

# Control Now for Clean Air



## THIRD NATIONAL CONFERENCE ON AIR POLLUTION

LILLIAN A. GLUCKMAN and ADRIAN W. SYBOR

**I**N the closing minutes of the conference on air pollution in Washington, D.C., December 14, 1966, Dr. William H. Stewart, Surgeon General of the Public Health Service, surveyed the more than 3,600 government, industry, and community leaders attending. "I can summarize this Third National Conference on Air Pollution in a single word," he told them. "The word is 'Go.'"

It was an excellent summary of the attitude expressed by more than 100 speakers during

---

*Mrs. Gluckman is information officer, National Conference on Air Pollution, National Center for Air Pollution Control, and Mr. Sybor is an information specialist in the Public Health Service's Bureau of Disease Prevention and Environmental Control.*

the 3-day meeting, epitomizing statements, technical papers, panel reports, and commentaries. "Your 3 full days of talking and listening, of discussing and debating, have added up to a single, clear call for action now to control air pollution," the Surgeon General said.

Vice President Hubert H. Humphrey had sounded the same note in opening the conference. "Let's get with it," he said bluntly. "I cannot help but feel that we are just about 6 to 10 years behind time in seriously getting down to work on the problem of air pollution."

"Control now for clean air" was the theme of the conference, emblazoned on stationery, press releases, posters, and even on kiosks in the conference's exhibit halls.

The call for action had been sounded in Feb-

ruary 1966 when President Johnson sent to the Congress his Message on Preserving Our Natural Heritage. "We have begun to counter air pollution by increasing the tempo of effort at all levels of government," he said. "I am heartened by the progress we are making, but I am mindful that we have only begun our work."

To forward that work, Secretary of Health, Education, and Welfare John W. Gardner in the spring of 1966 scheduled a national conference on air pollution in Washington, December 12-14. Arthur C. Stern, assistant chief of the Division of Air Pollution (now the National Center for Air Pollution Control), was appointed executive secretary of the conference.

Even with the Clean Air Act of 1963 and its 1965 and 1966 amendments, the air pollution problem is still growing at a faster rate than our combined Federal, State, and local efforts to cope with it, the Secretary declared. "The conference I am calling should help us insure that the air pollution problem, already serious, does not become critical in the decade ahead," he said.

### **The Opening Session**

Vice President Humphrey, as the first speaker, set the tone of the meeting. "All of us contribute to air pollution; therefore all of us must do our part in its control," he said. "Unless we tackle air pollution in real and deadly earnest, we shall be taking an intolerable risk with the lives and health of innocent people."

The Vice President also called for specific action, including new and effective interstate and regional air pollution control agreements. "Just as we need a nonproliferation treaty among nations, so we need nondiffusion treaties between States that share the same airshed." He called for uniform control standards from city to city and State to State and for early development of technology to control those sources of pollution which now lack adequate controls.

"I cannot believe that this nation, which is preparing to land a man on the moon, is not capable of devising ways to control sulfurous gases and diesel fumes here on earth," Humphrey said. Then he spelled out the task of the conference: "The American people want to know what we must do to 'Control now for clean

air.' They look to us for answers—it is our responsibility to have them."

Gardner asked some pertinent questions: "What kind of standards should be developed, and how can they be applied in a uniform and consistent manner? . . . What is the proper place, and what are the limitations of Federal incentives to industry to develop air pollution programs? . . . How can we make use of the techniques of systems analysis and of the aerospace industries in halting the pollution of the atmosphere? . . . These are only some of the questions that I hope you will explore," he said.

The Secretary outlined some measures already taken: awarding \$10 million in grants to State and local agencies, Federal abatement actions begun in nine areas, national standards set for the control of emissions from new gasoline-powered motor vehicles, increasing the number of State control programs from 17 in 1961 to 33 in 1966, and increasing during the same years local control programs from 85 to 130. He also indicated strongly that these developments were inadequate and that "we are actually losing ground in the fight against air pollution."

Gardner warned those who would not heed: "Without genuine action now, the problem will get worse, and we'll lose ground steadily until some frightening incident, or a series of such incidents, occurs. Then an angry public will call for measures far more rigorous and militant than anything we now contemplate."

### **Size of the Problem**

The extent and effect of air pollution in the nation was described in the first afternoon session. Dr. James P. Dixon, president of Antioch College; Dr. John S. Chapman, assistant dean of postgraduate education, Southwestern Medical School, University of Texas; Dr. Eric A. Walker, president of Pennsylvania State University; and Mrs. Esther Peterson, Assistant Secretary of Labor, each discussed an aspect of the problem.

Dixon reported the "absurd crisis" created when the nation dumps 130 million tons of pollutants into the sky each year: 85 million tons from motor vehicles, 22 million tons from manufacturing, 15 million tons from electric power generating plants, and 8 million tons



**Pulmonary function test at the conference. Output of an exhalation was interpreted by a computer in less than 10 seconds, and an analysis was given to each person tested.**

from heating plants of homes and buildings. The major pollutants are carbon monoxide, sulfur dioxide, hydrocarbons, oxides of nitrogen, and particulate matter.

“Our situation is absurd because it is not rational,” he said. “For the choices of the alternate uses of energy and resources which are part of our technological system are not, as far as their human outcomes go, based firmly upon science. Science tells us that in the light of our present knowledge, prediction of the capacity of the atmosphere to accommodate

wastes is an indeterminate problem. Common sense tells us that there are already circumstances under which the capacity is being exceeded.”

To Chapman, air pollution is part of a broad problem of ecological and biological pollution in general. While we cannot say that atmospheric pollution produces chronic bronchitis, emphysema, asthma, or cancer, he explained, there is no doubt that periods of high pollution and prolonged stagnation aggravate the first three conditions and shorten the lives of people

with bronchitis and emphysema. "As for the long-term ecological effects," Chapman added, "if a species with sufficient intelligence to produce huge volumes of atmospheric waste lacks the foresight to control the situation, it will earn and fully deserve the consequences of its folly."

Walker's assay of the situation branded it as one of the most serious sociotechnological problems facing the nation. He recommended a coordinated, interdisciplinary approach and stated that we have enough knowledge to understand what can be done, to determine where more research is needed, and to develop the devices and equipment required for pollution control. The difficulty in solving the air pollution problem, Walker believes, lies in the fact that our efforts have been piecemeal, directed toward a single industry or a single source of pollution.

"Under our present system," Walker said, "the man who neglects this responsibility [for pollution control] or who refuses to accept it is actually rewarded—in the sense that he can make his product or provide his service without the added cost of antipollution measures. His competitor, the enlightened, public-spirited manufacturer or industrialist, is penalized accordingly."

Walker urged a fundamental change of attitude. A good beginning would include developing better channels of communication among the people involved in this problem, mounting an intensive program of public education to explain the nature of air pollution and its seriousness, and extending and developing systems management techniques applicable to the complexities of air pollution control.

Peterson saw air pollution as a thief which robs the public of cash, health, and beauty. The first loss is difficult to measure; estimates run as high as \$12 billion a year or \$65 per person per year. A family of four in New York City is said to spend about \$800 per year to combat the damage and dirt that air pollution causes. Loss of health is even harder to measure in monetary terms. What is the cost in dollars of the smog in Donora, Pa., which killed 20 people in 1948, or the one in London in 1952 in which 4,000 people died? The scenic vistas, recreation areas, parks, greenery, and public buildings which air pollution dam-

ages or destroys are also difficult to assess in terms of money, but the loss is felt in a heavy heart and in the gloom and ugliness that exist where we have let our wastes blot out the sun or smother natural beauty.

The public is beginning to realize, Peterson said, that whether it is \$65 per person per year in damage, or 15 cents per person per year now being spent for local control programs, the cost comes out of the public's pocket. The citizen is learning that he can help determine whether the money should be spent for prevention or repair. Many consumer groups are already adding air pollution to their programs for action, and, she said, "It's high time."

### **Panel Sessions**

With the Vice President's order to "get with it" and the Health, Education, and Welfare Secretary's mandate to outline action ringing in their ears, the conference split into eight panels for the second day of meetings. In all, 104 representatives of business, labor, civic organizations, and all levels of government addressed the conference either in plenary sessions attended by all 3,640 registrants or in one of the panel sessions.

The panel topics were motor vehicles, heat and power generation, industrial operations, solid waste disposal, State and interstate air pollution control programs, local and regional air pollution control programs, the role of the Federal Government in air pollution control, and the economic and social aspects of air pollution control. The panel chairmen summarized their meetings before the entire conference on the third day.

### **Motor Vehicles**

The Clean Air Act Amendments of 1965 authorized the Secretary of Health, Education, and Welfare to set standards regulating emissions from motor vehicles. As a result, all new automobiles, beginning with the 1968 models, will be equipped with pollution control devices. Control devices are not yet developed and standards have not yet been set for diesel-powered engines and vehicles.

The conference's panel on motor vehicles, chaired by Eric P. Grant, executive officer of the California Motor Vehicle Pollution Con-

trol Board, pointed out the rapid growth expected in the number of autos, trucks, and buses on the road. Today there are 90 million vehicles, with their fumes constituting half the nation's air pollution problem; in 1980 there will be about 120 million vehicles.

Present Federal automotive standards are inadequate to meet future needs, the panel said. Controls already exist for hydrocarbons and carbon monoxide. In the future, regulations will be required to control metallic additives to fuel and oil, oxides of nitrogen, sulfur compounds, smoke, and odor. Proper maintenance of automobile engines must be assured through inspection systems. The panel considered new power sources for motor vehicles and regarded the gas turbine as a possibility for heavy trucks. Electric cars, powered by either batteries or fuel cells, require major breakthroughs before they can be considered practical for general use. A partial solution to the vehicle emission problem would be the development of efficient, economic, and practical urban mass transportation.

### **Heat and Power**

The panel on heat and power generation had the benefit of comments from Stewart L. Udall, Secretary of the Interior; Glenn T. Seaborg, Chairman of the U.S. Atomic Energy Commission; and Lee C. White, Chairman of the Federal Power Commission. The panel was chaired by Walker Cisler, chairman of the board of the Detroit Edison Company.

Air pollution control in powerplants, the panel said, is dependent on continuing and expanding research and development "to utilize fuel without impairing the environment." Energy consumption in the United States has been doubling every 25 years, with accompanying growth in air pollution from power-generating sources. Fortunately, pollution control technology has been improving at the same time.

While fly ash production in the heat and power generation industry will increase from the present rate of 23 million tons a year to about 32 million tons a year by 1980, actual fly ash emission into the atmosphere is expected to decline during that period from 6.5 million tons to about 3.8 million tons per year. Removal of

sulfur oxides is more difficult. Only limited amounts of low-sulfur oils are available, low-sulfur coals are not available where they are most needed, and removing sulfur from fuel before burning is expensive. Research can improve this situation. Research should also expend greater effort to reduce oxides of nitrogen, according to the panel. Until better solutions are found, high smokestacks can help to reduce ground level pollution near the source, but will not, of course, reduce the total pollution load in the environment.

### **Industrial Operations**

Chaired by James H. Huguet, industrial conservation coordinator of the Ethyl Corporation and president of the Air Pollution Control Association, the panel on industrial operations praised industry for having "cooperated with government at all levels in controlling air pollution." The panel found that there has been a steady improvement in design and construction of pollution control devices and that these devices are being used on a broader scale than ever before. The technology for reducing most particulate emissions and for removing most odors from industrial processes is known, but knowledge and technology are still lacking in the control of certain gaseous emissions.

Significant reductions in emissions have been achieved by the petroleum, steel, and chemical industries, the panel said, but costs of pollution control devices are still high, and small industries in particular feel the pinch of these costs. Financial assistance may be necessary both to help these industries and to encourage research in this field, the panel said.

The panel of industrial experts felt that "in order to have effective control, we need realistic ambient air quality criteria," but was opposed to establishing uniform air quality emission standards for stationary sources. Participants in other panels disagreed on this point.

### **Solid Waste Disposal**

Abraham Michaels, Philadelphia consulting engineer, chaired the panel on solid waste disposal. Facts presented to the panel showed that each American generates an average of 4.5 pounds of solid waste each day, and the amount is increasing by 2 percent each year. Overall,

the country generates 160 million tons of solid waste a year, disposing of half of it by open burning or incineration. This accounts for about 4 percent of the nationwide air pollution load and constitutes 20 percent of particulate emissions.

Alternative disposal methods which are being studied include landfilling, ocean disposal, composting, wet oxidation, pyrolyzation, and anaerobic digestion. While incinerators are capable of doing an acceptable job, about two-thirds of all municipal incinerators and a higher percentage of industrial and other onsite incinerators are poorly designed or poorly operated, the panel agreed.

Six recommendations came from this group:

1. Open burning should be abolished in all but isolated rural areas.

2. Realistic incinerator air pollution regulations, based on local requirements and in accordance with national standards, should be established and enforced.

3. Continuous particulate measuring instruments should be developed.

4. Training and enforcement techniques should be used to upgrade the management of solid waste disposal.

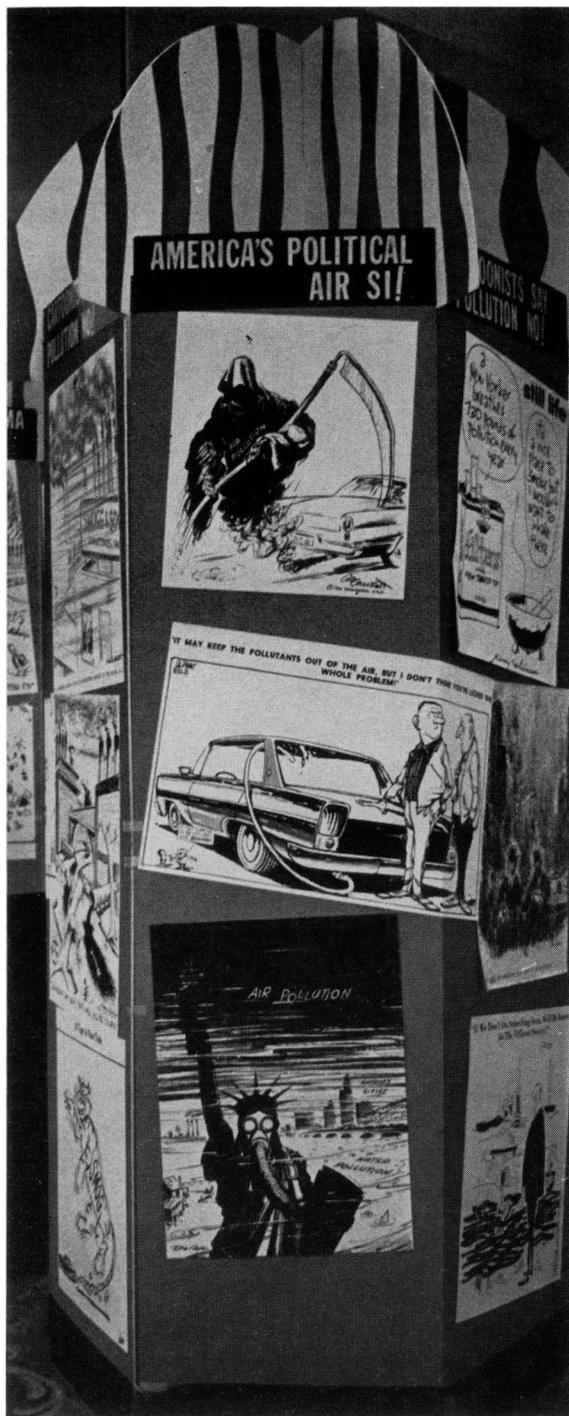
5. The Solid Waste Disposal Act should be amended to include financial support to municipal agencies for building disposal facilities, financial support for State and local management programs, a system of incentives and controls to reduce or eliminate excess waste in packaging and finished products, funds of about \$200 million a year for construction grants, and funds for research.

6. Research, development, and demonstration work on new and improved disposal techniques should be continued.

#### **Local, State, and Regional Programs**

The panels on State and interstate air pollution control programs and on local and regional programs met separately for a morning session and held a joint afternoon meeting. Dr. Alfred L. Frechette, commissioner of public health, Massachusetts Department of Public Health, chaired the State and interstate panel. The chairman of the local and regional panel was Robert A. Low, member of the New York City Council.

Twenty-five States had some form of air pollution control program in 1966 compared with a single State program in 1951. The report



Sixty of these cartoons exhibited at the conference appear in "No Laughing Matter," PHS Publication No. 1561.

indicates, however, that many of the existing programs are inadequate or barely adequate. The panel recommended that the term "air use management," implying a balanced concern for varied needs and interests of the many air users, be substituted for the more limited concept of air pollution control.

"Development of programs in air use management should start at the State level, and build up to the interstate and Federal levels and down to the regional and municipal levels," the panel said in recommending immediate development of regional governmental authorities to fight air pollution. The panel also recommended that the Federal Government be given authority to set air quality standards and emission standards.

The panel on local and regional air pollution programs was dissatisfied with current air pollution control efforts at local and regional levels. Jean J. Schueneman, chief, Technical Assistance Branch, National Center for Air Pollution Control, Public Health Service, said that at least four times the present effort is needed to cope with the air pollution problem. Staffing of local agencies is a problem because salaries are low and there is a general manpower shortage in the field. Local agencies have carried out most of the regulatory work in air pollution control in the past and will continue to do so in the future. Low recommended that Federal funds be withheld from agencies which failed to meet regional regulations and standards.

### **The Federal Role**

William J. Stanley, director of air pollution control for the City of Chicago, chaired the panel on the role of the Federal Government in air pollution control. The traditional viewpoint was expressed that local control of intrastate problems is sound and feasible and that where several jurisdictions vary in controlling the same problem Federal standards should be set. The panel added, however, that it foresees increased Federal abatement activity and control efforts through grants for urban renewal, community development, public housing, and highway construction.

Federal air quality criteria are needed, the panel agreed, to avoid the pressures that are

often exerted on local officials. The role of the Federal Government in the abatement of interstate problems and in the control of motor vehicle emissions was recognized. Aside from these areas, the panel felt "that the Federal role should be limited to a strong partnership with State and local agencies."

### **Economic and Social Aspects**

The remaining panel, on the economic and social aspects of air pollution control, was chaired by Rev. Robert G. Howes, chairman of the city and regional planning committee, department of civil engineering, Catholic University of America. The panel found that uncertainty in cost estimates of the national air pollution problem arises from difficulty in quantifying psychic and esthetic damage from air pollution and in identifying specifically the physical damage which can justifiably be attributed to air pollution.

The panel also agreed that while planning and zoning are important, they cannot be the only tools in the enforcement and implementation of air pollution control programs. Tax incentives to relieve industrial pollution are payments for the wrong thing, the panel felt.

### **Control Now**

How well did the conference meet its goal "control now for clean air?" The need for control was clear and accepted. The achievement of control is far short of the need. Daniel Schorr, Washington correspondent for the Columbia Broadcasting System, explained it well in his summary address at the last session of the conference:

"Vice President Humphrey said on the opening day of this conference that this nation can do whatever it wills to do. He told us that if we can orbit a laboratory and colonize the moon, we can certainly figure out what to do with the fumes that come out of a bus. But on the moon there is no conflict of Federal, State, and local jurisdictions, no cost-benefit ratio, no factor of competitive price to worry about. Perhaps if this were virgin territory like the moon, we could do it right. But we have our country as it is today."

### **Congressional Points of View**

The conference crystallized the thought of the public and its elected representatives and set a pattern of expectation of a resolution for pollution control. Senator Edmund S. Muskie (D-Maine), the major speaker at the conference banquet, emphasized abatement activities: "We need to set a national clean air goal which says that no emissions within our control will be permitted if they cause the quality of the air to deteriorate below acceptable health standards."

Senator J. Caleb Boggs (R-Delaware) said the Federal Government must exercise greater responsibility in research on air pollution control. "Based on this research and the improved techniques developed," he said, "and with the assistance of the businesses themselves, the Federal Government should also help devise and suggest reasonable standards for industrial processes."

Senator Gaylord Nelson (D-Wisconsin) made three recommendations: "The number one reform needed in our national air pollution program is the immediate development of regional governmental authorities to fight air pollution on the scale that it occurs. . . . We need to take another step forward and give the Federal Government authority to set air quality standards and emission standards. . . . We must admit that despite the increase in our recent authorizations, our financial support for air pollution control is still only a fraction of what it ought to be."

On the House side, Representative John D. Dingell (D-Michigan) also called for air quality standards and predicted that increased Federal spending authorizations for pollution control will cause a substantial rise in State and local spending within the next few years, "probably threefold, to \$60 million or more by 1970."

"It is much the better part of wisdom to set the best standards we know how to set—and to set them now rather than to wait until some indefinite future time when we may possibly know more," Dingell said. "Standards can be changed, if necessary, when accumulated scientific evidence dictates change."

Representative William F. Ryan (D-New York) spoke of the "disposal disasters" which solid wastes create in our cities. He urged

amendments to the Solid Waste Disposal Act to help localities acquire and construct disposal facilities, and to develop and ensure compliance with Federal standards. He suggested a new commandment for modern society: "Thou shalt not pollute." "And," he said, "we must enforce that commandment whatever the cost, whatever the vested interests, whatever the administrative problems."

The late Representative John E. Fogarty (D-Rhode Island) called for a stepped-up effort to inform the public, increasing motivation for the support of strong air pollution control programs. He stressed the danger to health and expressed dismay at the disparity between air pollution damage costs and control expenditures. "Once we said smoking chimneys mean prosperity. But today in our prosperous and technically advanced culture, a community living under uncontrolled plumes of airborne waste is flying the pennants of poverty." Fogarty quoted a *Harvard Business Review* estimate that \$275 billion will be required in the next 35 years to ensure the availability of clean air and water.

### **Air Pollution Conferences**

In 1958, the First National Conference on Air Pollution was attended by 1,000 people who agreed that research in air pollution was very much needed. By 1962 the Second National Conference on Air Pollution brought together 1,500 people who recognized that research had shown some answers but that technology in air pollution control was lagging.

The Third National Conference on Air Pollution, with 3,640 registrants, faced the fact that research was still needed, and that technology could still be improved, but that the application of existing knowledge and technology was the master key to the conference theme, "Control now for clean air." There was general agreement on recommendations for greater expenditures for air pollution control by business and government and on the need for establishing uniform air quality standards and regional control programs throughout the nation. There was general impatience with the dirt and disease that have resulted from air pollution. There was general desire to clean the air.

During the conference a monitor kept a log

of the tons of motor vehicle exhaust which went into the air of the United States from 10 a.m., December 12, when the conference started, until 3:30 p.m., December 14, when it closed. The grand total was 486,002 tons. Yet auto exhaust represented only about half the total air pollution dumped into the American atmosphere during that period. Schorr, the conference summarizer, said "That doesn't sound to me like

'Control now.'" He was right. The conference agreed that the need for action exists now, and spelled out the direction that action should take, the regulations and the legislation that will be required to achieve clean air, and the behavior on the part of people, government, and industry that will keep it clean.

Surgeon General Stewart summed it up in a word: "Go."

---

## Education Notes

### **Hospital Administrators Development Program.**

A 4-week course of lectures, readings, and discussions dealing with problems and developments in the organization of medical care services will be held at Cornell University, June 18 to July 14, 1967.

Twenty-five \$500 scholarships are available to executives from community hospitals, university medical centers, psychiatric hospitals, planning councils, State and Federal health agencies, and other health organizations. Scholarships cover all tuition and fee costs. Total charge to each participant is \$400 for room, board, social activities, and educational materials.

Additional information can be obtained from the Sloan Institute of Hospital Administration, Malott Hall, Cornell University, Ithaca, N.Y. 14850.

**National Health Council Courses.** Nine short courses sponsored by the National Health Council will be conducted by seven universities from June through September 1967.

Three courses will focus on executive development, two on the voluntary health agency in the community, and one each on communication, consultation, personnel management, and school health.

Cooperating universities are Columbia University School of Public Health and Administrative Medicine, George Washington University School of Government and Business Administration, Indiana Uni-

versity Graduate School of Business, University of California School of Public Health, University of Chicago Industrial Relations Center, University of Georgia Center for Continuing Education, and the University of Oklahoma Center for Continuing Education.

Eligible personnel from voluntary, official, and professional health agencies and organizations may obtain additional information from Wilma Dean Henry, director, Continuing Education Program, National Health Council, 1740 Broadway, New York, N.Y. 10019.

**Senior Clinical Traineeships in Mental Retardation.** The Division of Mental Retardation, Public Health Service, is offering support for a third or an additional year of training to residents in pediatrics.

Intended to improve and extend community services by providing opportunities for qualified physicians to obtain additional training, these senior traineeships emphasize clinical management of mentally retarded patients and provide specialized experience and study in neurology, psychology, psychiatry, audiology, speech therapy, and other related subjects. Support for the first 2 years of pediatric residency is not available under this program.

Further information and application forms are available from directors of Health, Education, and Welfare regions, State health departments, chairmen of pediatric departments, or Robert I. Jaslow, M.D., director, Division of Mental Retardation, Public Health Service, 4040 North Fairfax Drive, Arlington, Va. 22203.