



CDC/NIOSH Perspective on Integrated Pest Management

Geoffrey Calvert MD MPH

National Institute for
Occupational Safety and Health
Centers for Disease Control and
Prevention



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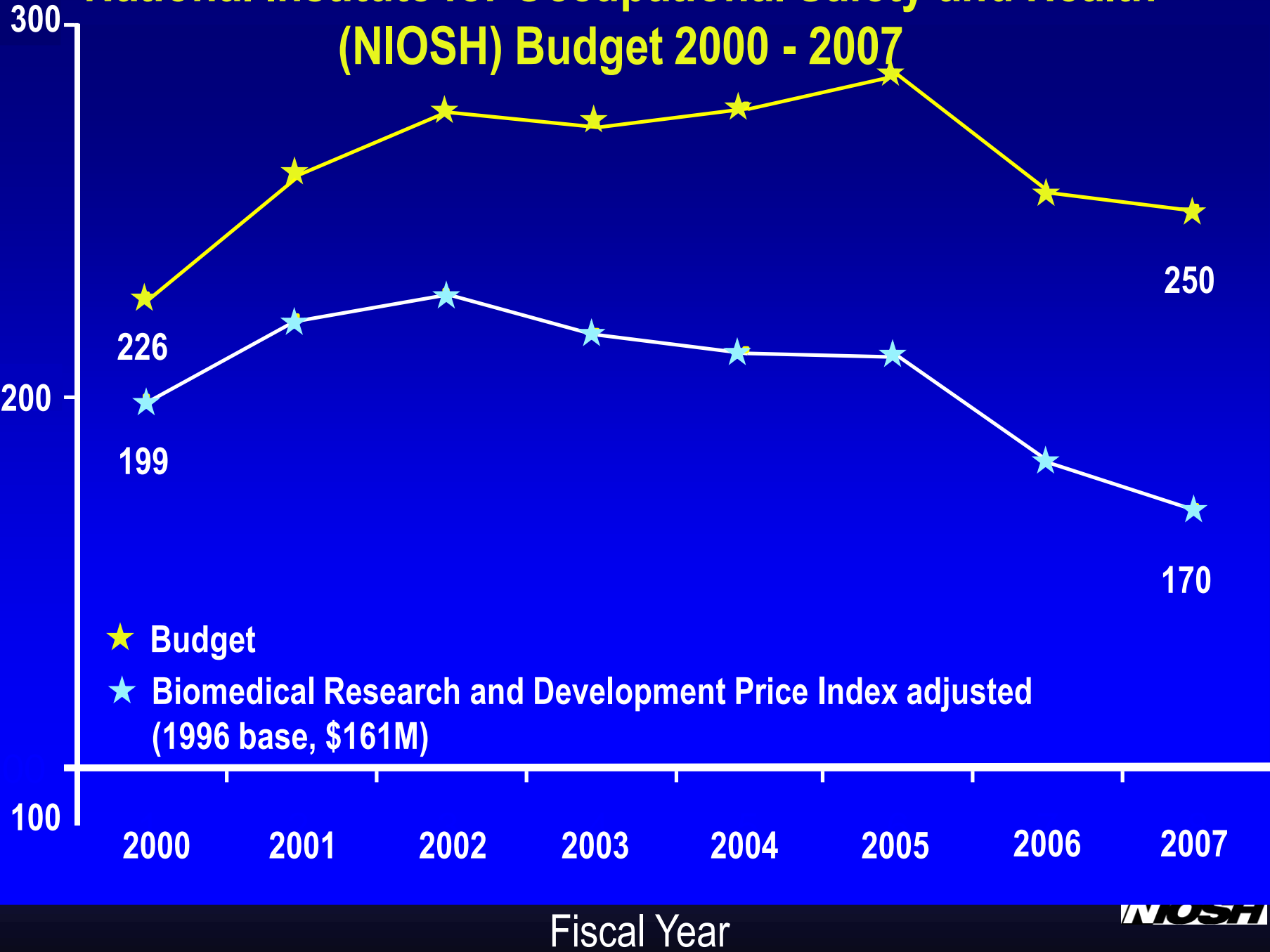


Mission of the Centers for Disease Control and Prevention (CDC)

- Collaborate to create the expertise, information and tools that people and communities need to protect their health
 - Detect and investigate health problems
 - Conduct research to enhance prevention
 - Develop and advocate sound public health policies
 - Implement prevention strategies
 - Foster safe and healthful environments
 - Provide leadership and training

National Institute for Occupational Safety and Health (NIOSH) Budget 2000 - 2007

\$ Millions



- ★ Budget
- ★ Biomedical Research and Development Price Index adjusted (1996 base, \$161M)

Fiscal Year

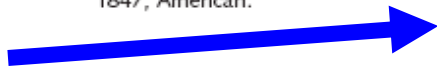


JAMA

The Journal of the American Medical Association



James Goodwyn Clonney (1812-1867), *The Happy Moment*, 1847, American.



July 27, 2005

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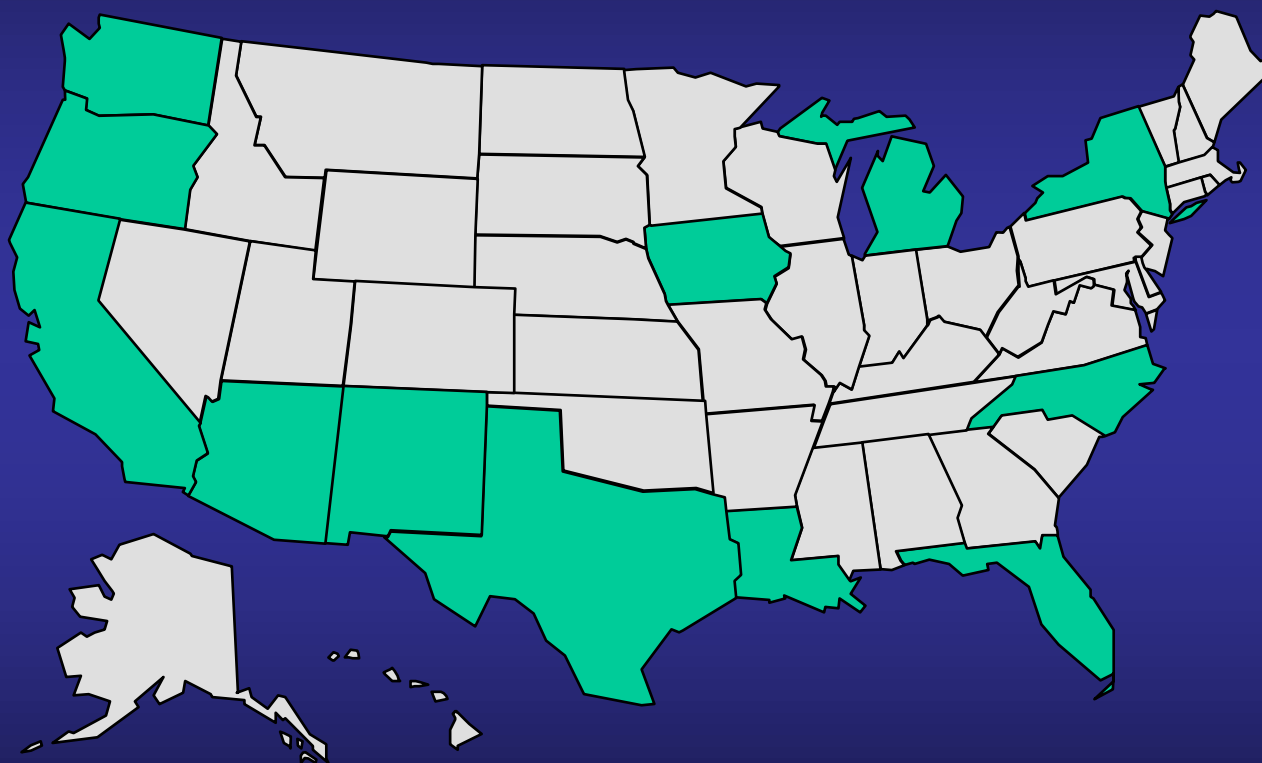


SENSOR-Pesticides Program

- State-based surveillance
- Began in 1987
- “Sentinel” case identification and follow-up
- Standardized case definition, variables, and severity index
- Case ascertainment: use multiple sources
 - Including poison control center reports, workers’ compensation records, state dept of agriculture
- Funded by NIOSH and EPA
- <http://www.cdc.gov/niosh/topics/pesticides/>



States participating in SENSOR-Pesticides (n=12)



 SENSOR-Pesticides

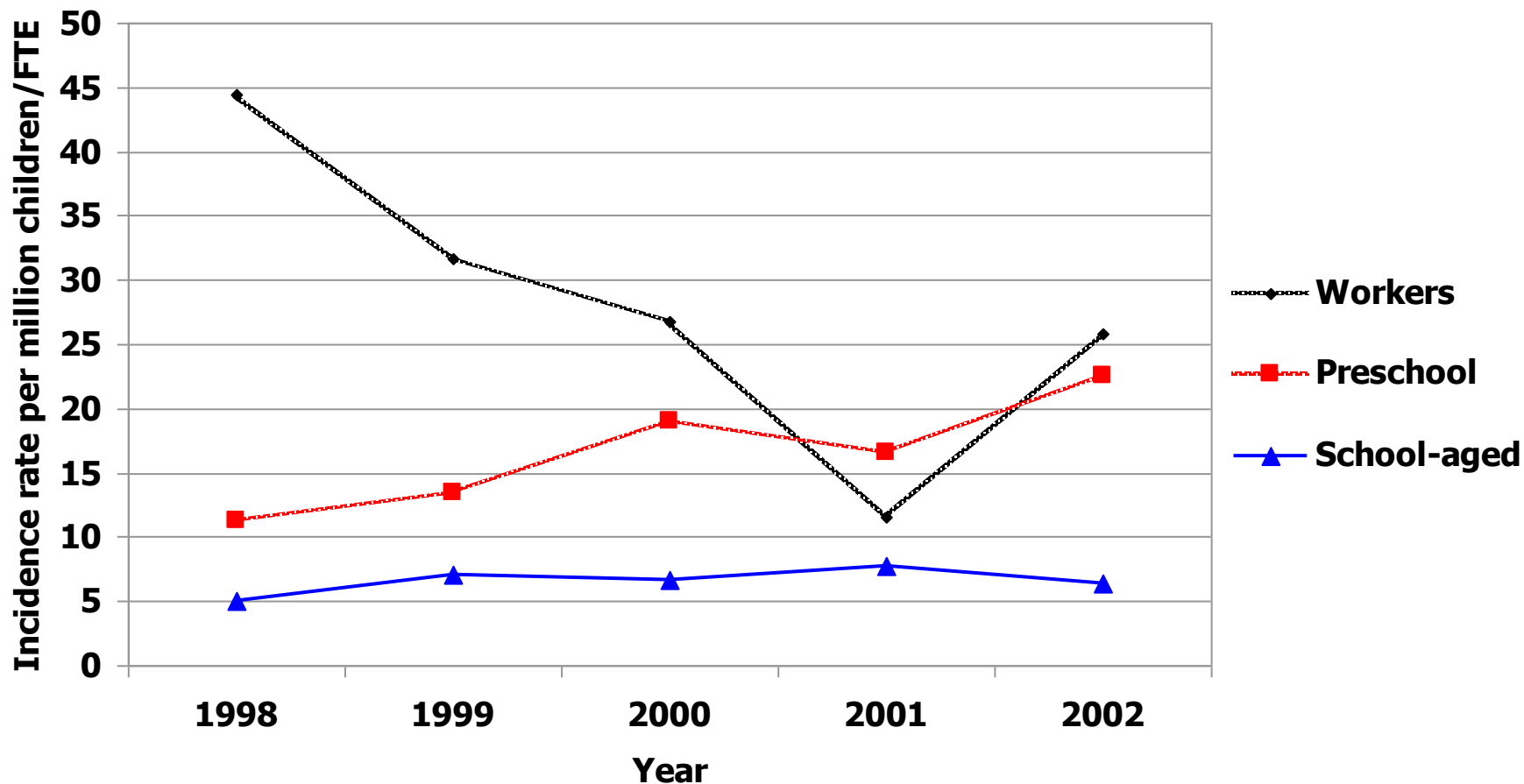


Pesticide class by surveillance systems, 1998-2002 (n=2,593)

Pesticide class	SENSOR		Poison control centers	
	n	(%)	n	(%)
Total	406	(16)	2,187	(84)
Insecticides	270	(67)	625	(29)
Disinfectants	99	(24)	731	(33)
Repellents	3	(1)	332	(15)
Herbicides	21	(5)	258	(12)
Other	13	(3)	241	(11)



Incidence rate trends per million children / per million FTEs





Conclusions and Recommendations

- **Conclusion:** Pesticide exposures at schools produce acute illnesses among school employees and students
- **Recommendations:** Reduce pesticide exposures through Integrated Pest Management (IPM) strategies



Outcomes

- Wide media coverage (16 interviews):
 - **Print:** AP, ABC news, US News & World Report, The Miami Herald, Health Day, LA times, NBC News Channel, Daily News - NY city, Orlando Sentinel, The Sacramento Bee. 500+ news stories
 - **Radio:** US: AP radio, CNN radio, KDKA, WFUV in the Bronx, NPR Radio (Boston), UK: BBC-Farming today
 - **Reaction:**
 - Industry: grade A+I = Alarmist + incomplete
 - EPA, Advocacy groups: support and encouragement






Outcomes

Adobe Reader - [Lautenberg Introduces Bill to Protect School Children from Effects of Harmful Pesticides.pdf]

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Lautenberg Introduces Bill to Protect School Children from Effects of Harmful Pesticides



September 7, 2006 (<http://lautenberg.senate.gov/>)

Lautenberg Introduces Bill to Protect School Children from Effects of Harmful Pesticides

WASHINGTON, D.C. -- United States Senator Frank R. Lautenberg introduced today the School Environment Protection Act (SEPA). The legislation will help protect children, families, and school staff from exposure to harmful chemicals in school buildings and on school grounds by implementing integrated pest management programs designed to require less, if any, chemical pesticide application. "Children have the right to learn in healthy surroundings," said Senator Lautenberg. "Parents and guardians have the right to know whether their children are being exposed to toxic chemicals and take

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Pesticides also associated with chronic health effects in adults

- Cancer
 - e.g. lung, leukemia, lymphoma, prostate
- Neurological problems
 - e.g. Parkinson's Disease, depression, retinal degeneration
- Pulmonary problems
 - e.g. Asthma, chronic bronchitis
- Adverse Reproductive Outcomes
 - e.g. Birth defects, gestational diabetes



Manufacturer Info vs. Action after Food Quality Protection Act (FQPA) Enacted in 1996

Pesticide	Manufacturer Comment in 1980s	Action under FQPA
Carbaryl	“you can feel comfortable using it just about anywhere around your yard...it has no harsh smell”	All pet uses cancelled, except flea collars Cancelled liquid broadcast use on lawns
Chlorpyrifos	“let me assure you that our products have been thoroughly tested and are safe when used according to label”	Cancelled following uses: Termite control All residential uses All non-residential uses (with some exceptions)

Acute Illnesses Associated With Pesticide E

Walter A. Alarcon, MD; Geoffrey M. Calvert, MD; Jerome M. Blonde
Dorothy S. Tibbetts, MPH, MS; Alan Becker, MPH; Michelle Lackovi
Dorilee P. Male, BS; Catherine L. Thomsen, MPH; Martha Stanbury,

JAMA. 2005;294:455-465.

+ chronic health effect associations



SEARCH:

NIOSH FACT SHEET

Reducing Pesticide Exposure at Schools

Summary

Pesticides play an important role in food supply protection and disease control, but they can also be harmful to human health. The term pesticide applies to insecticides, herbicides, fungicides, disinfectants and various other substances used to control pests. Pesticides are often applied at schools to help maintain sanitary conditions and suppress rodents and insect populations. Exposures and potential health risks to children and school staff can be reduced by avoiding routine pesticide applications through an Integrated Pest Management (IPM) program.

IPM is an alternative pest-control technique that manages and suppresses pests by preventing their access to food, water and shelter. These strategies can be more cost-efficient than traditional pest control options.¹ Using IPM at schools can reduce pesticide exposure of workers and students.

Pesticide Exposure at Schools

Exposure to pesticides at schools has been associated with illnesses among employees and students, although infrequently. Rates of illness from pesticide exposure at schools have been shown to be higher in school staff than in children because staff members are more likely to handle pesticides.² However, children may be particularly susceptible to pesticide toxicity because many of their organ systems have not reached developmental maturity.³

Exposures to pesticides can produce cough, shortness of breath, nausea, vomiting, headaches, and eye irritation.³ There is also mounting evidence that long-term pesticide exposure in adults is associated with chronic health effects such as cancer, neurologic problems and reproductive problems.^{4,5}

IPM can be useful to promote a safe learning environment

A Multifaceted Approach Needed to Manage and Suppress Pests

Although pesticides temporarily control pest populations, pests often return to the same location because food, water and shelter are still available. Consequently, additional actions are necessary to control pests in settings such as schools, workplaces, and homes. A multifaceted approach, such as an IPM program, is essential to effectively manage and suppress pests in any environment.





Fact Sheet Reviewed by over 25 different individuals

- NIOSH OD and NIOSH scientists
- NCEH, NCCDPHP
- EPA
- IPM Specialists
- Industry (NPMA, CropLife America)
- School Organizations: National School Boards Association
- Labor: American Federation of Teachers
- Academia (U of Florida)



Fact Sheet Dissemination

- Published in September 2007
- 300,000 copies
- Copy sent to every school (~111,000)
- Posted on NIOSH Web page
 - <http://www.cdc.gov/niosh/docs/2007-150/>
- Posted on various listservs
 - Duke OEM, OEM listserv in Latin America, SENSOR-Pesticides, COSS, NIOSH eNews
- Copies and links sent to stakeholder organizations
 - American Federation of Teachers
 - IPM professionals
- Spanish Translation is available



CDC and NIOSH policies support IPM

- Recommend IPM in schools
- Recommend IPM in disease vector management
- CDC Healthy Homes Initiative
 - IPM is necessary to reduce the number of pests that threaten human health and property
- Recommend IPM as an alternative to bug bombs



CDC and NIOSH support IPM on several levels

- IPM required in all CDC buildings
 - One important driver was to maintain accreditation for laboratory animal care
 - Also recognizes the importance of pest control that doesn't jeopardize the health of staff
 - Excellent contract specifications, but not uniformly applied at all CDC locations
 - But things are improving!





The CDC Wants:

SAFE SCHOOLS!

Safe from:

- * pest organisms
- * arthropod vectored diseases
- * inappropriate chemical pesticide use