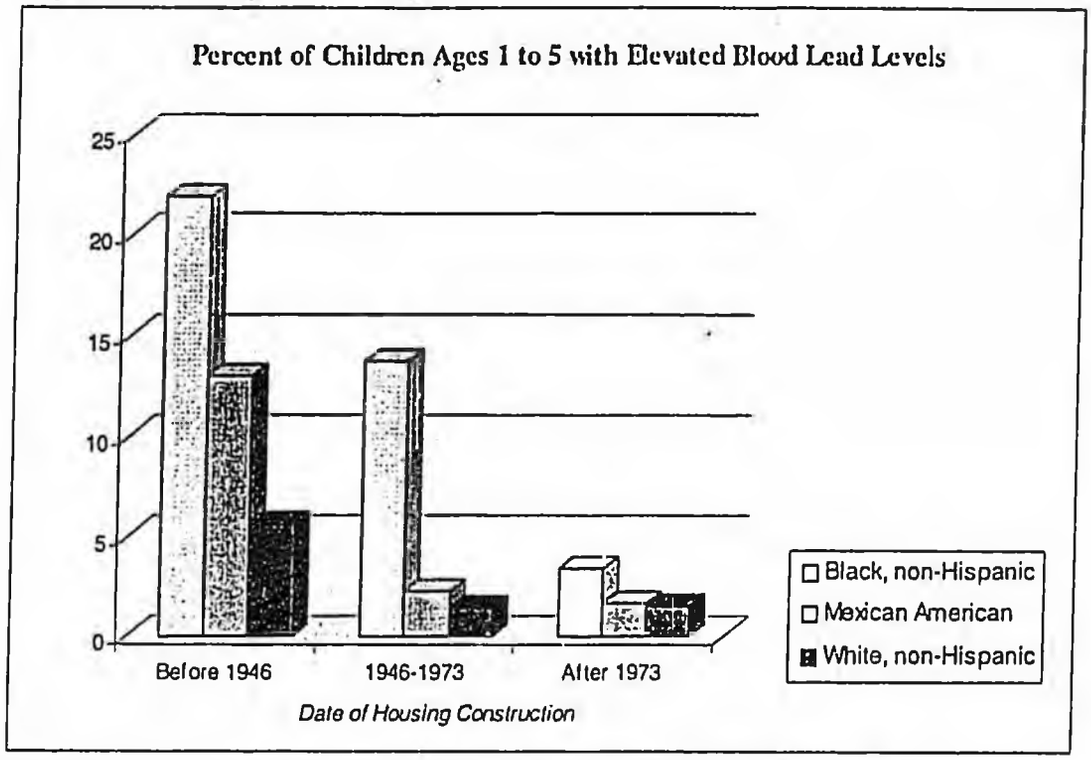
Which Children are Most Affected?

Children of poverty and of color are most likely to suffer from exposure to environmental hazards (see figure 1). Two of the most common hazards—poor indoor air quality and lead-based paint—are common in low-income neighborhoods and are associated with poorly maintained housing. Hazardous waste dumps and industrial sites are more likely to be in low-income neighborhoods than in middle- and upper-class neighborhoods. Additionally, lack of access to health care compounds the treatment of environmentally related health problems such as asthma and lead poisoning.

Toxic Elements

Lead Lead is a leading example of an environmental hazard that disproportionately affects children. Commonly caused by deteriorating lead paint in pre-1978 housing, lead poisoning in

Figure 1.

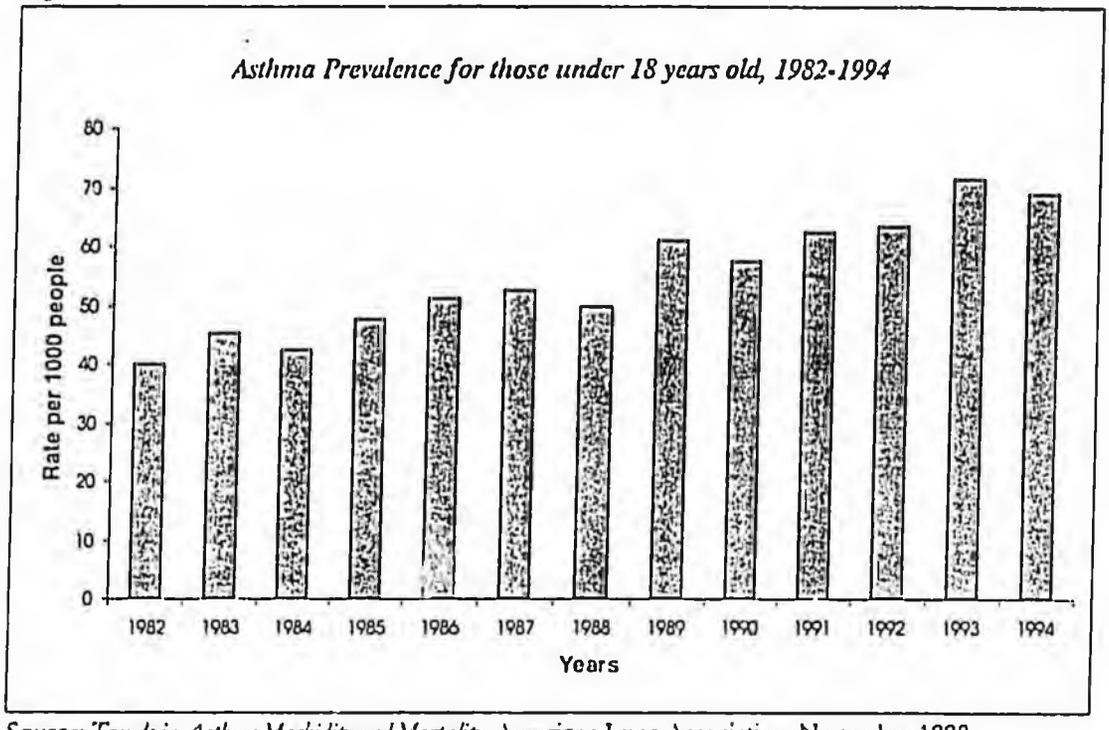


Source: *National health Interview Survey*, National Center for Health Statistics, 1982-1994.

young children can cause learning disabilities, behavioral problems, I.Q. deficits and nervous system disorders. Results of research conducted by the Centers for Disease Control and Prevention (CDC) in 1994 found that approximately 900,000 children suffer from lead poisoning and the potential for permanent health effects. Great strides in reducing lead poisoning have been made during the last 25 years, including the phasing out of leaded gasoline, the elimination of lead-based paint for household use, and the elimination of lead solder in plumbing and food cans. Although these measures have helped to reduce the average levels of lead in children and adults by 80 percent since the 1970s, lead poisoning remains a problem for children who live in older housing and near mining and industrial sites.

Poor Indoor Air Quality Research indicates that indoor air pollution is a potential environmental hazard in many homes and schools. Poor ventilation, lack of upkeep, leaky roofs and use of indoor chemicals such as solvents and pesticides all are associated with poor indoor air quality. One of the most visible results of poor indoor air quality is the rising rate of asthma. Common air pollutants such as cigarette smoke can bring on asthma attacks and increase their severity. Asthma deaths in children and youths increased by more than 100% between 1980 and 1993 (see figure 2), and asthma-related illness is the number one cause of hospital admissions among the nation's children.

Figure 2.



Source: *Trends in Asthma Morbidity and Mortality*, American Lung Association, November 1998.

Poor Outdoor Air Quality According to the U.S. Environmental Protection Agency (EPA), nearly 25 percent of the nation's children live in areas that do not meet national air quality standards. Research shows that particulate matter, ground-level ozone and sulfur dioxide have harmful effects on lung function and the upper respiratory tract. Children are particularly sensitive to these particles, and many studies indicate that lost school days, restricted activity and reduced lung function correspond to increases in air pollutants.

Pesticides Children are exposed to pesticides through household use, eating produce and drinking water that contains pesticide residue. Because children consume significantly more produce and play on the ground where pesticide residues may linger, they can receive higher doses of many different pesticides. Studies have shown that children of parents who use pesticides occupationally or in the household are three to nine times more likely develop leukemia. (2,3) The U.S. Geological Survey recently finished the largest pesticide and water study to date. Within the study regions, it found that 95 percent of streams and 50 percent of wells near agricultural and urban areas contain one or more pesticides. Although most did not violate current safe drinking water standards, these standards are valid only for exposure to individual pesticides, not to mixtures of various pesticides that are present in most contaminated sources. For most of the streams tested, half of which supply drinking water, pesticide levels exceeded aquatic-life guidelines as defined by the U.S. Environmental Protection Agency.

Solvents Some studies have linked occupational solvent exposure of pregnant women to birth defects in their children. Solvents—chemicals that dissolve or disperse other substances—are present in gasoline, paints, paint thinners, glues and many other products. (4,5,6)

Poor Water Quality Children swim in our lakes and streams, and eat freshwater fish. Swimming in polluted freshwater or coastal areas can cause respiratory, gastrointestinal, eye and ear symptoms, and fever. This pollution usually is the result of sewage dumping, industrial effluent and agricultural runoff. Thousands of rivers, lakes and streams across the nation have signs posted that warn pregnant women, children and other sensitive individuals to avoid eating fish caught in these water bodies due to contamination. The EPA states that from January to September 1994, 1,500 fish advisories were posted; 73 percent of these postings were related to mercury contamination, the rest were related to PCBs, pesticides, and other toxics.

Endocrine Disruptors Chemicals such as DDT, PCB and others found in common pesticides are known to disrupt the endocrine systems (the body's chemical communication network) of wildlife and laboratory animals. Humans also may be at risk. Endocrine disruptors can interfere with the hormonal activity in the body during sensitive stages of prenatal development, creating a potential for birth defects and abnormal growth and development in children. They also may promote the development of reproductive cancers. The EPA, CDC and other organizations currently are developing tests and conducting research to find out more about endocrine disrupting chemicals in our environment.

Mercury Mercury may damage the nervous system and cause severe mental retardation and cerebral palsy in newborns of mothers who consume too much mercury-contaminated fish, which occurred on a large scale in Minimata, Japan. The EPA states that from January to September 1994, 1,075 fish advisories were posted due to mercury contamination; more than 40 states have issued mercury fish consumption advisories for at least one of their water bodies. Mercury is a pollutant that can persist in the environment for hundreds of years. The largest sources of mercury pollution are waste incinerators and power plants. When pregnant mothers ingest too much mercury-contaminated fish, it can result in permanent brain damage and cerebral palsy in their newborns.

To better understand the effects of these toxic chemicals, the CDC uses biomonitoring to accurately assess chemical exposures. Biomonitoring uses blood or urine samples to measure toxic substances in the body. These techniques are leading to a better understanding of the environmental exposures that lead to disease.

Federal Policy

Action on children's environmental health has slowly increased in recent years, growing in momentum since the Federal Executive Order of 1997, titled "Protection of Children from

Environmental Health Risks and Safety Risks." This order charges agencies to consider special environmental risks to children in their activities. The EPA created the Office of Children's Health Protection (OCHP) in 1997 to support this order and is cooperating with other agencies to establish federally funded research centers that are devoted to protecting children from environmental health threats.

Food Quality Protection Act (FQPA)—Amends both the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA) to make a more consistent, protective regulatory system that is supported by sound science. It mandates a single health-based standard for all pesticides in foods and provides special protection for infants and small children. It also takes into account the possible additive or multiplicative effects of different pesticides from all sources of exposure. To make up for the lack of children's toxicity data, the FQPA requires the EPA to use an additional, tenfold (10X) safety factor in setting tolerance levels, unless "reliable data" for children's toxicity and exposure exists to prove that this unnecessary .

Chemical Right to Know—The EPA intends to promulgate a Children's Health Test Rule under section 4 of the Toxic Substances Control Act (TSCA). This rule will require the testing of chemicals to which children are likely to be exposed, but lack sufficient toxicity data for risk assessment. Manufacturers, importers and processors of the selected chemicals can be required to conduct the tests.

New Clean Air Standards—In July 1997 the EPA issued stricter ozone and particulate matter air quality standards, taking into account children's susceptibility to air pollution. The more stringent standards aim to reduce the effects of outdoor air pollution on asthma and other illnesses.

Asthma Initiative—On January 28, 1999, the administration announced a comprehensive, national $68 million initiative aimed at combating childhood asthma. This program will invest in research to determine the environmental causes of asthma and to develop new strategies to reduce asthma. It also provides funds to states and providers to help them implement effective disease management strategies to lower hospitalizations, emergency room visits and deaths from asthma.

Residential Lead-Based Paint Reduction Act—Enacted in 1992, this law directs the EPA, the U.S. Department of Housing and Urban Development (HUD), and the Occupational Safety and Health Administration (OSHA) to develop lead hazard reduction programs. As a result of this act, states are given the option of developing their own lead programs or having the EPA run a program for the state. As of February 1999, 38 states had enacted legislation to create lead programs.

State Policy

Legislative activity on children's environmental health issues has consisted mainly of bills targeting specific hazards, such as lead poisoning or parental notification before school pesticide use. State legislation that targets children's special vulnerabilities to general environmental hazards did not appear until 1998. Local data—lead notwithstanding—does not exist in relation to children's environmental health. Data that can help guide decisions at the state and local levels still is needed.

Michigan House Bill 4550, introduced in April 1999, proposes the creation of the Office of Children's Health Protection within the Department of Environmental Quality. The goal of this department is to protect children's health while taking into account the special vulnerability of children to pollution in their environment. The bill requires that the office review proposed environmental legislation, statutes and rules, and subsequently make recommendations to ensure children have adequate health protection. The bill also requires the office to coordinate research and public education programs to make parents aware of children's environmental health risks.

California has introduced similar but less comprehensive legislation relating to children's environmental health concerns. Senate Bill 25, introduced in December 1998, requires review of the state's air quality standards to determine if they adequately protect the health of children and infants, and provides for revisions if standards are deemed inadequate. A second California bill, Assembly Bill 1207, introduced February 1999, seeks to protect children at schools and daycare centers from environmental hazards such as radon, asbestos, indoor air pollution and toxic pesticides.

New Jersey introduced Assembly Bill 2069, the "Children's Environmental Health and Safety Rights Act," in May 1998. The bill creates an advisory council on children's environmental health to ensure that risk assessments upon which standards, regulations, and guidance are based adequately consider child-specific susceptibilities. The council also must seek out research on children-specific environmental vulnerabilities and make sure that recommendations include these concerns. The state education department and the departments of environmental conservation and health will revise standards and regulations to reflect the findings of the council.

New York Assembly Bill 2068, the "Children's Environmental Health and Safety Bill of Rights," was introduced January 20, 1999. This bill requires that the departments of Environmental Protection and Health and Senior Services review standards, regulations and guidelines that are intended to protect the environmental health and safety of children, taking into account a child's special environmental susceptibilities. The departments will evaluate risk assessments upon which standards are based and establish procedures to insure that future risk assessments take into account children's sensitivity to environmental hazards. Additionally, the department

should develop new comprehensive policies to address cumulative and simultaneous exposures of children to environmental hazards.

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National Conference of State Legislatures
ENVIRONMENTAL HEALTH SERIES

May 2000
No. 4

Asthma: A Growing Epidemic

By Glen Andersen

OVERVIEW

Rates for asthma have steadily increased over the past 20 years in all age groups. Children under age 5 have been the hardest hit, experiencing a two and one-half fold increase.[1] Despite advances in medical treatment, asthma deaths nave nearly doubled since 1980 and now total more than 5,000 per year. The economic costs are high as well—an estimated $11.3 billion was spent on asthma treatment and hospitalization during 1988.[2] To date, little is known about the factors that cause individuals to develop asthma, and most states lack comprehensive asthma programs to effectively track and monitor the epidemic.

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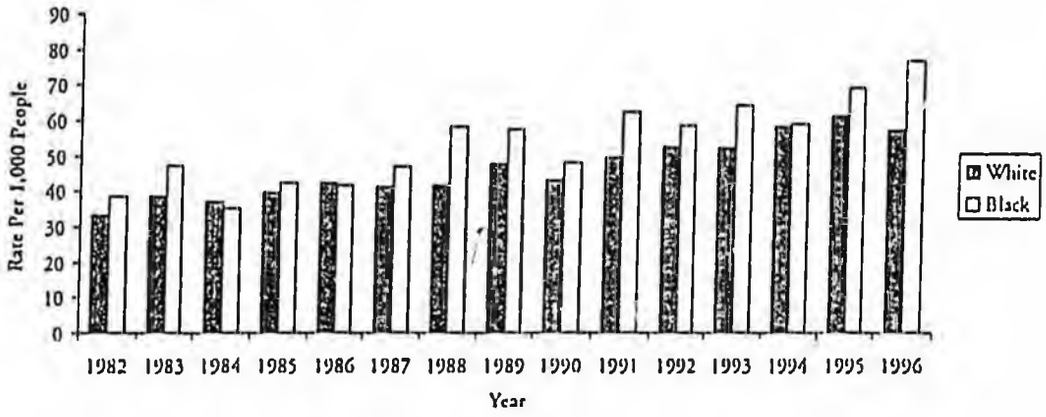
DEFINING ASTHMA

More than 5 percent of Americans have asthma, a chronic disease that inflames of the airways and lungs, causing shortness of breath, wheezing, and—in extreme cases—death. Asthmatics' respiratory systems tend to respond to a specific set of irritants and allergens, such as cigarette smoke, dustmites and air pollution. The airways constrict upon exposure to even very small amounts of these substances, reducing airflow and making it difficult to breathe; this reaction is reversible and varies between individuals and exposures. Breathing during an asthma attack is often compared to breathing through a straw, demonstrating how small the airways can become. Exercise, colds, food additives, and stress can also

Figure 1. Asthma Prevalence Under Age 45



5.7 percent of the U.S. population has asthma.

Source: National Center For Health Statistics, *National Health Interview Survey 1996.*

precipitate asthma attacks. Asthma can not be cured, but can be controlled with medical treatment and environmental intervention.

The medical community has long been aware that asthma can be triggered by allergens, but is still uncertain why some people develop asthma and others do not. Although it is thought that certain genetic components increase the likelihood of developing asthma, most researchers believe that the interaction of environment with genetic predisposition is important in its development. Some scientists believe that ongoing exposure to allergens very early in life may lead to a sensitization of the airways and, ultimately, asthma.[3] Supporting this contention is the January 2000 asthma report from the Institute of Medicine of the National Academies of Science, which states that—based on the scientific literature available—there is sufficient evidence of a causal relationship between exposure to house dustmite allergen and the development of asthma in susceptible children. The report also concludes that there is an association between exposure to tobacco smoke and the development of asthma in younger children.

A growing number of studies show that air pollution also influences asthma. Research has found that common air pollutants—particulates (very small pollutant particles that can reach the lungs), nitrogen oxides and ozone—exacerbate asthma. The American Lung Association found that children with asthma are 40 percent more likely to suffer asthma attacks on high pollution days than on days that do not violate pollution standards. Children are more susceptible than adults to air pollution, since they spend more time outside engaged in vigorous activity. Higher activity levels and longer duration of exposure, combined with a higher breathing rate relative to body weight, result in higher pollutant

exposures for children. Air pollution that may cause negligible breathing difficulties in an adult may seriously impair a child's ability to breathe because of higher exposures and smaller airways. Unfortunately, more than 132 million Americans (nearly half of the U.S. population) live in areas where air pollutants reach unhealthy levels as measured by the Environmental Protection Agency's Air Quality Index.

There is no cure, and no certainty as to what causes asthma.

Why are asthma rates rising?

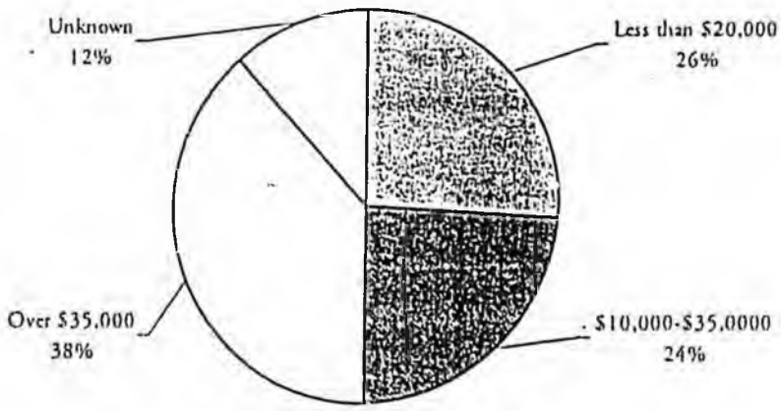
Although conclusive evidence is lacking, the suspected causes of the asthma epidemic are manifold. While genetics is likely to play a role in asthma development, genetic traits change far too slowly to account for the recent increase in asthma cases. Improved recognition and diagnosis of asthma may also play a small role, although research indicates that this change alone cannot explain the recent upward trend.[4]

Given the current state of research, no one is certain what changes could explain the epidemic. Researchers do have suspicions, however: children are spending more time indoors, increasing their exposure to certain allergens and indoor air pollutants, and they are exercising less. More research on asthma's relationship to environmental exposure and genetics will be needed for scientists to determine its cause and remedy.

Asthma Prevalence and Costs

More than 5 percent of the people in the United States have asthma; its prevalence has steadily climbed since the 1980s, rising 75 percent in the general population and 160 percent in children under age 5. Asthma is the most common chronic disease in children and the primary cause of missed school days, responsible for more than 10 million per year.

Figure 2. Asthma Distribution by Family Income



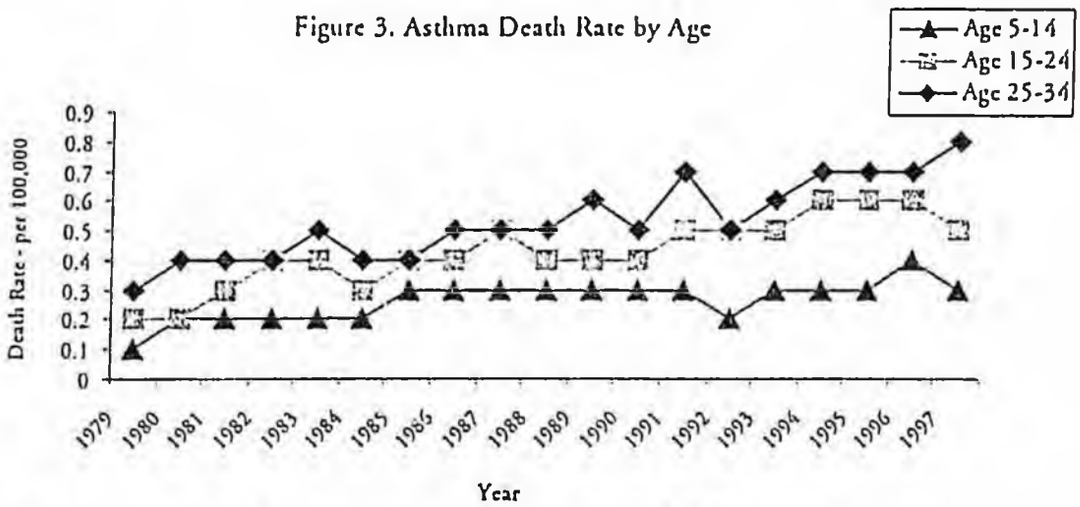
Source: National Center For Health Statistics, *National Health Interview Survey 1996.*

Each year, half a million people in the United States require hospitalization asthma, while over 5,000 die. Hospital visits for asthma have increased to nearly 2 million per year, making asthma the primary cause of emergency room visits.[5] The significant increase in asthma in poor areas—where medical care and follow-up are lacking—means that asthma symptoms are more likely to result in full-blown attacks that lead to costly trips to the emergency room.

Asthma causes 500,000 hospitalizations and nearly 2 million emergency room visits per year.

Although asthma affects people at all socioeconomic levels, poor and minority populations tend to experience a greater burden when measured by the chances of dying or being hospitalized for the disease. The reasons for this disparity, while not fully understood, probably include nutrition, a lack of preventive care, and exposure to higher levels of indoor and outdoor air pollution. A May 2000 report by the Pew Environmental Health Commission projects that if asthma continues to spread unchecked, by the year 2020 it will strike 1 in 14 Americans and 1 in 5 U.S. families.

Figure 3. Asthma Death Rate by Age



Source: National Center For Health Statistics, *Annual Summary of Vital Statistics, 1979-1997.*

Battling the Asthma Epidemic

Although great uncertainty remains about what causes the initial onset of asthma, researchers have gained a good deal of knowledge about asthma treatment. Besides having access to a number of new and more effective asthma medicines, more is known about the exposures that exacerbate asthma and how they can be eliminated or reduced in the asthmatic's environment. Research indicates that carpet removal, frequent cleaning with a special fine-particle filter vacuum cleaner, use of bedding covers that prevent dustmite buildup and

elimination of tobacco smoke are some of the many actions that can be taken to relieve asthma symptoms. Despite this knowledge, there is little evidence that these treatment strategies are being implemented.

Federal Activity

In January 1999, the President's Task Force on Environmental Health Risks and Safety Risks to Children released a report outlining what it considered to be the most effective strategies for fighting childhood asthma. The report acknowledges that asthma is a growing epidemic and that there is "no national system to collect data from states specifically on asthma."

It recommended the following:

1. Focus research on the environmental factors that cause or exacerbate asthma;
2. Implement public health programs that use current scientific knowledge to reduce environmental factors that worsen asthma symptoms;
3. Establish a coordinated, systematic and integrated nationwide asthma surveillance system that includes health outcomes and risk factors at state, regional and local levels and;
4. Identify and eliminate the unequal burden of asthma among the poor and ethnic and racial minorities.

Costs of treating asthma were estimated to be $11.3 billion in 1998.

The administration slated $68 million to address some of these recommendations, with a focus on implementing school-based asthma programs, developing disease management strategies to target low-income children and creating a national public information campaign.

The U.S. Department of Health and Human Services (HHS) outlines its approach to asthma in Healthy People 2010, a document designed to focus the nation's prevention goals. Healthy People 2010 suggests that the focus be on reducing the affect of asthma through education, outreach, and further research for those who already have the disease. The document adds that states need to track asthma and the factors that trigger asthmatic episodes. HHS released its Action Against Asthma strategy in April 2000.

State Activity

In a report released May 2000 by an organization called Health Track, researchers used Centers for Disease Control and Prevention data to determine that most states have no ongoing asthma monitoring program. The study found that 30 states have no timely information that describes asthma within their borders and that only seven states have

"ready access" to statistics on emergency care for asthma. It also found that among the 23 states that track asthma, there is uncertainty as to the adequacy of their tracking efforts.

State legislative activity on asthma tends to fall into three main categories: bills designed to create state asthma programs, bills that deal with asthma medication use in schools, and bills that focus on improving insurance coverage for asthma.

Asthma rates have nearly doubled during the last 20 years.

When House Bill 1012 was signed in March 2000, Virginia became the first state to pass a law that requires the development of a comprehensive, statewide asthma strategy. The law requires the commissioner of the Department of Health to create an asthma plan that includes disease surveillance, public and professional education, and public and private partnerships with health care providers, local school divisions and community coalitions. It also requires identification of best practices for use in public health and clinical interventions. Funding for the program is designated to be from "such funds as may be appropriated" and from grants.

California, New York and North Carolina have introduced bills aimed at developing statewide asthma management and control programs. Other states have introduced legislation that would provide for the development of task forces to study asthma in the states and schools, and for asthma education.

In August 1999, Illinois enacted legislation requiring that the Department of Public Health work in conjunction with state and community-based asthma programs to develop and administer an informational program about asthma and its treatment. The program is targeted at high-risk population groups.

Twelve states passed legislation allowing students to carry and use asthma inhalers on school grounds. These bills were introduced in response to a number of school no-drug policies that required that asthma sufferer's medication be locked in the nurse's or principal's offices.

Nine states have enacted legislation to improve health care access and coverage for asthma sufferers.

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DEC *NEWS RELEASE*

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October 26, 2001

DEC gives Anchorage School District Beyond Compliance Award for pesticide management policy that helps protect children's health.

New regulations for pesticide use by all Alaska schools signed.

As part of National Children's Health Month, Alaska Department of Environmental Conservation Commissioner Michele Brown today gave the Anchorage School District a Beyond Compliance Award for the District's pesticide management policy. Brown also signed new regulations on the use of pesticides in state and private schools throughout the state.

"The Anchorage School District's policy to protect the health of our children is one of the most progressive in the nation and is a good model for other Alaska school districts," Commissioner Brown said. "Children are most susceptible to possible impacts from chemical pesticides and these new measures gives them much better protection."

ASD Superintendent Carol Comeau accepted the award on behalf of the School District. Comeau and the Commissioner also thanked Alaska Community Action on Toxics and Alaska Youth for Environmental Action for their involvement in the development of the district-wide pesticide management policy.

The policy was put in place early last year by ASD and the new regulations for pesticide use by all Alaska schools, signed by Commissioner Brown today, will become law later this winter.

The school district's pest prevention and management strategies use the following guidelines:

- Least disruptive of natural controls.
- Least hazardous to human health.
- Minimal negative impacts to non-target organisms.
- Least damaging to the school and natural environment.
- Most likely to produce long-term reductions in pest control requirements.

The new regulations take clear steps to limit student and staff exposure to pesticides. The rules include:

- Schools must use nonchemical methods to control pests whenever possible.
- School must notify parents at least 24 hours before applying any pesticide which children would come in contact.

- Treated areas must be posted with a sign and the area restricted until it is safe to enter.
- The person who applies or supervises the use of most pesticides on school premises must be certified by the state.
- Certified applicators must keep records on the use of general use pesticides.

Superintendent Comeau said, "I really want to commend the students with the Alaska Youth for Environmental Action and Alaska Community Action on Toxics for bringing this issue forward. It shows that the public process works. Our new policy promotes a healthy and safe school environment for students and staff. We will use non-chemical measures first, with pesticides used only as a last resort and with parental notification."

Brown also lauded the efforts of the Alaska Community Action on Toxics and youth from the Alaska Youth for Environmental Action for their initiative in calling for the policy. "We've gotten in front of a problem plaguing other school districts in the nation. ACAT and these involved young people worked hard to see these rules made, and their foresight will protect the health of school children in the future."

Pam Miller, director of ACAT, said, "We started calling for a district-wide pest management policy in the summer of 1999 because we were concerned about the health effects of certain pesticides, especially among young people. It took over a year, but we were very pleased with the outcome and the cooperative working relationship we had with the Anchorage School District in developing this policy. The students at AYEA were instrumental in assuring the success of getting the policy in place."

AYEA student Corey Rennell said, "I am overjoyed to hear that the state is implementing statewide regulations from the ideas some AYEA students helped create for the Anchorage School District. It was amazing to see an idea we developed evolve into a working, effective, and progressive plan to help protect public health in Alaska. Through testifying, extensive collaboration, lobbying, and media work, our voices were heard by the school district and our hopes were achieved. It is so fulfilling now to see the work of a few in the community spread to benefit the whole state."

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ACAT

Alaska Community Action on Toxics

Bill seeks to track use of pesticides in public

By DAN JOLING
The Associated Press

JUNEAU — Parents would be able to monitor pesticide use in schools, parks and other public places under legislation proposed by an Anchorage lawmaker.

At a luncheon hosted by Alaska Community Action on Toxics to explain the bill, Rep. Sharon Cissna said Alaskans don't know how much pesticide is being used and where it's being used in the state. She also said not enough is known about links between pesticide exposure and disease.

"Those things made me feel really strongly that we need to take a step," said Cissna, D-Anchorage.

The bill is a small step, she said. House Bill 356 would require certified pesticide applicators to report pesticide use to the Department of Environmental Conservation. Applicators are required to collect the information now but not required to report it, Cissna said.

The bill requires DEC to establish a pesticide tracking system readily available to the public and to integrate pesticide tracking with other data bases such as the cancer registry to see if there is a correlation between pesticide use and disease.

Cissna said the program would be paid for by charging pesticide manufactures a $150 registration fee for every type of pesticide used in the state. Alaska is the only state that does not require such a fee. Pesticide applicators would pay a $25 annual registration fee.

The bill also would set up a nine-member Pesticide Advisory Board to research ways to limit public exposure to pesticides.

The bill would not track pesticides in households.

As a member of the House's Democratic minority, Cissna may have difficulty pushing the bill through the Legislature. The bill was referred to three committees in the House and had not been scheduled for a hearing as of Tuesday.

Michelle Wilson of Angoon, a spokeswoman for Alaska Community Action on Toxics, said pesticides cover everything from insect sprays to herbicides. In public buildings, they often are used to control silverfish or spiders. Homeowners often use pesticides and herbicides in their gardens.

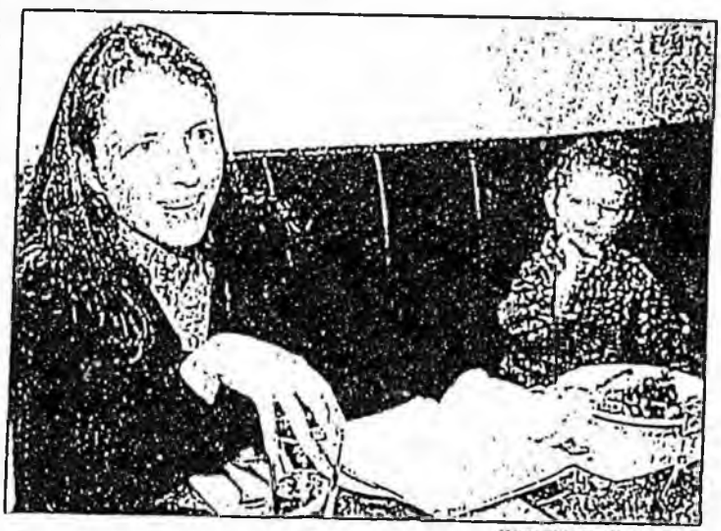
Susan Schrader of Alaska Conservation Voters said protecting children from prolonged exposure to pesticides is as important as providing good schools. Pesticides are potentially damaging to their immune, nervous and reproductive systems, she said. Senior citizens and nursing and pregnant women also are susceptible.

She said Alaskans are exposed to pesticides when they visit ferries, schools or Pioneers' Homes, and Cissna's bill would allow Alaskans to judge their exposure.

"This basically is a right-to-know bill," Schrader said.

Wilson said the Anchorage School Board is close to adopting a "least toxic" approach to controlling pests that calls for using pesticides as a last resort. She said the district often used pesticides as its first choice before embracing the new policy.

"It's the most progressive pest management policy in the country," Wilson said.



Michelle Wilson of Alaska Community Action on Toxics discusses public awareness of pesticide use as her son Elijah Wilson Nordhaff, 2, snacks on organic fruit Tuesday at the Cafe Myriad in Juneau. Rep. Sharon Cissna, D-Anchorage, sponsored the luncheon to talk about a bill that would set up a tracking system for use and sales of pesticides in Alaska

Wednesday, February 23, 2000 Anchorage Daily News

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ANCHORAGE DAILY NEWS
THURSDAY, February 24, 2000 ☆

Alaska Community Action on Toxics

School Board cuts pesticide use

By PETER PORCO
Daily News reporter

The Anchorage School Board on Wednesday night agreed to restrict the use of pesticides in local schools. The new policy allows pesticides to be used only when bugs threaten health or safety.

The unanimous vote — the second on the issue in two weeks — was a victory for a group of students, teachers, parents and activists who convinced school district administrators that routine spraying posed a health risk and was unnecessary.

"I really believe this policy is precedent-setting, not only for the state but for the country," Pam Miller, program director for Alaska Community Action on Toxics.

"Specifically it says that pesticides will be used only as a last resort."

Under the district's previous plan, the exteriors of all schools were sprayed at least once a year with carbaryl, a federally regulated pesticide. Carbaryl can be toxic when ingested in large quantities but is considered safe when used properly, according to the state Department of Environmental Conservation.

The district's carbaryl spraying occurred usually in August, without notice to parents and school staff.

The new plan calls for notification of students, parents and staff whenever a building is to be treated with a pesticide. But the plan calls for nonpesticide control measures — caulking cracks in walls and floors and keeping facilities as clean as possible, for example — to be tried first.

Pesticides may be used "only if pests present a health and safety hazard, not for aesthetic or nuisance purposes," the plan states.

Superintendent Bob Christal commended Alaska Community Action on Toxics, which spearhead the drive to reform the district's pest management plan. After meeting with group members and other activists last summer, Christal ordered a review of the district's pest-management policies and suspended the annual spraying of carbaryl.

The organization reviewed a draft of the plan and made recommendations, said Stanley Syta, the district's director of operations.

"This has been a collaborative effort," Syta said last week at the board's hearing on the policy. "Central to the plan is notification" for those using the buildings.

The plan establishes a new position of pest management technician, whose salary will be about $40,000 a year, officials said. The district will save about $20,000 if it doesn't spray.

The use of pesticides in schools has been brought to the attention of the Legislature. State Rep. Sharon Cissna, D-Anchorage, has introduced a bill that would enable parents and others to monitor the use of pesticides in public places.

On a national level, the General Accounting Office, the investigative arm of Congress, tried unsuccessfully to determine the amount of pesticides used in the nation's schools, the degree to which children are exposed to them, and how their health might be affected, according to the National School Boards Association.

Several U.S. senators are trying to pass bills that would make schools notify the community before they use pesticides and to have schools adopt the least-toxic approach, the association said.

"I really believe this policy is precedent-setting, not only for the state but for the country."

— Pam Miller, Alaska Community Action on Toxic

Reporter Peter Porco can be reached at pporco@adn.com and at 257-4582.

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Alaska Community Action on Toxics

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FRIDAY, AUGUST 20, 1999 • www.adn.com

FINAL EDITION

Lead Story
Front Page
Anchorage Daily News

SPRAYING: District cancels annual pesticide application

Continued from Page A-1

of pest control in its schools began last month. Officials will consult experts in and out of state, and hope to have a policy in place about the end of October, Christal said.

In the meantime, the district will inspect the inside and outside of every school before the school year starts Aug. 31, Christal said, and pesticides will be applied if a pest emergency warrants.

Officials will also "make every effort to notify the school community, including students, parents and staff, in advance of any pesticide application," he said.

Christal has formed a working group to study the problem and recommend pest-control practices, he said. The group consists of Syta as well as the district's risk manager, its directors of food service and student nutrition and a school principal. Its report is due Oct. 15.

Wilson said the group should also include a student and teacher, a physician and a member of her group.

"We can give comments to the working group, but we want to play a more active role," she said.

Syta said the district could not involve a lot of people and still complete the process on time. The public will have a chance to comment on the plan, he said.

Pest control is necessary because schools are also places where children eat and food is prepared, Christal said.

For many years the district has had the chemical carbaryl sprayed annually around the outsides of all public schools to kill spiders and insects. The spraying occurs mostly in August near the beginning of the school year.

"We do this when the kids are not around" in the summer and during holiday breaks, said Everett Walton, an owner of American Pest Management, the district's contractor.

Carbaryl has been approved by the federal Environmental Protection Agency. It can be toxic when ingested in large quantities but is considered safe when used properly, said Rosemarie Lombardi, pesticide specialist for the state Department of Environmental Conservation.

Carbaryl is commonly used to combat spruce bark beetles in Southcentral Alaska. The solution sprayed around schools — on the walls below ground-floor windows and on the ground within four feet of the wall — is one-fourth the strength used to protect trees, Walton said.

An EPA official in Anchorage said carbaryl has been used for many years. It belongs to a different class of pesticides than two others that the EPA banned with much fanfare earlier this month because of their potential effects on children.

"Nothing has shown up yet with carbaryl," said Rick Albright of the EPA's Alaska operations office. "But there's no guarantee nothing will show up."

Karl Arne, an EPA pesticide specialist in Seattle, recommended against using carbaryl or any other pesticide if other pest-control options are available, saying the agency supports the broad approach known as integrated pest management.

"Pesticides are an easy solution to a lot of pest problems, but they may cause problems," Arne said. Questions arise regarding the toxicity of chronic exposure to carbaryl and other substances, he said.

The "least-toxic" approach, which Wilson's community action group and others recommended in a meeting with Christal last month, will be considered, Christal wrote to Wilson in a letter Wednesday.

CJ Reporter Peter Porco can be reached at pporco@adn.com and at 257-4582.

Schools cancel spraying

District reviews pest-control efforts

By PETER PORCO
Daily News reporter

In response to the concerns of parents, teachers and activists, the Anchorage School District said Thursday it was canceling its annual August insecticide spraying on all city schools.

The district is also reconsidering its entire pest-management program, Superintendent Bob Christal said. That includes studying the adoption of a "least toxic" approach, which favors other means of controlling insects, spiders and rodents, keeping pesticides as a last resort.

"That would be trying to combat pests by getting at the root of the problem, so you make sure food sources and their favorite habitat are eliminated," said Stanley Syta, the district's operations director.

Michelle Wilson of Alaska Community Action on Toxics said she was thrilled with the decision. The citizens group had urged the district to review its pest-management practices and notify building occupants and students' parents when pesticides are to be used.

The district's first comprehensive review

Please see Back Page, SPRAYING

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ACAT

Alaska Community Action on Toxics

ANCHORAGE DAILY NEWS

THURSDAY, March 18, 1999 ★

Herbicide creates hubbub

Railroad revives controversy with plan to spray tracks

By ROBERT KOWALSKI
Daily News Juneau Bureau

JUNEAU — In a move that already is generating controversy, the Alaska Railroad is planning to spray toxic chemicals this summer to rid vegetation from 86 miles of its tracks in areas stretching from the Kenai Peninsula to Fairbanks.

The railroad last week asked the state Department of Environmental Conservation to approve a permit so it can spray the herbicide glyphosate along the rail bed and rights of way in six locations.

There is a long history of opposition to such proposals in the state. Herbicide spraying plans by the railroad in 1988 and by the state Department of Transportation in 1994 faced such a huge public outcry that they were withdrawn or blocked. The last time herbicide spraying was used in the state was in 1984, when a federal judge ordered the railroad to stop.

The railroad has decided now that other methods of weed control, including burning, steam spraying and hand cutting, aren't effective. Vegetation weakens the rail bed and creates hazards for rail-yard workers and train engineers.

"We have an acute safety problem. ... We need to do something," Alaska Railroad spokesman Ernie Piper said Wednesday. "Some of this stuff is chest high."

If the railroad's plan is approved, it would change Alaska's status as a herbicide-free state on transportation systems. No state agency uses toxic chemicals for vegetation control in Alaska now, said Rosemary Lombardi, an environmental specialist with the DEC's pesticide program.

Less than a week after the railroad applied for a permit, it already is facing objections.

"It's distressing to see the railroad once again propose to use these toxic chemicals on a large scale in Alaska's environment," said Kay Brown, executive director of the Alaska Conservation Alliance. "I wish the railroad

Please see Page C-3, GLYPHOSATE

Use of herbicide by Alaska Railroad 'will lift lid off boiling pot'

Continued from Page C-1

would reconsider."

"It's lifting the lid off of a boiling pot," said Sen. Kim Elton, a Juneau Democrat who remembers the last time the state proposed chemical spraying. "I think this is a significant public-policy issue."

Piper said the railroad has begun an information campaign to demonstrate the benefits of chemical spraying and what it believes is the benign nature of the herbicide it wants to use.

Last week the railroad hand-delivered letters about the plan from its president, former Gov. Bill Sheffield, to numerous state legislators, including those whose districts lie along the railbelt.

The DEC has scheduled five public hearings around the state beginning next week.

"The thing that's critical in any kind of effort is to be totally transparent," said Piper. "We're confident of its safety. ... We don't view this as a tradeoff between the environment and economy."

Elton thinks the railroad is smart to start informing the public of its plans now.

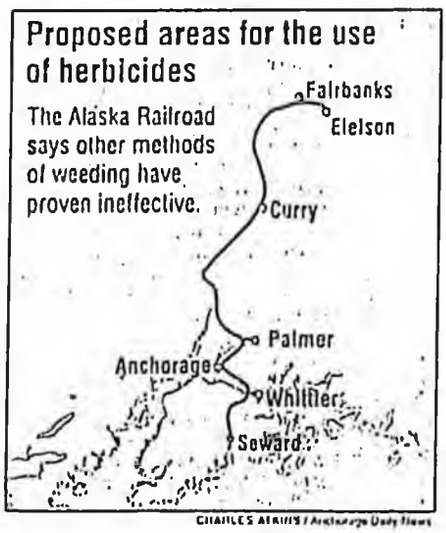
The railroad plans to spray a glyphosate chemical known as Roundup, which is commercially produced and is available in hardware stores and gardening shops nationally.

The chemical would be sprayed to kill weeds in rail yards in Anchorage, Fairbanks, Whittier and Seward, and along stretches of track in Palmer, Elelson, at the Fairbanks airport rail spurs and the siding in the Curry area north of Talkeetna.

The railroad intends to apply a total of 150 gallons of the chemical over a total area of 160 acres, starting in June, Piper said.

The railroad has earmarked $300,000 for glyphosate spraying this year out of a $1.4 million budget for vegetation control along its 525 miles of tracks, Piper said.

The railroad spent $1 million since 1990 studying ways to clear brush from rail beds before deciding chemicals were necessary, Sheffield said in his letter to lawmakers.



CHARLES ATKINS / Anchorage Daily News

One advantage of a herbicide is that it kills root systems, Piper said. The railroad chose its locations for spraying because they aren't heavily used by the public, he said.

"The yards were the most practical places to do it," Piper said. "People aren't picking berries in there."

Glyphosate, Piper said, is a benign substance that clings to soil where it is applied and doesn't readily spread into groundwater.

The last time the railroad proposed using chemicals to control vegetation, in 1988, it was blocked by an order from Gov. Steve Cowper. The railroad had planned to use chemicals other than glyphosate at the time.

But glyphosate has faced opposition in Alaska before.

In 1994, the state Department of Transportation received DEC approval to spray another commercial herbicide that contains glyphosate, Rodeo, to clear brush along 90 miles of roadways in eight Southeast Alaska communities.

The department canceled that plan after hundreds of Southeast residents and environmental groups protested.

And some environmental groups believe glyphosate poses environmental hazards that are serious enough to call the railroad's plan into question.

"They're trying to claim that the herbicide glyphosate ... is benign," said Pam Miller, of the group Alaska Community Action on Toxics. "I think that's an outright lie."

The Northwest Coalition for Alternatives to Pesticides, an Oregon group, studied glyphosate and concluded in a 1998 report that the chemical and substances it is mixed with can have toxic effects on plants, animals and people.

There also is evidence that it causes genetic damage, said Caroline Cox, editor of the Journal of Pesticide Reform, which the group publishes.

"That presents a scary thought for using it along a large number of miles of Alaska Railroad," she said.

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GLYPHOSATE

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ACAT

Alaska Community Action on Toxics

Anchorage Daily News

Saturday, October 9, 1999

Alaskans need treaty to fight toxic chemicals

By PAMELA K. MILLER

COMPASS

The north is a hemispheric sink for many toxic chemicals. Pollutants suchas polychlorinated biphenyls (PCBs), pesticides and other industrial chemicals are transported northward by wind and ocean currents and are trapped by the cold air. These chemicals accumulate in the fat tissues of polar bears, fish, whales and humans. Compared with countries such as Canada, the United States has not been responsible in implementing a northern contaminants assessment program that would help us to understand the health impacts of pollutants in foods. Although far from a complete picture, the scientific evidence of damage is disturbing.

Recent studies have shown that chemicals such as PCBs and DDT are carried into Interior Alaska lakes in the bodies of spawning salmon that deposit contaminated roe. Other studies confirm high levels of DDT and PCBs in the bodies of killer whales in the Gulf of Alaska and DDT in eagles from the western Aleutians. Whether transported from thousands of miles away or leaking from the many military and industrial contaminated sites in Alaska, persistent chemicals such as PCBs, pesticides and dioxins present a significant public health issue.

Whether transported from thousands of miles away or leaking from the many military and industrial contaminated sites in Alaska, persistent chemicals such as PCBs, pesticides and dioxins present a significant public health issue.

From Sept. 6-11, delegates from 120 countries met in Geneva to negotiate a treaty to reduce or eliminate some of the world's most toxic chemicals, a class known as persistent organic pollutants (POPs). These chemicals present potent threats to humans and wildlife on a global basis because they can travel thousands of miles, accumulate in the food chain, and may persist in the environment for centuries. POPs now reside within the bodies of every living organism on earth. Exposure to POPs can cause birth defects, certain cancers, immune system disorders and reproductive problems. They may also reduce our ability to fight disease and diminish the intelligence of children.

In response to concerns from people around the world, the United Nations Environment Programme took the lead in facilitating international efforts to control POPs on a global basis. UNEP called for international action to reduce or eliminate POPs, including the development of a legally binding treaty before 2001. Twelve pesticides and industrial chemicals have been identified by the UNEP that require urgent action because they are potent threats to environmental and human health on a global basis.

Heila Watt-Cloutier, president of the Inuit Circumpolar Conference Canada, told delegates that the breast milk of Inuit women contains concentrations of certain POPs that are five to 10 times higher than women in southern Canada. Faith Gemmill, representing the Gwich'in Nations, stated, "As indigenous peoples, we are greatly concerned when we realize evidence which suggests that women, infants, and children are very vulnerable to POPs. This threatens the very existence of our peoples and cultures. The multigenerational impacts threaten our hope of healthy, thriving and productive future generations."

Physicians for Social Responsibility facilitated participation of 180 public interest organizations at the negotiations in Geneva from 40 countries. These public interest groups are part of the International POPs Elimination Network. IPEN focuses on achieving a global treaty to phase out and eliminate POPs. We were there to encourage delegates to act swiftly to implement a strong global treaty. We were there to remind the delegates that this is not an abstract issue for us, but one that affects the safety of our water and food, our health and the health of our children.

As David Prince of Mossville, La., a primarily African-American community near large plastics manufacturing plants, noted at the conference, "We wanted the delegates here to know that laws, policies, and industry practices in the U.S. are not currently protecting us. Because of the many illnesses that are now occurring in Mossville and other parts of the U.S. and around the world, we hold out the great hope that all governments attending here will adopt a treaty to eliminate the production of all POPs, including dioxins." We now know that toxic releases from chemical plants in Mossville or pesticide spraying in Mexico may affect us here in the north. POPs respect no political boundaries.

People in Alaska have an historic opportunity to encourage the United States to enact a strong treaty that will eliminate major sources of toxic pollution that affect our health. Alaska senators will have a particularly important role in ratifying the treaty. For more information or to get involved, please call Alaska Community Action on Toxics at 222-7714.

CBiologist Pamela K. Miller is the program director for Alaska Community Action on Toxics, based in Anchorage.

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Pesticides found in Aleutian Island eagle eggs

By John Roach
Saturday, October 02, 1999

Bald eagle eggs in Alaska's pristine Aleutian Islands have been found to contain elevated levels of organochlorine pesticides — startling evidence that the contaminants can travel long distances and affect wildlife in remote locations.

Organochlorines are chemical compounds used to kill agricultural insect pests. Unfortunately, they are long-lived, toxic to most animals and can be converted to even more deadly compounds as they degrade or are eaten and released into the environment.

Some organochlorines, such as DDT, are banned in the United States, but many others are still regulated for use, said Bob Anthony, a U.S. Geological Survey scientist and lead author a report published in the September issue of *Environmental Toxicology and Chemistry*.

The report adds to a growing body of research that indicates organochlorine pesticides can travel long distances. Evidence suggests the pesticides are transported via atmospheric and ocean currents, as well as via seabirds who eat contaminated fish in parts of the world where organochlorines are used.

There is even the possibility that the military took DDT up to the Aleutians and once they determined they had no use for it, dumped it in a bay. "We do know that the bays heavily used by the military over time do show the highest levels of PCBs," said Anthony.

The most likely source of contamination is migratory seabirds that may feed on contaminated fish in southern latitude waters. When bald eagles eat those seabirds, they may accumulate the contaminants.

As evidence, Anthony and his colleagues point out that eagles on Kiska, the westernmost of the islands, had a diet composed of 60 percent seabird, whereas on the innermost islands, seabirds only made up 25 percent of the diet. Eagle numbers per nest on Kiska, unlike the other islands, were dangerously low.

"The high proportion of seabirds in the diet of eagles from Kiska island could be the major source of DDE and mercury contamination," Anthony said in a statement.

"That is where it (the research) is leading us," he added in an interview, "but we don't want to rule out the possibility that it might be arriving via atmospheric and ocean currents."

The researchers are one year into a four-year study on the source of elevated levels of DDE and mercury in nearshore marine communities in which bald eagles forage.

READER FORUM

Don't wait for a crisis

Parents and state and federal officials need to move to protect children from health problems because of pesticides

Upon arriving in Portland recently, I was dismayed to read an opinion piece by Dr. Allan Felsot (Sept. 21) concluding that "there is no health crisis due to pesticide use." While this may be a fair statement, I think most readers would agree that we don't need to wait for a "crisis" before acting to protect the health of our children.

As a physician, I believe that preventing health problems is as much a part of my job as treating them. I believe all physicians have a responsibility to work toward reducing children's exposure to pesticides and other toxic chemicals.

Every day, scientists learn more about the health threats posed by pesticides, especially those that affect our children's health. Based on the current state of the science, it appears that some pesticide-related health problems are much more significant for the fetus and infant (as compared to an adult) because of the rapid growth and development of certain organ systems early in life. Injury to the developing child's immune, hormone and nervous systems is of special concern. It is now well established that relatively low-level exposures to toxic chemicals, occurring at critical stages of development, can cause permanent damage to these systems. The results of such injuries may range from poor school performance and behavior to alteration of the reproductive organs.

Children also differ in their exposure to toxic chemicals in their environments. For example, children behave like children. Few adults place their toys in their mouths. Few adults spend most of their free time crawling around on the floor. Few adults spend most of their free time outdoors playing in the dirt. In addition, children have much greater skin surface in relation to their weight than adults, and often wear fewer clothes.

Children eat differently. They drink far more fluids. They are far more prone to binge eating of a single food. They breathe differently. Children at one year of age breathe 50 percent more air each minute relative to their weight than do adults.

Because of these differences, children's potential exposure is greater, thereby putting children at greater risk of pesticide-related illness. Obviously, avoiding exposure to these chemicals is prudent. Unfortunately, it is also often difficult. Pesticides are more widely used in our communities and in our own homes than most of us realize. Children may be exposed to these poisonous chemicals in the food they eat, when they are at school, around pets treated for fleas, and on playgrounds and fields. In agricultural communities, children have even greater potential for exposure from contaminated well water or directly from their parents' work clothes.

Health experts still can't say exactly which pesticides cause which health problems, in part because we don't know what children are being exposed to in the real world. Researchers need reliable information to understand whether pesticide exposure is linked with childhood diseases such as cancer, learning disabilities, or hormone system injuries. Good science relies on good data. Right now, Oregon has no system for tracking pesticide use to allow it to answer some basic, yet specific, questions about children's exposure.

With a pesticide tracking system, health researchers won't have to make assumptions about pesticide use and exposure. As Felsot asserts, lumping all pesticides together obscures the real trends. On this count, I couldn't agree more. Pesticide use data would allow researchers to better identify risks associated with specific types of pesticides, as opposed to making generalizations about pesticides as a whole.

Clearly, the time has come for us to take steps at both the state and federal levels that prevent adverse health effects to children from toxic chemicals in the environment. At the federal level, the Environmental Protection Agency must protect children from pesticide residues on food by implementing the federal Food Quality Protection Act as Congress intended. As a member of EPA's advisory committee working on implementation of this law, I can say that we are still not sufficiently protecting infants and children from pesticide risks.

On a personal level, parents should heed these warnings and avoid exposure to pesticides in the home and garden. At the state level, simply collecting better information on which pesticides our children are being exposed to is crucial for understanding the health impacts of these chemicals and preventing exposure. Ignorance is not bliss when it comes to pesticides and children. We simply need strong policies, reliable information and sound research, so that we can prevent a "crisis" because of pesticide use.

J. Routt Reigart, M.D., is a professor of pediatrics at the Medical University of South Carolina and chairman of the U.S. Environmental Protection Agency's Children's Health Protection Advisory Committee.

Alaska Science Forum

November 2, 1995

Unwanted Traveler Settles in Alaska Trees
Article #1259

by Ned Rozell

This column is provided as a public service by the Geophysical Institute, University of Alaska Fairbanks, in cooperation with the UAF research community. Ned Rozell, is a science writer at the institute.

Being the wonderful place it is, Alaska attracts migrants of all shapes and forms--from ducks winging their way north in the springtime to humans towing both trailers and dreams of life in the Last Frontier. Because of its location on the globe, Alaska also draws its share of wind-carried pollutants from other areas of the earth.

In a recent study by Indiana University researchers, samples of Alaska tree bark showed high concentrations of pesticides that were sprayed on crops possibly half a world way. The Alaska results were part of a worldwide analysis of tree bark performed by Ronald Hites, a chemistry professor at IU in Bloomington, Indiana, and Staci Simonich, who earned her doctorate degree with the research and now works with Proctor and Gamble in Cincinnati.

Northern areas such as Alaska become home to pesticides hitching a ride on the wind because of what Simonich calls a "global distillation process," where airborne pollutants are carried from warm to cold areas. Once in a cold area, they settle on vegetation, soil and bodies of water.

Picture it this way: a farmer growing rice in India sprays his crop with an insecticide, some of which misses the mark and floats in the air. The wind picks up the chemical particles and carries them northward. When the particles collide with cold air over northern parts of the globe, they change from a gas to a liquid and settle out in a new home. Hites likens this condensation process to the steam from a coffee cup set on the dashboard of a cold car. The steam rises until it hits the cool surface of the windshield; there it reverts back to a liquid as an annoying foggy patch on the glass.

Tree bark provides a unique landing pad for condensed pesticides. Tree bark contains fats, called lipids, which help create a waxy coat that prevents the tree from losing too much moisture during dry periods. These lipids act as a magnet for the condensed insecticides.

With the help of friends and colleagues, Hites and Simonich collected 200 tree bark samples from all over the world. Simonich asked a friend who worked in the lab and was traveling to Alaska to gather a

few samples. The bark fragments, some collected from a variety of tree species near Denali National Park, showed a high level of lindane. Lindane is the active ingredient in pesticides used to kill aphids and other insects that plague agricultural operations varying from tree plantations to rice farms.

Simonich said the level of lindane found in Alaska tree bark isn't high enough to harm people, wildlife, or trees, but it is a good indicator of how far pollutants can travel. She said the lindane found in Alaska tree bark could have originated from local sources--although it's not likely due to the scarcity of Alaska farms and tree plantations--or from as far away as India.

In the study, published in the Sept. 29 issue of *Science*, Hites and Simonich found high lindane concentrations in tree bark from other high-latitude countries such as Norway, Canada, Sweden, Scotland and Russia. Simonich said the bark samples from Norway were gathered from a particularly remote site, which buttresses the theory that lindane--a chemical that easily changes from gas to liquid--travels on the wind toward the cold regions of the globe.

Simonich said the tree bark actually cleans the air of such compounds, but the fate of pollutants after trees die and bark decays isn't as clear. In a sense, Alaska trees could be cleaning the earth's atmosphere by collecting the remnants of pesticides sprayed on the other side of the globe.

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[Living on Earth Index] [Main Index]

SB

239

Four-day School Week?

Policymakers have been eyeing the four-day school week as a way to cut education costs. There have been mixed results where the schedule has been adopted.

By Greta Durr

With promises of a 20 percent reduction in overhead and transportation costs, the four-day school week is growing more attractive to legislators seeking to cut education costs—especially in energy, transportation and classified personnel salaries. But while some states are looking at the four-day school week as a way to save money or as a creative option for rural areas, others have found it impractical.

The four-day week offers the same amount of class time in fewer days. Mostly these plans have been used by rural school districts and the savings are not always dramatic. There are other factors, however, that influence whether they are successful.

Custer School District in rural South Dakota adopted the four-day-a-week calendar in 1995 to reduce its annual budget by approximately $70,000. The savings weren't as much as estimated, but a school survey found that the switch boosted morale, reduced absenteeism, decreased the need for substitute teachers, and led to a boom in participation in extracurricular activities. The survey also indicated that teachers were covering more academic content than they had under the traditional five-day calendar.

But the idea didn't work in Utah where a modified school week pilot program ended a year early because the schools involved reported only moderate or no actual savings, as well as scheduling complications. Some districts in the pilot went to four-and-a-half-day weeks after two years, which cut into savings on transportation and heat.

The legislation allowing the program required that extracurricular activities like school sports, dances, plays and speech meets be scheduled on Thursday nights, Fridays or Saturdays so students would not have to travel on a regular school day.

"Most schools opted out," says Steve Laing, state school superintendent. "There are still a couple of schools that would like to do it, but not because they're planning on any savings." Laing explained that, for these schools, the benefits of the modified week (better morale, decreased absenteeism, reduced need for substitutes) meant more to the communities than the money they saved.

Oregon has two laws that deal with shortened school schedules and both have come into play as districts struggle to survive the worst budget deficit in 20 years. After Oregonians defeated a measure in January that would have increased income taxes for three years to prevent $310 million in cuts to schools and other programs, schools are looking at the four-day school week, as well as cutting five to 24 days from the school year.

"At least 16 districts are on the four-day week to cut costs," says Margaret Peterson of the state Board of Education, "and they would still meet compulsory education requirements. But other districts are looking at cutting days from the school year, which is allowed in Oregon during severe budget difficulties. Some of them will be allowed to drop below the number of hours required by state law."

Oregon's rural Morrow County School District 1 adopted the four-day school week offered through a state policy option to lower expenses 10 years ago. The district currently is saving an estimated $250,000 in a $14 million budget, mostly from salaries of classified employees, such as cooks, bus drivers and teacher's aides.

In some states, laws have to change in order to change school calendars. When a small Michigan district considered a four-day week, officials found they couldn't do it because teacher labor contracts and retirement requirements are set by the state in terms of days, not hours.

Representative Stephen Adamini Michigan

Representative Stephen Adamini penned a bill to make the changes from specifications in days to required hours. Approximately nine districts have contacted him about making the switch.

Student transportation costs really take a toll on sparsely populated districts in vast, rural areas, Adamini says. "Small districts are hanging by their fingernails looking for savings," he says. "Local schools should have this as an option."

Senator Sam Kitzenberg Montana

Montana was still debating a four-day week when this issue of the magazine went to press. The bill's sponsor, Senator Sam Kitzenberg, a high school English teacher, wants to give districts more flexibility with scheduling and funding, despite the potential impact on local jobs. "We're looking for a lifeboat for Montana schools in case of cutbacks," he says. "We don't want it forced, we want it as an option."

Representative Carol Juneau Montana

Yet Representative Carol Juneau is worried about classified employees. "If we go to the four-day week, many cooks, bus drivers and custodians would lose wages. In our community, many of our local people work those jobs," she says.

Ten states have some school districts operating on a four-day week: Arizona, Colorado, Kansas, Louisiana, Michigan, New Mexico, Oregon, South Dakota, Wisconsin and Wyoming. States with legislation allowing the four-day school week include Arkansas, California, Minnesota and Illinois. Bills are pending in Michigan, Montana, Ohio and Virginia.

Greta Durr tracks education policy at NCSL.

FISCAL NOTE

STATE OF ALASKA
2004 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: SB 239
() Publish Date:

Revision Date/Time (Note if correction):
Dept. Affected: EED

Title: An Act relating to the required number of days in a school year
RDU: ESS
Component: Executive Administration

Sponsor: Senator Dyson
Requester: Senate HESS
Component No.: 2736

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

OPERATING EXPENDITURES	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Personal Services						
Travel						
Contractual						
Supplies						
Equipment						
Land & Structures						
Grants & Claims						
Miscellaneous						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0
CAPITAL EXPENDITURES						
CHANGE IN REVENUES ( )						

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1037 GF/Mental Health						
Other (Specify Type--Do not abbreviate)						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY2004) cost: 0.0
Mark this box (X) if funding for this bill is included in the Governor's FY 2005 budget proposal:

POSITIONS

Full-time						
Part-time						
Temporary						

ANALYSIS: *(Attach a separate page if necessary)*
This is a zero fiscal note.

Prepared by: Eddy Jeans, School Finance Manager
Phone 907-465-8679
Division: ESS/School Finance
Date/Time 2/2/04 3:10 PM

Approved by:
Date 2/2/2004
Agency: Education & Early Development

(Revised 12/2003 OMB)

SENATOR FRED DYSON

SB 239

Sponsor Statement

"An Act relating to the required number of days in a school year."

Updated: January 23, 2004
Contact: Senator Fred Dyson's office at (907) 465-2199

SB 239 allows a school district to use a school term different than the traditional 180 days in current law, if approved by the Commissioner of EED. The Commissioner may approve an alternative school term if he certifies that it provides an approximate educational equivalent and comparable wage rates as a 180-day school term.

SB 239 relaxes the letter of the law to allow innovation and flexibility for local school districts. Recently an Anchorage charter school proposed a plan to the Anchorage School Board for something less than 180 days. The plan was approved in concept and but is now on hold pending passage of this bill. This relaxation allows a stronger focus on academic performance in preference over an implied emphasis on mere " seat time" .

While allowing for a four-day week is not the specific intent of SB 239, passage would allow meaningful dialogue on whether a four-day week would be beneficial in some cases. For boarding/ residential schools, a flexible schedule may make a big difference by allowing students to return home more often. Potentially, some funds now directed at transportation and other school support services could be redirected to academic programs.

Anchorage School District Superintendent, Carol Comeau recommended to the Anchorage School Board to support this concept, and the Anchorage School Board subsequently passed supporting resolution # 2002/2003-8.

Alaska K-12 education faces unique challenges in attempting to meet the needs of diverse students with very different needs scattered throughout widely varying geographical, cultural, and economic conditions. SB 239 broadens the field in which educators can design programs to meet these challenges.

During Session (January-May): Alaska State Capitol • Juneau, Alaska 99801 • (800) 342-2199 • (907) 465-2199 • (907) 465-4587 FAX
During Interim (June-December): 10928 Eagle River Road • Eagle River, Alaska 99577 • (907) 694-6683 • (907) 694-1015 FAX
Senator.Fred.Dyson@Legis.state.ak.us • www.akrepublicans.org

ANCHORAGE SCHOOL DISTRICT
ANCHORAGE, ALASKA

ASD MEMORANDUM #188 (2002-2003) March 3, 2003

TO: SCHOOL BOARD

FROM: OFFICE OF THE SUPERINTENDENT

SUBJECT: RESOLUTION IN SUPPORT OF RESTRUCTURING THE SCHOOL DAY AND/OR SCHOOL YEAR TO ALLOW FLEXIBILTY FOR PROFESSIONAL DEVELOPMENT

RECOMMENDATION:

It is the Administration's recommendation that the School Board support a resolution to lobby the Alaska State Legislature to approve structural change in the daily schedule for schools, which would allow schools within the State to "bank time" or establish other forms of flexibility in a school day and/or school year.

PERTINENT FACTS:

The reauthorization of the Elementary and Secondary Education Act in January 2002, titled, No Child Left Behind, requires that school districts comply with a myriad of new regulations. These regulations include requirements for professional development for teachers and paraprofessionals in Title 1 schools. Also, schools are being asked to demonstrate adequate yearly progress for the identified groups stipulated by NCLB. The State of Alaska's requirements embedded in the Quality Schools Initiative and the requirement that all students pass the High School Graduation Qualifying Examination in order to receive a diploma also pose challenges for school districts throughout the state. Staff training and professional development are essential components of implementing NCLB, the Quality Schools Initiative, and the HSGQE. School districts need additional time for professional development and collaboration among their staff members that is not adequately provided in the current school calendar.

As the six comprehensive high schools in the Anchorage School District recreate themselves both physically and instructionally into Smaller Learning Communities, there is demonstrated need for additional professional development time. Some monies are available from various grants to provide substitutes for teachers, or for addenda for teachers to work beyond the school day. The majority of teachers hesitate to miss time with their students and often decline having substitutes as an option for receiving training time. Additionally, there is a limit to the amount of time teachers and staff are willing to work beyond the school day or school week. Many teachers and staff serve as coaches and/or tutors after the school day and cannot attend professional development at that time.

A restructured schedule, such as "banking time", would allow schools to offer professional development time and collaboration time for teachers and staff within a scheduled workday. Students could begin their day ten to fifteen minutes earlier or extend their day later to accumulate additional banked time. When sufficient time is banked, students would attend school a shortened day once or twice a month. During the time students are on a shortened schedule, teachers and other staff would have time for professional development and/or collaboration.

Such a system of banked time would provide, for the first time, a sufficient amount of professional development and collaboration time for all teachers. While secondary teachers have a planning period and middle school teachers additionally have a team planning time, most elementary teachers have little actual planning time.

Mentoring of new teachers has become a priority in the Anchorage School District and a restructured school schedule would allow for more substantive mentoring of new teachers by experienced teachers within their own building. This would significantly reduce a teacher's sense of isolation, often reported as one of the main contributors to stress in the first years of teaching.

Aligning curriculum across the District is a priority as expressed through the curriculum audit and at the recent six-year planning session. Shared collaboration time would allow teachers in the field to participate fully in this most important process. This would not only provide a superior product, but it would increase support among teachers.

Restructuring the school day and/or school year allows flexibility to provide for professional development and collaboration time for all staff less expensively than adding days to the current school calendar.

Attachment

CC/JC

Prepared by: Jan Christensen, Assistant Superintendent, Instruction

Approved by: Carol Comeau, Superintendent

Attachment A

ANCHORAGE SCHOOL BOARD
ASDR 2002/2003-8

RESOLUTION IN SUPPORT OF RESTRUCTURING THE SCHOOL DAY AND/OR SCHOOL YEAR TO ALLOW FLEXIBILITY FOR PROFESSIONAL DEVELOPMENT

WHEREAS, the reauthorization of the Elementary and Secondary Education Act in January 2002, No Child Left Behind, requires that school districts comply with a myriad of new regulations; and

WHEREAS, these regulations include requirements for professional development for teachers and paraprofessionals in Title I schools, and

WHEREAS, the State of Alaska's requirements embedded in the Quality Schools Initiative and the requirement that all students pass the High School Graduation Qualifying Examination in order to receive a diploma poses challenges for school districts around the state; and

WHEREAS, staff training and professional development are essential components of implementing No Child Left Behind, the Quality Schools Initiative, and the High School Graduation Qualifying Examination; and

WHEREAS, many teachers hesitate to miss time with their students and tend to decline substitutes as an option for receiving professional training time; and

WHEREAS, the Anchorage School District needs additional time for professional development and collaboration among staff members that is not adequately provided in the current school calendar; and

NOW THEREFORE BE IT RESOLVED that the Anchorage School Board supports the idea of restructuring the school day and/or school year to allow for flexibility to provide professional development and collaboration time for staff.

PASSED AND APPROVED by the Anchorage School Board this 3rd day of March 2003.

ANCHORAGE SCHOOL BOARD

_____
Jeff Metcalfe, President

Debbie Ossiander
Tim Steele
Rita J. Holthouse

John Steiner
Harriet A. Drummond
Mary Marks

Carol Comeau, Superintendent

23-LS1269\D
Mischel
2/11/04

CS FOR SENATE BILL NO. 239(HES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-THIRD LEGISLATURE - SECOND SESSION

BY THE SENATE HEALTH, EDUCATION AND SOCIAL SERVICES COMMITTEE

Offered:
Referred:

Sponsor(s): SENATOR DYSON

A BILL

FOR AN ACT ENTITLED

"An Act relating to the required number of days in a school year."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 14.03.030 is amended to read:

Sec. 14.03.030. School term. A school term begins and ends on the dates fixed by the governing body of a school district. A school term shall include not less than 180 days in session [,] unless, with the approval of the commissioner,

(1) a day used for in-service training of teachers is substituted for a day in session, up to a maximum of 10 days;

(2) an "emergency closure day" is substituted for a day in session because of conditions posing a threat to the health or safety of students; **or**

(3) [A SCHOOL BOARD ADOPTS A SCHOOL TERM OF NOT LESS THAN 150 DAYS FOR A SCHOOL IF THE COMMISSIONER FINDS THAT

(A) THE SHORTER TERM IS NECESSARY FOR ABATING HEALTH HAZARDS IN THE SCHOOL; AND

(B) THE SCHOOL BOARD HAS SUBMITTED AN ACCEPTABLE PLAN UNDER WHICH STUDENTS WILL RECEIVE THE APPROXIMATE EDUCATIONAL EQUIVALENT OF A 180-DAY TERM; OR

(4)] the school board adopts a **different** school term of not less than **144** [170] days for a school if the commissioner finds that the school board has submitted an acceptable plan under which students will receive the approximate educational equivalent of a 180-day term.

FISCAL NOTE

STATE OF ALASKA
2004 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: SB 239
() Publish Date:

Revision Date/Time (Note if correction):
Dept. Affected: EED
Title: An Act relating to the required number of days in a school year
RDU: ESS
Component: Executive Administration
Sponsor: Senator Dyson
Requester: Senate HESS
Component No. 2736

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CAPITAL EXPENDITURES						
CHANGE IN REVENUES ( )						

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1037 GF/Mental Health						
Other (Specify Type--Do not abbreviate)						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY2004) cost: 0.0
Mark this box (X) if funding for this bill is included in the Governor's FY 2005 budget proposal:

POSITIONS

Full-time						
Part-time						
Temporary						

ANALYSIS: *(Attach a separate page if necessary)*
This is a zero fiscal note.

Prepared by: Eddy Jeans, School Finance Manager
Phone 907-465-8679
Division: ESS/School Finance
Date/Time 2/13/04 1:21 PM
Approved by:
Date 2/13/2004
Agency: Education & Early Development

(Revised 12/2003 OMB)

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 1/12/04

FURTHER:

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED IN TO OFFICE: 2.25.04

Health, Education and Social Services Committee considered

SENATE BILL NO. 239

SB 239 LENGTH OF SCHOOL TERM

"An Act relating to the required number of days in a school year."

and recommends:

[x] be **replaced** with _____ **CS** SB 239 (HES)

[ ] adopt **previous** _____ **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt Letter of Intent by _____ Committee

[ ] further referral to _____ Committee

Senate Bill:
[x] Same Title
[ ] New Title

House Bill:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
EED	2/2			✓	

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	DO PASS	DO NOT PASS	NO REC	AMEND
			✓	
			✓	
				X
CHAIR:	✓			

SB

243

SENATOR KIM ELTON

MEMORANDUM

DATE: January 21, 2004

TO: Senator Fred Dyson, Chair
Senate HESS Committee

FROM: Senator Kim Elton

SUBJ: Hearing Request for SB 243, an Act relating to immunization of postsecondary students for meningitis; and providing for an effective date.

I respectfully request a hearing for SB 243, requiring postsecondary educational institutions in Alaska to provide written notice to each student who intends to reside in campus housing with information about meningococcal meningitis. Further, all students who will be attending postsecondary educational institutions in Alaska would be required to sign a document provided by the institution indicating they have received an immunization or a notice that they have received the information regarding immunization.

Meningococcal meningitis is a deadly disease which commonly strikes the college-age population. Freshmen students and others living in dormitories are at a higher risk of contracting meningococcal meningitis. Immunization is reported to be between 85 to 100 percent effective in prevention.

Representatives from the University of Alaska don't feel this would be a burden to university operations and stated there would be no extra cost to implement this legislation.

Alaska would join 23 other states and the U.S. House and Senate that have either pending or enacted similar legislation.

I ask that you hear SB 243 at your earliest convenience.

ALASKA SENATE
STATE CAPITOL • JUNEAU, ALASKA 99801-1182 • (907) 465-4947 • FAX (907) 465-2108
SENATOR_KIM_ELTON@LEGIS.STATE.AK.US

SENATOR KIM ELTON

SB 243
Sponsor Statement

"An Act relating to immunization of postsecondary students for meningitis; and providing for an effective date."

Meningococcal (muh-NIN-jah-kah-kul) meningitis is a rare but potentially fatal bacterial infection. It most commonly attacks the brain and spinal cord or presents as a bacteria in the blood. It can result in permanent brain damage, hearing loss, learning disability, organ failure, loss of limbs or death, often within hours of the first symptoms.

Certain college students have been found to be at risk for meningococcal meningitis. In fact, freshmen living in dormitories are found to be six times more likely to contract this disease. The Centers for Disease Control and Prevention (CDC) recommends college students, particularly freshmen living in dormitories, learn more about meningococcal meningitis and consider vaccination. They also recommend other college students who wish to reduce their risk for the disease also be vaccinated.

SB 243 would require postsecondary educational institutions in Alaska to provide written notice to each student who intends to reside in campus housing with information about meningococcal meningitis. Further, all students who will be attending postsecondary educational institutions in Alaska would be required to sign a document provided by the institution indicating they have received an immunization or a notice that they have received the information regarding immunization.

Representatives from the University of Alaska don't feel this would be a burden to university operations and stated there would be no extra cost to implement this legislation.

Alaska would join 23 other states and the U.S. House and Senate that have either pending or enacted similar legislation.

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Meningitis Foundation of America

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Facts About Meningococcal Meningitis

Meningococcal (muh-NIN-jah-kah-kul) meningitis is a rare but potentially fatal bacterial infection. The disease is most commonly expressed as meningitis, an attack of the brain and spinal cord, or meningococcemia, a presence of bacteria in the blood. It can result in permanent brain damage, hearing loss, learning disability, organ failure, loss of limbs or death.

Certain college students have been found to be at increased risk for meningococcal meningitis. In fact, freshmen living in dormitories are found to have a sixfold increased risk for the disease. The Centers for Disease Control and Prevention (CDC) now recommends college students, particularly freshmen living in dormitories, learn more about meningococcal meningitis and consider vaccination. They also recommend other college students who wish to reduce their risk for the disease can also be vaccinated.

Following are some commonly asked questions and answers about meningococcal meningitis, the risk for college students and vaccination:

What causes meningococcal meningitis?

- Meningococcal meningitis is caused by the bacterium Neisseria meningitidis, a leading cause of meningitis and/or blood poisoning in teenagers and young adults in the United States.

How common is meningococcal meningitis?

- Meningococcal meningitis strikes about 3,000 Americans each year causing more than 300 deaths annually.
- It is estimated that 100 to 125 cases of meningococcal meningitis occur annually on college campuses and 5 to 15 students die as a result.

How is meningococcal meningitis spread?

- Meningococcal meningitis is transmitted through air droplets and direct contact with infected persons.
- It occurs most often in late winter and early spring—at a time when most college students are away at school.

What are the symptoms of meningococcal meningitis?

- Symptoms of meningococcal meningitis are often misdiagnosed as something less serious.
- Symptoms can resemble the flu and may include high fever, headache, stiff neck, confusion, nausea, vomiting, exhaustion and/or a rash.

- If not detected early, the disease can progress, often within hours of the first signs of symptoms.

Who is at risk for meningococcal meningitis?

- Studies show 15 to 24 year olds are at greater risk of getting meningococcal meningitis, and in recent years there has been an increase in the number of college outbreaks.
- Certain lifestyle factors common among college students appear to be linked to the disease, including communal living (such as dormitories), bar patronage, smoking and irregular sleep patterns.
- Recent data also show students living in dormitories, particularly freshmen, have a sixfold-increased risk for the disease.

What is the CDC's vaccination recommendation for meningococcal meningitis?

- CDC now recommends college students, particularly freshmen living in dormitories, be educated about meningococcal meningitis and the potential benefits of vaccination. The recommendation further states immunization should be provided or made easily available to those who wish to reduce their risk for the disease.
- Other undergraduate students wishing to reduce their risk for meningococcal meningitis can also choose to be vaccinated.

How effective is the meningococcal meningitis vaccine?

- The meningococcal meningitis vaccine is available against four types of the bacteria that cause meningococcal meningitis in the United States, serogroups A, C, Y and W-135.
- These four serogroups account for nearly two-thirds of the cases of meningococcal meningitis in the college-age population.
- The vaccine can be used in adults and children greater than two years old.
- The vaccine is 85 to 100 percent effective in preventing meningococcal meningitis in serogroups A, C, Y and W-135 in older children and adults.
- Protection lasts approximately three to five years—the length of time most students are away at college.
- The meningococcal meningitis vaccine costs between $55 and $75.

Where can I get more information about meningococcal meningitis and vaccination?

- Visit the websites of the Meningitis Foundation of America, www.musa.org, the American College Health Association, www.acha.org, and the Centers for Disease Control and Prevention, www.cdc.gov. For information about the vaccine, consult a physician, the college health services center and/or the vaccine manufacturer, Aventis Pasteur, at 1-800-VACCINE (1-800-822-2463).

What is the Meningitis Foundation of America (MFA)?

- MFA provides education to the public and medical professionals about meningitis so that its early diagnosis and treatment will save lives;
- Supports the development of vaccines and other means of treating and/or

preventing meningitis;
- Provides educational and emotional support to sufferers of meningitis and their families.

Facts About Meningococcal Disease | CDC Recommendation | MFA Statement
CDC News Release | Colleges Conducting Vaccination Clinics

SENATOR KIM ELTON

States that currently have passed or pending legislation regarding Meningicoccal Meningitis

Arkansas
Meningitis and Vaccination Education Law passed in 1999

California
Vaccine and Education Law passed in Oct of 2001
Vaccination and Waiver Option Law passed in Oct of 2001

Connecticut
Vaccination or Signed Waiver Law passed in June of 2001

Delaware
Meningitis Education and Waiver Law passed in June of 2001
(You will have to type in Meningitis in their search engine to find the Bill)

Florida
Vaccination or Signed Waiver Law that passed in May of 2002

Georgia
Education Bill that was introduced in 2002

Illinois
Vaccination and Education Law passed in July of 2001

Indiana
Vaccination and Education Law passed in 2002

Maryland
Vaccination or Signed Waiver Law passed in May of 2000

Massachusetts
Vaccination or Waiver Bill introduced in 2001

Michigan
Department of Public Health
HB 4562 "Jason's Law" (Ed Wieinton)

Missouri
Vaccination Bill introduced in 2001

Nebraska
Hearing in Nebraska to be held on March 4th, 2003 regarding Legislative Bill 513
Related story: http://www.nmaus.org/programs/index.htm
Passed a law on Education and signed acknowledgement of the education.
http://www.unicam.state.ne.us/Legal/SLIP_LB513.pdf

New Jersey
Meningitis Education Law passed in May Of 2000

New York
Assembly Bill for Education, Vaccination or Waiver
This has passed.
New York's Senate Bill that was introduced as a substitute to the New York Assembly Bill

Ohio
Bills for Vaccination and High School Education...currently in Committee Hearings
Bill dealing with Vaccination and High School Education...also in Committee Hearings

Oklahoma
Law instated to require vaccine or sign a waiver.
http://www.nmaus.org/pdf/sb787_enr.pdf

Pennsylvania
Vaccination or Signed Waiver Law passed in June of 2002

South Carolina
Vaccination and Education Law passed in 2002

Tennessee
Vaccination or Waiver Bill law has been instated.
http://www.state.tn.us/sos/acts/103/pub/pc0104.pdf

Texas
Meningitis Education for All Families passed in May of 2001

Virginia
Vaccination or Signed Waiver Law passed in March of 2001

Wisconsin

Introduced Vaccine or waiver bills May 2003 pending.
http://www.unicam.state.ne.us/Legal/SLIP_LB513.pdf

United State Senate
Senate Bill S1009 that was introduced in June of 2001. This Bill is a Vaccination and Education Bill. It is still waiting for Senate Committee Hearings.

United States House of Representative
House Congressional Resolution 340
This resolution was passed by the U.S. House of Representative, and is awaiting approval from the U.S. Senate. This Resolution is for a Meningitis Awareness Month.

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MENINGOCOCCAL VACCINE

WHAT YOU NEED TO KNOW

1 What is meningococcal disease?

Meningococcal disease is a serious illness, caused by a bacteria. It is the leading cause of bacterial meningitis in children 2-18 years old in the United States. Meningitis is an infection of the brain and spinal cord coverings. Meningococcal disease can also cause blood infections.

About 2,600 people get meningococcal disease each year in the U.S. 10-15% of these people die, in spite of treatment with antibiotics. Of those who live, another 10% lose their arms or legs, become deaf, have problems with their nervous systems, become mentally retarded, or suffer seizures or strokes.

Anyone can get meningococcal disease. But it is most common in infants less than one year of age, international travelers, and people with certain medical conditions. College freshmen, particularly those who live in dormitories, have a slightly increased risk of getting meningococcal disease.

Meningococcal vaccine can prevent 4 types of meningococcal disease. These include 2 of the 3 types most common in the United States and a type which is the main cause of epidemics in Africa. Meningococcal vaccine cannot prevent all types of the disease. But it does help to protect many people who might become sick if they don't get the vaccine.

Drugs such as penicillin can be used to treat meningococcal infection. Still, about 1 out of every ten people who get the disease dies from it, and many others are affected for life. This is why it is important that people with the highest risk for meningococcal disease get the vaccine.

2 Who should get meningococcal vaccine and when?

Meningococcal vaccine is not routinely recommended for most people. People who *should* get the vaccine include:

- U.S. Military recruits
- People who might be affected during an outbreak of certain types of meningococcal disease.
- Anyone traveling to, or living in, a part of the world where meningococcal disease is common, such as West Africa.
- Anyone who has a damaged spleen, or whose spleen has been removed.
- Anyone who has terminal complement component deficiency (an immune system disorder).

The vaccine should also be *considered* for:

- Some laboratory workers who are routinely exposed to the meningococcal bacteria.

The vaccine may also be given to college students who choose to be vaccinated. College freshmen, especially those who live in dormitories, and their parents should discuss the risks and benefits of vaccination with their health care providers.

Meningococcal vaccine is usually not recommended for children under two years of age. But under special circumstances it may be given to infants as young as 3 months (the vaccine does not work as well in very young children). Ask your health care provider for details.

How many doses?

✓ For people 2 years of age and over: 1 dose (Sometimes an additional dose is recommended for people who continue to be at high risk. Ask your provider.)

✓ For children 3 months to 2 years of age who need the vaccine: 2 doses, 3 months apart

3 Some people should not get meningococcal vaccine or should wait

People should not get meningococcal vaccine if they have ever had a serious allergic reaction to a previous dose of the vaccine.

People who are mildly ill at the time the shot is scheduled can still get meningococcal vaccine. People with moderate or severe illnesses should usually wait until they recover. Your provider can advise you.

Meningococcal vaccine may be given to pregnant women.

4 What are the risks from meningococcal vaccine?

A vaccine, like any medicine, is capable of causing serious problems, such as severe allergic reactions. The risk of the meningococcal vaccine causing serious harm, or death, is extremely small.

Getting meningococcal vaccine is much safer than getting the disease.

Mild problems

Some people who get meningococcal vaccine have mild side effects, such as redness or pain where the shot was given. These symptoms usually last for 1-2 days.

A small percentage of people who receive the vaccine develop a fever.

5 What if there is a serious reaction?

What should I look for?

Look for any unusual condition, such as a severe allergic reaction, high fever, or unusual behavior. If a serious allergic reaction occurred, it would happen within a few minutes to a few hours after the shot. Signs of a serious allergic reaction can include difficulty breathing, weakness, hoarseness or wheezing, a fast heart beat, hives, dizziness, paleness, or swelling of the throat.

What should I do?

- Call a doctor, or get the person to a doctor right away.
- Tell your doctor what happened, the date and time it happened, and when the vaccination was given.
- Ask your health care provider to file a Vaccine Adverse Events Reporting System (VAERS) form. Or call VAERS yourself at 1-800-822-7967 or visit their website at **www.vaers.org**.

6 How can I learn more?

- Ask your doctor or nurse. They can give you the vaccine package insert or suggest other sources of information.
- Call your local or state health department's immunization program.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-2522** (English)
  - Call **1-800-232-0233** (Español)
  - Visit the National Immunization Program's website at **www.cdc.gov/nip**
  - Visit the National Center for Infectious Disease's meningococcal disease website at **www.cdc.gov/ncidod/dbmd/diseaseinfo/meningococcal_g.htm**
  - Visit CDC's Travelers Health website at **www.cdc.gov/travel**

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Disease Control and Prevention
National Immunization Program

SAMPLE FORM

University of Alaska Southeast

Records of Required Immunizations

PLEASE PRINT IN INK

Name:_____
Last First Middle Social Security

Mailing Address:_____

City:_____ State:_____ Zip:_____

Date of Birth:_____ New Student:_____ Returning Student:_____

Proof of required immunization is mandatory of all students living in Banfield Hall or Single Student apartments at UAS housing. This form **must** be completed and signed by a **physician** or a **clinician**, and returned to the Housing Office prior to move in. Please return this form signed or supply us with a photocopy of your vaccination record for review by our Health Clinician.

T.B. Skin Test or Chest x-ray Date must be within one year of UAS admission. See #6 on back.	Month____ Year_____	Results
Tetanus, Diphtheria, Pertussis-primary series completed. 4 to 5 doses. See #8 on back.	Primary series completed Month____ Year_____	Booster Month____ Year_____ (within last 10 years)
Poliomyelitis series completed. 4 doses. Not required of students age 17 or older.	Primary series completed Month____ Year_____	
MMR 2 shot series is now required. The first should have been administered at 15 months old. A second booster is now required. See # 7 on back.	1st series Month____ Year_____	2nd series Month____ Year_____
Meningococcal Meningitis Not required but suggested. See #9 on back.	Month____ Year_____	See back page for signature line.

Clinician or Public Health Official

Certification of Dates of Immunization and Freedom From Active Tuberculosis

Signature: _____

Printed Name: _____

Address: _____

_____

Please retain a copy for your personal records.

New Text Shaded

Description of Immunization Requirements

1. **Proof of a series of 4-5 doses of diptheria-pertussis (DTP) or tetanus-diphtheria (Td) vaccine.** If the series has been previously received, a booster Td dose is needed within the past ten years.
2. **Proof of completion of polio vaccine series. (If you are under 17 years of age) 4 doses.**
3. **Proof of one dose of live measles virus (rubeola) vaccine, which must have been received on or after 15 months of age and after 1968.** Evidence of previous disease documentation by a physician will not exempt the student from the vaccination requirement unless the student is born prior to 1957. A blood test showing protective antibodies will also provide exemption. Not available at UAS.
4. **Proof of one dose of rubella vaccine (German measles).** Only evidence of proof of immunity by a blood test showing protective antibody levels will exempt the student from this vaccination requirement. A history of physician-documented disease is not acceptable proof of immunity.
5. Mumps vaccine on or after 1st birthday or proof of immunity by a blood test is recommended. Combined **measles**, mumps, and rubella vaccine (MMR) is the vaccine of choice, if there is doubt that the patient is immune to any of these diseases. Immunization with a combined vaccine is safe even for individuals who happen to be immune to one or more of these diseases. Live vaccines are not recommended, however, for pregnant women.
6. **A tuberculin skin test within one year preceding registration** (unless adequately treated for TB). If the skin test is positive, a chest x-ray is required. If BCG vaccine was administered, give date and send report of chest x-ray taken within one year prior to admission (do not send film). If treated for active TB, please give dates, name of drug and duration of therapy. X-ray is required within one year preceding move in. Please send report only.
7. Persons born before 1957 do not need this immunization. Live virus vaccine must have been administered after 1968 and given after 12-15 months of age. Laboratory evidence of immunity is acceptable. **A second booster shot is now required after the MMR at 15 months.**
8. If serious doubt exists about the completion of a primary 4-5 dose, series, 2 doses of 0.5 ml combined (Td) toxoids should be given one month apart, followed by a third dose in 6-12 months.
9. I have received information regarding meningococcal meningitis and the available immunization.

_____ _____

Signature Date

There are many sources for obtaining your immunization record if it is not in your possession: your high school or previous college, your local health department, if you receive immunizations there, your military immunization record, your pediatricians office or your parents.

STUDENTS WHO FAIL TO COMPLY WITH THESE REQUIREMENTS WILL BE UNABLE TO MOVE INTO HOUSING OR ASKED TO LEAVE.

Return this completed form signed by a physician or clinician to:

University of Alaska Southeast Housing Office
11120 Glacier Hwy
Juneau, AK 99801

Any questions about housing please contact us at 907-465-6528
To talk about immunization call the UAS Health Clinic call 907-465-6457

New Text Shaded

College Freshmen Living in Dormitories are at Increased Risk for Meningococcal Disease Compared with Other College Students

Philadelphia, PA - June 1, 1999 - New data from nationwide surveillance show that while overall college students are not at increased risk for meningococcal disease, subgroups of college students seemed to be at increased risk. Freshmen living in dormitories have a 6.33 times higher risk of meningococcal disease than do college students overall, according to findings reported today by officials from the Centers for Disease Control and Prevention (CDC) at the annual meeting of the American College Health Association (ACHA). These findings are similar to those reported by Lee Harrison, MD, in last week' s issue of the *Journal of the American Medical Association*, which looked at meningococcal disease in college students in Maryland.

"These data indicate the need for public health professionals to continue to educate college students of the signs and symptoms of the disease and to seek medical attention immediately if they experience these symptoms," said Nancy Rosenstein, MD, a medical epidemiologist at the CDC. "College-bound students, their parents and college administrators should know that a safe and effective vaccine against this disease is available," she said.

Meningococcal meningitis has occurred with increasing frequency in recent years among teenagers and young adults. In 1996, 621 cases among 15-24-year-olds were reported to the CDC. This is double the number reported in this age group in 1991 (310 cases). Meningococcal disease strikes about 2,800 Americans each year with the highest rates of disease in children less than one year of age.

A meningococcal vaccine available to the public is 85 percent effective against four serogroups of *Neisseria meningitidis* (A, C, Y, and W-135) which account for about 70 percent of cases in college age students. It does not offer protection against serogroup B. Recipients of the meningococcal vaccine remain protected for three to five years. The vaccine has minimal side effects, mainly mild pain and redness at the injection site.

ACHA recommends that college health care providers take a proactive role in providing information to parents and students about meningococcal disease and access to the vaccine. ACHA also recommends that college students consider vaccination to reduce the risk for meningococcal disease.

"During a campus outbreak, students experiencing symptoms that may or may not be caused by meningococcal disease are likely to panic. In addition, a case of meningococcal disease substantially disrupts 'normal life' on the campus. This is a rapidly progressive disease: One day a student will be healthy and full of promise; the next day, he can be dead," said MarJeanne Collins, MD, co-chair of ACHA's vaccine-preventable disease task force and director of student health at the University of Pennsylvania.

"Although meningococcal disease is rare, it is a high-risk event. The data presented by the CDC at the ACHA annual meeting reinforce ACHA's efforts to educate parents and students about the disease and to encourage them to make an informed choice about vaccination," said Dr. Collins.

Dr. Collins is principal investigator of a separate case-control study currently underway by ACHA in collaboration with CDC. This study is examining behavioral factors such as alcohol consumption and tobacco use (both active and passive smoking) to determine if they increase the risk of meningococcal disease among college students. Results of the study are expected later this year.

Meningitis, or inflammation of the membranes surrounding the brain and spinal cord, is the most common syndrome of infection with *N. mertingitidis*. Early symptoms include fever, severe headache, nausea, vomiting, lethargy, stiffneck and rash. The disease can progress rapidly in as little as 12 hours.

Antibiotics can be effective, but treatment must begin immediately. Meningococcal disease can result in hearing loss, kidney failure, amputation of the limbs and permanent brain injury. Death occurs in approximately 10% of cases, or about 300 Americans annually. Outbreaks usually occur in late winter or early spring -- when college classes are in session.

ACHA, founded in 1920, is a national non profit organization that serves and represents the interests of professionals and students in health and higher education. Its mission is to be the principal advocacy and leadership organization for college and university health. The association provides advocacy, education, and services for its members to enhance their ability to improve the health of all students and the campus community. ACHA's Annual Meeting takes place this year from June 1-5 in Philadelphia. Nearly 2,000 college health professionals are in attendance from around the country.

MEDIA CONTACTS: Fred Lake, (212) 886-2200, Jennifer Passantino, (732) 382-5912

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Professional Development & Networking | Information & Resources | Members Only

UC Berkeley Press Release

Bacterial meningitis believed to be cause of UC Berkeley women's basketball player's death

20 January 2004

BERKELEY – A 20-year-old University of California, Berkeley women's basketball player died Monday, January 19, apparently of bacterial meningitis. Doctors say final cause of death is pending further tests.

Alisa Marie Lewis, a junior from Spokane, Wash., died at Kaiser Medical Center, Oakland. She was taken to the emergency room early in the morning complaining of a severe headache, rash and flu-like symptoms.

"Our heart goes out to Alisa's family following this horrible, devastating news," said women's basketball head coach Caren Horstmeyer. "Alisa was one of the nicest, hardest working players I've had the opportunity to coach. We're all in a complete state of shock."

At a Tuesday, January 20 press conference on campus, Horstmeyer said Lewis, who was majoring in social welfare, was a role model posed to make important community contributions after she graduated. Already, said Horstmeyer, Lewis had touched many people's lives.

Alisa Marie Lewis
(Print-quality image available for download)
(UC Berkeley photo)

• Team physician Dr. Chad Roghair discusses health risk posed by bacterial meningitis

The coach said that her young player had a credo, words Lewis had posted on a wall several months ago. They said: "Dream as if you'll live forever. Live as if you'll die today."

Lewis earned a scholarship to Cal after a successful high school career at Fairfield High School in Northern California. In her senior year, her family moved to Spokane, Washington, and she joined the Cal team in 2001. She lived in an off-campus apartment.

Team members were informed of Lewis' death at a meeting at Haas Pavilion on Monday, January 19. University health officials met with the team and coaching staff, providing health information and counseling. They emphasized that bacterial meningitis is rare and not spread through casual contact.

Following established public health procedures, university officials alerted city and county public health authorities.

"Due to on-going, close contact we felt it was appropriate to offer a single-dose antibiotic to team members and some staff as a precaution," said Dr. Peter Dietrich, medical director of the University Health Service.

The University Health Services' website provides detailed information on the signs, symptoms and treatment of meningitis. Common early symptoms of bacterial (also called meningococcal) meningitis include fever, severe sudden headache accompanied by mental changes such as malaise or lethargy, and neck stiffness. It can also be accompanied by a rash, mainly on the arms and legs. Any person with those symptoms is urged to seek immediate medical attention.

Health Officials Investigate Meningococcal Meningitis on Gulf Coast

December 12, 2003

Mississippi State Department of Health

News Release

Health Officials Investigate Meningococcal Meningitis on Gulf Coast — December 12, 2003

Mississippi State Department of Health officials have investigated five cases of meningococcal meningitis in the Gulf Coast area since mid-November. Public health officials do not discuss or release the identity of specific cases.

More facts about meningococcal meningitis can be found on the web site of the Centers for Disease Control (CDC) in Atlanta.

Health officials say that no clear evidence of a connection between the five cases has been found. "Early recognition and treatment of meningococcal meningitis can improve the outcome of this infection," said State Epidemiologist Dr. Mary Currier. "We want the public to be aware of the signs and symptoms of this disease, so patients will see their doctor or other health care provider if they think they may have this infection."

Meningococcal meningitis is caused by the bacteria *Neisseria meningitidis*, a germ that can be found in the nose of ten percent of the population at any time, and usually does not cause illness. "Transmission of this disease is through large droplets that are spread through coughing, sneezing or drinking after someone," said Dr. Currier.

The Mississippi State Department of Health investigates all suspect and reported cases of meningococcal meningitis and gives medications to immediate contacts of the sick patient. "Only people with prolonged close contact with a patient sick from this bacteria are considered contacts and need medications," said Dr. Currier.

Symptoms of meningicoccal meningitis include severe headache with a stiff neck and/or nausea, vomiting and a rash.

Press Contact: Elizabeth Hogue or Kelly French, (601) 576-7667

Links referenced

Centers for Disease Control (CDC) http://www.cdc.gov/ncidod/dbmd/diseaseinfo/meningococcal_g.htm

Find this page at

http://www.msdh.state.ms.us/msdhsite/index.cfm/23,1468,58,html

FISCAL NOTE

STATE OF ALASKA
2004 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: SB243-EED-ACPE-4-5-04
() Publish Date:

Revision Date/Time (Note if correction):
Dept. Affected: Education
Title: An Act relating to immunization of postsecondary students for meningitis...
RDU: ACPE
Component: Student Loan Program
Sponsor: Senator Elton
Requester: (S)HES
Component No.: 213

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

OPERATING EXPENDITURES	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Personal Services						
Travel						
Contractual						
Supplies						
Equipment						
Land & Structures						
Grants & Claims						
Miscellaneous						
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES						
CHANGE IN REVENUES ( )						

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1037 GF/Mental Health						
Other (Specify Type--Do not abbreviate)						
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2004) cost: 0.0
Mark this box (X) if funding for this bill is included in the Governor's FY 2005 budget proposal:

POSITIONS

Full-time						
Part-time						
Temporary						

ANALYSIS: *(Attach a separate page if necessary)*

This bill proposes that any Alaska postsecondary institution that provides residential housing for students will be required to: 1) deliver written advisories regarding meningococcal disease; and 2) collect and maintain student certification that such written notice has been provided, or, alternatively, certification that the student has been immunized for the disease.

The Commission would implement by providing due notice to Alaska institutions and including this requirement within its institutional authorization compliance review program.

Prepared by: Sheila King, Finance Officer
Phone 465-6740
Division: Finance
Date/Time 4/2/04 4:30 PM
Approved by: Diane Barrans, Executive Director
Date 4/2/2004
Agency: Alaska Commission on Postsecondary Education

(Revised 12/2003 OMB)

This is a copy of the University of Alaska Southeast Records of Required Immunizations form. I've modified this form by adding language about immunization for Meningococcal meningitis with a signature line indicating information has been received. This form would require additional information, such as the CDC handout.

SAMPLE FORM

University of Alaska Southeast

Records of Required Immunizations

PLEASE PRINT IN INK

Name:_____
Last First Middle Social Security

Mailing Address:_____

City:_____ State:_____ Zip:_____

Date of Birth:_____ New Student:_____ Returning Student:_____

Proof of required immunization is mandatory of all students living in Banfield Hall or Single Student apartments at UAS housing. This form **must** be completed and signed by a **physician** or a **clinician**, and returned to the Housing Office prior to move in. Please return this form signed or supply us with a photocopy of your vaccination record for review by our Health Clinician.

T.B. Skin Test or Chest x-ray Date must be within one year of UAS admission. See #6 on back.	Month____ Year_____	Results
Tetanus, Diphtheria, Pertussis-primary series completed. 4 to 5 doses. See #3 on back.	Primary series completed Month____ Year_____	Booster Month____ Year_____ (within last 10 years)
Poliomyelitis series completed. 4 doses. Not required of students age 17 or older.	Primary series completed Month____ Year_____	
MMR 2 shot series is now required. The first should have been administered at 15 months old. A second booster is now required. See # 7 on back.	1st series Month____ Year_____	2nd series Month____ Year_____
Meningococcal Meningitis Not required but suggested. See #9 on back.	Month____ Year_____	See back page for signature line.

Clinician or Public Health Official

Certification of Dates of Immunization and Freedom From Active Tuberculosis

Signature: _____

Printed Name: _____

Address: _____

_____

Please retain a copy for your personal records.

New Text Highlighted

Description of Immunization Requirements

1. **Proof of a series of 4-5 doses of diptheria-pertussis (DTP) or tetanus-diphtheria (Td) vaccine.** If the series has been previously received, a booster Td dose is needed within the past ten years.
2. **Proof of completion of polio vaccine series. (If you are under 17 years of age) 4 doses.**
3. **Proof of one dose of live measles virus (rubeola) vaccine, which must have been received on or after 15 months of age and after 1968.** Evidence of previous disease documentation by a physician will not exempt the student from the vaccination requirement unless the student is born prior to 1957. A blood test showing protective antibodies will also provide exemption. Not available at UAS.
4. **Proof of one dose of rubella vaccine (German measles).** Only evidence of proof of immunity by a blood test showing protective antibody levels will exempt the student from this vaccination requirement. A history of physician-documented disease is not acceptable proof of immunity.
5. Mumps vaccine on or after 1st birthday or proof of immunity by a blood test is recommended. Combined measles, mumps, and rubella vaccine (MMR) is the vaccine of choice, if there is doubt that the patient is immune to any of these diseases. Immunization with a combined vaccine is safe even for individuals who happen to be immune to one or more of these diseases. Live vaccines are not recommended, however, for pregnant women.
6. **A tuberculin skin test within one year preceding registration** (unless adequately treated for TB). If the skin test is positive, a chest x-ray is required. If BCG vaccine was administered, give date and send report of chest x-ray taken within one year prior to admission (do not send film). If treated for active TB, please give dates, name of drug and duration of therapy. X-ray is required within one year preceding move in. Please send report only.
7. Persons born before 1957 do not need this immunization. Live virus vaccine must have been administered after 1968 and given after 12-15 months of age. Laboratory evidence of immunity is acceptable. **A second booster shot is now required after the MMR at 15 months.**
8. If serious doubt exists about the completion of a primary 4-5 dose, series, 2 doses of 0.5 ml combined (Td) toxoids should be given one month apart, followed by a third dose in 6-12 months.
9. I have received information regarding meningococcal meningitis and the available immunization.

_____ _____

Signature Date

There are many sources for obtaining your immunization record if it is not in your possession: your high school or previous college, your local health department, if you receive immunizations there, your military immunization record, your pediatricians office or your parents.

STUDENTS WHO FAIL TO COMPLY WITH THESE REQUIREMENTS WILL BE UNABLE TO MOVE INTO HOUSING OR ASKED TO LEAVE.

Return this completed form signed by a physician or clinician to:

University of Alaska Southeast Housing Office
11120 Glacier Hwy
Juneau, AK 99801

Any questions about housing please contact us at 907-465-6528
To talk about immunization call the UAS Health Clinic call 907-465-6457

New Text Highlighted

This is a copy of the Emergency Medical and Contact Information form from Alaska Pacific University with the meningitis vaccine listed as one of the recommended immunizations students should receive. It gives sufficient language regarding immunization.

Emergency Medical and Contact Information

Emergency Contacts:

1) Name:_____ Relationship:_____

Phone: _____ Email: _____

2) Name:_____ Relationship:_____

Phone: _____ Email: _____

Medical Emergency Information:

Insurance Provider: _____ Policy Number: _____

Name of Policy Holder: _____

Relationship to Policy Holder: _____

Do you have any illnesses or disabilities which require special housing or consideration?

☐ Yes ☐ No **Explain:**

_____

Other Important Health Information: _____

_____

Health Information

All students living on campus are required to have health insurance. If you are not covered under your own policy or your parents, APU supports an inexpensive student health insurance program offered by the American College Student Association. You can review this program and even enroll online at: www.acsa.com

We *strongly* encourage you to visit your family doctor before arriving at APU to ensure your immunizations are up-to-date. **You are required to have the MMR and Tetanus immunizations to live on campus**. The additional immunizations are recommended by Alaska Pacific University and the American College Health Association. More information and resources about immunizations may be found online at: www.acha.org

Measles, Mumps, Rubella (MMR): First dose at 12-15 months and second dose on entry into grade school or later.
Tetanus-diphtheria: Within past 10 years.
Varicella (Chicken Pox): Childhood, if no natural immunity due to actual disease. Students entering health professions and occupations with exposure to young children should have history of disease or vaccination.
Tuberculosis Screening (TB): PPD skin testing to check for tuberculosis exposure.
Hepatitis B: This a series of three immunizations (0, 1 and 6 months). Now recommended prior to entry to grade school. This is recommended for all students.
Hepatitis A: This is a series of two immunizations (0 and 6 months). It is recommended prior to entry to grade school. This is recommended for all students. Blood titers can be done to determine if you are immune to these diseases.
Meningitis Vaccine: Immunization experts are recommending college students, particularly those who live in residence halls, be educated about meningococcal meningitis and the benefits of vaccination. The Center for Disease Control has issued this recommendation for college students regarding meningitis. This immunization is recommended for college freshman and other undergraduate students who wish to reduce their risk of the disease.

Subject: SB243
Date: Fri, 30 Jan 2004 11:30:48 -0900
From: "Mike Sfraga" <mike.sfraga@alaska.edu>
To: <pete.kelly@alaska.edu>

Pete: The general response from student services leadership at all three MAU's is very consistent and reassuring. Each campus has in place, mechanisms for student notification regarding the risks of meningitis on campus. For example, UAA's procedures
are as follows:
1. "Meningitis on Campus: Know Your Risk/Learn About Vaccination" plus an information sheet designed by
the Student Health Center is mailed out with every application for housing. Brochures and information sheets available at the Student Health Center table on check-in days.
2. Housing has an immunization requirement, but it is only for those students living in housing. Per BOR Policy 09.11.010, students living in housing must provide proof of a TB skin test within the last year, a tetanus-diphtheria shot within the last 10
years, and 2 doses of measles-mumps-rubella vaccine sometime in their life.
3. On the current "Housing Immunization Requirements" form, there is a place for meningitis vaccine, which is listed as a recommended vaccine, and also a sign-off line that says "Meningitis vaccine discussed - Student opts not to
receive it at this time." There is a place on the UAA immunization sheet that reads "Menomune vaccine has been discussed with me. I elect not to receive it at this time."

Similar (albeit not standardized) information and distribution mechanisms exist at UAF and UAS. There is a close working relationship between residence life and health/counseling staff at the MAU's. Note that UAS does not have on-campus health care providers, but contracts with the state. However - they do have similar information and educational pamphlets/forms available to students in the residence halls.

Bottom line: UA has been proactive when it comes to educating residence students about many health risks, has existing educational programs (for both residence hall students and the general student population), does distribute information specifically regarding meningitis, and has very good communication and educational programs sponsored by and coordinated between residence life and health/counseling staff. So - I would rather demonstrate, in more detail if necessary - that at least UA has a very proactive approach to notification. Although we DO NOT require vaccination for meningitis - we do have a good education and notification program in place.

Let me know if additional information is needed or requested - the campuses have been very responsive to my request for data. Thanks, Mike

From UAA

The Student Health Center provides flu shots. Check the flu shot program page for details.

Adults need immunizations, too. Are your immunizations up-to-date? The following are the recommendations of the American College Health Association and the Immunization Practices Advisory Committee:

Measles, Mumps, Rubella (MMR):
First dose at 12-15 months and second dose on entry into grade school.

Tetanus-diptheria:
Primary series in infancy, booster at 11 or 12 years of age and then every 10 years.

Varicella (Chicken Pox):
Childhood, if no natural immunity due to actual disease. Students entering health professions and occupations with exposure to young children should have history of disease or vaccination.

Tuberculosis Screening (TB):
PPD skin testing to check for tuberculosis exposure.

Hepatitis B:
This is a series of three immunizations (0, 1 and 6 months). Now recommended prior to entry to grade school. This is recommended for all students.

Hepatitis A:
This is a series of two immunizations (0 and 6 months).It is recommended prior to entry to grade school. This is recommended for all students. Blood titers can be done to determine if you are immune to these diseases.

Meningitis Vaccine:
Immunization experts are recommending college students, particularly those who live in dormitories, and residence halls, be educated about meningococcal meningitis and the benefits of vaccination. The Center for Disease Control has issued this recommendation for college students regarding meningitis. This immunizations recommended for college freshman and other undergraduate students who wish to reduce their risk of the disease.

Travel Immunizations:
Leaving the country for classes or touring? Check with the Student Health Center to find out what immunizations are required or recommended and whether there are any other specific requirements.

UNIVERSITY OF ALASKA FAIRBANKS
Center for Health and Counseling
Division of Student Affairs

- HOME
- MEDICAL SERVICES
- COUNSELING SERVICES
- DISABILITY SERVICES
- STUDENT HEALTH INSURANCE PLAN
- CENTER INFORMATION
- NEWS
- NOTICE OF PRIVACY PRACTICES

For appointments call:
907-474-7043
907-474-7045 (TTY)

Immunizations and TB Testing

The university encourages all students maintain up-to-date immunizations and requires all students living in residence halls to have specific immunizations (see Board of Regents Policy and Regulation 09.11.010)

Required immunizations to live in Residence Halls:

- MMR (measles, mumps, rubella) – 1st and 2nd doses
- Td (tetanus/diptheria) – within last 10 years
- ppd (Tb test) – within last year or history of positive test in the past

Required vaccines are provided free of charge at the Center

Optional immunizations recommended by the American College Health Association

- Hepatitis A
- Hepatitis B
- Meningococcal meningitis
- Flu vaccine
- Chickenpox (varicella)

The Center for Health and Counseling carries all of the above vaccinations and tests with the exception of Chickenpox. There are fees for some of these vaccines. For more information give us a call at 907-474-7043.

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2nd Floor - Health Safety and Security Building - (across from Wood Center) For appointments call (907) 474-7043 or (TTY) (907) 474-7045 P O Box 755580, Fairbanks, AK 99775-5580 Email: fyheaco@uaf.edu Fax: (907) 474-5777

Last Modified Friday, December 12, 2003

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News

What's New at the Center for Health and Counseling?

Watch for ice sculptures around the campus!

Sorry, we no longer have flu vaccinations available.

We have vaccines and tests required for residence halls, and we also have Meningitis vaccine and HepA/HepB vaccine.

2nd Floor - Health Safety and Security Building - (across from Wood Center) For appointments call (907) 474-7043 or (TTY) (907) 474-7045 PO Box 755580, Fairbanks, AK 99775-5580 Email: fyheaco@uaf.edu Fax: (907) 474-5777

Last Modified Tuesday, February 10, 2004