

Y4  
. In 8/4  
5-49

1019

95Y4  
In 8/4  
95-49

# NATIONAL CHILD IMMUNIZATION PROGRAMS

GOVERNMENT  
Storage

HEARING  
BEFORE THE  
SUBCOMMITTEE ON  
OVERSIGHT AND INVESTIGATIONS  
OF THE  
COMMITTEE ON  
INTERSTATE AND FOREIGN COMMERCE  
HOUSE OF REPRESENTATIVES

NINETY-FIFTH CONGRESS  
FIRST SESSION

AUGUST 31, 1977

Serial No. 95-49

Printed for the use of the  
Committee on Interstate and Foreign Commerce



U.S. GOVERNMENT PRINTING OFFICE  
WASHINGTON : 1977

99-060

ALL INFORMATION CONTAINED  
HEREIN IS UNCLASSIFIED  
DATE 08-17-2011 BY 60322 UCBAW

✓  
286178 00611V  
811900 817382

COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

HARLEY O. STAGGERS, West Virginia, *Chairman*

JOHN E. MOSS, California  
JOHN D. DINGELL, Michigan  
PAUL G. ROGERS, Florida  
LIONEL VAN DEERLIN, California  
FRED B. ROONEY, Pennsylvania  
JOHN M. MURPHY, New York  
DAVID E. SATTERFIELD III, Virginia  
BOB ECKHARDT, Texas  
RICHARDSON PREYER, North Carolina  
CHARLES J. CARNEY, Ohio  
RALPH H. METCALFE, Illinois  
JAMES H. SCHEUER, New York  
RICHARD L. OTTINGER, New York  
HENRY A. WAXMAN, California  
ROBERT (BOB) KRUEGER, Texas  
TIMOTHY E. WIRTH, Colorado  
PHILIP R. SHARP, Indiana  
JAMES J. FLORIO, New Jersey  
ANTHONY TOBY MOFFETT, Connecticut  
JIM SANTINI, Nevada  
ANDREW MAGUIRE, New Jersey  
MARTY RUSSO, Illinois  
EDWARD J. MARKEY, Massachusetts  
THOMAS A. LUKEN, Ohio  
DOUG WALGREN, Pennsylvania  
BOB GAMMAGE, Texas  
ALBERT GORE, Jr., Tennessee  
BARBARA A. MIKULSKI, Maryland

SAMUEL L. DEVINE, Ohio  
JAMES T. BROYHILL, North Carolina  
TIM LEE CARTER, Kentucky  
CLARENCE J. BROWN, Ohio  
JOE SKUBITZ, Kansas  
JAMES M. COLLINS, Texas  
LOUIS FREY, Jr., Florida  
NORMAN F. LENT, New York  
EDWARD R. MADIGAN, Illinois  
CARLOS J. MOORHEAD, California  
MATTHEW J. RINALDO, New Jersey  
W. HENSON MOORE, Louisiana  
DAVE STOCKMAN, Michigan  
MARC L. MARKS, Pennsylvania

W. E. WILLIAMSON, *Chief Clerk and Staff Director*

KENNETH J. PAINTER, *First Assistant Clerk*

ELEANOR A. DINKINS, *Assistant Clerk*

FRANK W. MAHON, *Printing Editor*

SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS

JOHN E. MOSS, California, *Chairman*

JIM SANTINI, Nevada  
THOMAS A. LUKEN, Ohio  
DOUG WALGREN, Pennsylvania  
ALBERT GORE, Jr., Tennessee  
CHARLES J. CARNEY, Ohio  
JAMES H. SCHEUER, New York  
HENRY A. WAXMAN, California  
PHILIP R. SHARP, Indiana  
ANTHONY TOBY MOFFETT, Connecticut  
ANDREW MAGUIRE, New Jersey  
ROBERT (BOB) KRUEGER, Texas  
HARLEY O. STAGGERS, West Virginia  
(*Ex officio*)

JAMES M. COLLINS, Texas  
NORMAN F. LENT, New York  
MATTHEW J. RINALDO, New Jersey  
DAVE STOCKMAN, Michigan  
MARC L. MARKS, Pennsylvania  
SAMUEL L. DEVINE, Ohio (*Ex officio*)

MICHAEL R. LEMOV, *Chief Counsel*

JAMES L. NELLIGAN, *Operations Director*

JOHN McELROY ATKISSON, *Deputy Chief Counsel*

ELLIOT A. SEGAL, *Health Task Force Director*

PATRICK M. McLAIN, *Counsel*

KATHERINE C. MEYERS, *Special Assistant*

J. THOMAS GREENE, *Counsel to the Chairman*

BERNARD J. WUNDER, Jr., *Minority Counsel*

## CONTENTS

Statement of—	Page
Chin, James, M.D., director, infectious disease section, department of health, State of California.....	68
Fannin, Shirley L., M.D., chief, acute communicable disease control, county of Los Angeles/department of health services.....	39, 49
Foegen, William H., M.D., Director, Center for Disease Control, De-Overturf, Gary D, M.D., assistant professor, pediatrics, University of partment of Health, Education, and Welfare.....	4
Southern California; chief, communicable disease service, Los Angeles County-University of Southern California Medical Center... ..	25
Turrell, Eunice, M.D., coordinator, student health services, district health services branch, division of educational support services, Los Angeles Unified School District.....	39
Vandermeer, Dan, Public Health Adviser, Immunization Initiative, Department of Health, Education, and Welfare.....	4
Wehrle, Paul F., M.D., Hastings Professor of Pediatrics, University of Southern California, and chief, professional services, pediatric pavilion, Los Angeles County-University of Southern California Medical Center.....	25, 27
Wilkins, Jeanette, M.D., associate professor of pediatrics, Los Angeles County-University of Southern California Medical Center.....	39, 57
Additional material submitted for the record by—	
Fannin, Shirley L., M.D., chief acute communicable disease control, county of Los Angeles/department of health services, attachments to prepared statement:	
Table I—Kindergarten immunization levels, Los Angeles County, by percent adequately immunized.....	52
Table IIa—Reported measles cases by district, Los Angeles County, October 1976, to June 28, 1977.....	52
Table IIb—Geographic distribution of reported measles cases in Los Angeles County, October 9, 1976 to June 28, 1977.....	53
Table IIc—Los Angeles County, reported measles cases by age and calendar year and epidemiologic year.....	53
Table IId—Reported measles cases by epidemiologic year.....	54
Table III—Immunization project appropriations, 1965-77.....	55
Los Angeles County fact sheet.....	55
Health, Education, and Welfare Department:	
Attachments to Dr. Foegen's prepared statement:	
Figure 1—Reported annual poliomyelitis incidence rate, United States, 1941-76.....	11
Figure 2—Reported cases of measles by 4-week periods, United States, 1956-76.....	11
Figure 3—Cases of rubella, by period of onset, and of congenital rubella syndrome, by period of birth, United States, 1969-76.....	12
Figure 4—Number of reported measles cases by week, United States, 1976 and 1977.....	13
Figure 5—Number of reported rubella cases by week, United States, 1976 and 1977.....	14
Table 1—Percent of population 1 to 4 years of age with specified doses of polio, diphtheria-tetanus-pertussis (DIP), measles, rubella, and mumps vaccines, United States, 1964-76.....	14
Table 2—Number of children either incompletely or not immunized, 1976.....	15

## Additional material submitted for the record by—Continued

## Health, Education, and Welfare Department—Continued

Measles cases (calendar year) and Federal grant funds (fiscal year) obligated for measles control programs by year, United States 1965-76-----	Page 16
Percent of population 5 to 9 years of age with specified doses of polio, diphtheria-tetanus-pertussia (DIP), measles, rubella, and mumps vaccines, United States, 1964-76-----	22
Overturf, Gary D., M.D., assistant professor, pediatrics, university of Southern California; chief, communicable disease service, Los Angeles County-University of Southern California Medical Center, attachments to prepared statement:	
Table 1a.—Hospital admissions and outpatient visits (OPD) to the communicable disease unit of LAC-USC medical center of patients with diseases preventable by current immunization procedures (30-month period, January 1, 1975-June 30, 1977)---	26
Table 2b.—Estimated economic impact in terms of direct patient charges only for all patient visits and admissions to CD unit of LAC-USC medical center for diseases preventable by current immunization procedures (30-month period)-----	27
Turrell, Eunice, M.D., coordinator, student health services, district health services branch, division of educational support services, Los Angeles Unified School District, exhibits attached to statement:	
Exhibit A1—Memorandum re measles epidemic-----	42
Exhibit A2—Letter to parent or legal guardian-----	43
Exhibit B—Compilation by administrative areas pupils' measles immunization levels-----	45
Exhibit C—Measles waivers-----	46
Exhibit D—Memorandum re measles immunization assessments update-----	47
Exhibit E—Memorandum re measles immunization update as of June 15, 1977-----	48

## NATIONAL CHILD IMMUNIZATION PROGRAMS

WEDNESDAY, AUGUST 31, 1977

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS,  
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,  
*Los Angeles, Calif.*

The subcommittee met, pursuant to notice, at 10 a.m., in dining room A, Mary Duque Building, Los Angeles Children's Hospital, Los Angeles, Calif., Hon. Henry A. Waxman presiding (Hon. John E. Moss, chairman).

Mr. WAXMAN. Ladies and gentlemen, fellow members of the subcommittee, this field hearing of the House Subcommittee on Oversight and Investigations of the Committee on Interstate and Foreign Commerce shall come to order.

The topic of our hearing is children's immunizations. This is a most auspicious time for such a hearing because our schools will reopen in a few weeks. Our children should be able to go to school without having their education interrupted by serious illnesses associated with contagious childhood diseases. Thanks to vaccines, poliomyelitis is no longer the widespread crippler it once was. Our children can now be protected against measles and the risk of death or brain damage resulting from that disease. That is how things should be, but that is not how they are.

If I described to you a nation where 19 million children were not immunized against polio, and 15½ million were not protected from diphtheria and whooping cough, and 12 million were not vaccinated for measles, you might assume that I was talking about some underdeveloped nation. How startling it is to read that this Nation, the United States, with medical technology second to none, has allowed children's immunization levels to fall so low.

It is a national disgrace that someone died last year of diphtheria in New York City.

It is a national disgrace that in our own city of Los Angeles two persons died last year from measles complications.

It is a national disgrace that children are brain damaged or crippled each year for want of a simple and free vaccination.

The failure to immunize our citizens puts our children at risk and results in a terrible waste of our medical resources. All the breakthroughs of our medical technology are meaningless unless we use them. Preventive care is the most humane and the most cost effective medical care there is. In 1975, our subcommittee received figures from the National Communicable Disease Center, for a 5-year period, esti-

mating that immunization efforts averted 10 million cases of measles and 3,200 cases of mental retardation. It also estimated that immunization saved 973 lives, 555,000 hospital days, 291,000 years of life, 1.6 million workdays, 32 million schooldays, and \$423 million.

One should not be too casual about children's contagious diseases. These are not to be shrugged off as just a part of childhood. Measles' complications include encephalitis and brain damage. Mumps can lead to sterility in males. Whooping cough can be deadly. Polio can cripple. We chose this site for the hearings—Los Angeles Children's Hospital—lest we forget how serious childhood diseases can be.

When an outbreak of measles swept through our Los Angeles public schools last fall and spring, I looked into the question of what our immunization levels were. I was shocked to discover that immunization levels in the United States have been dropping off, and the spread of childhood diseases is on the increase.

According to the latest figures from the Center for Disease Control in Atlanta, released August 6, there have already been, nationwide, 52,290 cases of measles this year. Last year at this point there had been only 33,701 cases.

The House Subcommittee on Oversight and Investigations has undertaken this field hearing to do a case study of the Los Angeles immunization experience. We suspect, and I think the testimony we hear this morning will establish, that low rates of immunization are a national problem. My colleagues, Congressman Andrew Maguire from New Jersey and Congressman Norman Lent from New York, will join me in trying to find the answers to the following questions:

Why is there so much apathy about vaccinating children for serious contagious diseases?

Are we talking about the apathy of government; are immunization programs under-funded and poorly staffed? Or are we talking about the apathy or ignorance of parents who will not take the time to get their children vaccinated?

Are laws being enforced to assure that school children are immunized for childhood diseases? What proof does the school require that a child has been vaccinated?

Why are some vaccinated children getting measles anyway?

Are cost projections for a national immunization program realistic?

The Center for Disease Control has suggested a uniform data bank on immunizations. Is a centralized data bank a good idea?

I predict that, unless we investigate these issues and unless we make an all-out effort to immunize our children for serious childhood diseases, we will face a serious public health hazard and another year of chaotic school closings because of illness.

I remember that in the early fifties there were over 30,000 cases of polio each year. Now, thanks to immunization programs, the national average is only 14 cases a year.

But now there is a new generation of young parents in their early twenties who do not have these memories. They do not remember the fear of a polio diagnosis. They do not remember seeing the children of their friends in an iron lung. The American public is becoming too relaxed about immunization. Too many parents are simply not bothering to get their children immunized.

If this hearing does no more than to get those parents to have their children vaccinated before school opens for serious childhood diseases, I will feel this day has been a success.

I would like to thank Los Angeles Children's Hospital for allowing us to use their facilities this morning for this fact-finding hearing. They are not sponsoring the hearing but have been kind enough to let us use their facilities. I would also like to thank my colleagues for traveling from their congressional districts on the east coast to examine the immunization problem with me. And I would like to thank our witnesses for appearing today to educate the public on a serious public health problem facing our city and our Nation.

I would like to call on my colleague, Congressman Norman Lent from the State of New York, who, prior to joining the U.S. Congress, was a member of the New York State Senate and the author of the immunization bill in that State.

Mr. LENT. Thank you very much, Mr. Chairman.

It is a privilege for me to join you at this hearing. I want to particularly commend you, Congressman Waxman, for your leadership in focusing attention on this national problem.

To indicate the nationwide scope of the problem, Mr. Chairman, the health officials of Nassau County, N.Y., where my congressional district is located, are launching a major inoculation program in the county schools this fall because of a startling increase and a threat of a major outbreak in measles. Since January, there have been more than 2,100 cases reported of measles in Nassau County. Starting this fall, Nassau County health officials will be holding vaccination clinics in each of the county school districts, concentrating primarily on junior and senior high schools where health surveys show immunity to measles is very low.

There is no question but that we in the United States need to do more than we have been doing to get more children protected against disease through immunization programs. All too few in this country seem to realize that fact.

I would hope, Mr. Chairman, that your hearing here this morning in Los Angeles will assist in directing more public attention to a problem that should be of major concern.

Mr. WAXMAN. Thank you, Mr. Lent.

Mr. Maguire, would you like to make any opening remarks before we proceed with the first witness?

Mr. MAGUIRE. Thank you, Mr. Chairman.

I simply want to join with Congressman Lent in congratulating you on your leadership in this matter. You and I have worked very closely on health issues in the Congress, with particular concern for prevention.

In addition to the experiences of Los Angeles and New York, with respect to a breakdown in the effectiveness of immunization programs, there have also been similar experiences in Seattle, New Jersey, and elsewhere. I want to cite what I think are some rather interesting statistics from medical literature with respect to my own State of New Jersey and my own county of Bergen County.

It was found that, in 1973-74, there was an incredible increase in the amount of measles cases. Nationally in 1968, for example, there were 22,000 reported cases. In New Jersey, in that one year alone,

1973-74, there were 5,837 measles cases—better than a fourth of what had been found nationally just 6 years earlier.

In Bergen County alone, there was in that year more than a ninth of the total number of cases that had been found nationally just 6 years earlier. The attack rates in the overall population of New Jersey that year were 80 per 100,000. Among teenagers, they were 1,500 per 100,000. Of course, we have engaged in a much more thorough approach toward immunization in the schools since that time. Those data have been brought more in line with the national averages now. But, clearly, this is a recurring problem. An outbreak strikes, and people are not properly immunized or at least immunized up to the percentage of the necessary standard. People's health and, in some cases, their very lives are at stake.

I want to commend you for holding this hearing, which I think is a most important one. Hopefully it will help us set national policy in this area.

Thank you, Mr. Chairman.

Mr. WAXMAN. Thank you.

Our first witness this morning is Dr. William H. Foege, the new Director of the Center for Disease Control in Atlanta, Ga.

**STATEMENT OF WILLIAM H. FOEGE, M.D., DIRECTOR, CENTER FOR DISEASE CONTROL, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, ACCOMPANIED BY DAN VANDERMEER, PUBLIC HEALTH ADVISER, HEW IMMUNIZATION INITIATIVE**

Dr. FOEGE. Thank you, Mr. Chairman and members of the committee.

We are very happy to be here today. We are also happy that you are initiating this look at the national problem and what can be done about it.

I have with me Mr. Dan Vandermeer, who is with the Immunization Initiative, the office that has been set up in the Department.

By way of background, let me reiterate that vaccines are among the most effective disease control and preventive measures known to medical science. For generations, epidemics of smallpox had a profound effect on human events, and millions suffered or died from this disease. However, the advent of an effective vaccine changed the course of history. Smallpox was eliminated in the United States in the late forties—we have not had a case for 28 years—and, because of the marked success of the global eradication program, smallpox vaccination is no longer necessary in this country.

The introduction and wide use of safe and effective vaccines in the United States has been invariably accompanied by a marked reduction in reported incidence of the affected disease. Diphtheria, pertussis, and tetanus vaccines have been widely used in the country since the late 1930's and 1940's. Dramatic reductions in morbidity and mortality from these diseases have been seen. Polio has been virtually eliminated. Fewer than 10 paralytic cases per year have been reported in the past 4 years, compared with 15,000 or more cases annually prior to the development and use of polio vaccines. This is shown in figure 1. In fact, in 1952, there were over 50,000 cases of polio reported in this country, with over 21,000 of those being paralytic.

The reported annual incidence of measles is unacceptably high; yet, for perspective we have to remember that it is only 10 percent of levels reported prior to the introduction of live measles vaccines in the mid-nineteen sixties. This is shown in figure 2 of the attachments.

The U.S. approach to rubella immunization—which is universal vaccination at about age 1—has resulted in a marked decline in reported incidence of the disease and, most significantly, in the occurrence of congenital rubella syndrome. This is shown in figure 3 of the attachments.

Mr. WAXMAN. Without objection, your attachments will be inserted into the record following our statement [see p. 11.]

Dr. FOEGE. Past experience suggested we would experience a major epidemic of rubella in the early 1970's; however, that epidemic did not materialize. We believe it is because of the immunization program for rubella.

The Federal Government, by directly supporting State and community immunization activities, has played a pivotal role in protecting the American people against polio, measles, and rubella. Active Federal support of immunization programs began in 1956 and 1957 when a total of \$53.6 million in Federal grant assistance was provided to States for polio programs. Salk vaccine was provided. This was the first time that the Federal Government assumed direct responsibility to facilitate the widescale application of a vaccine.

In 1962, the Federal Government again provided assistance to States and communities in conducting intensive vaccination programs. These efforts were directed primarily against polio—using live oral Sabin vaccine—although support for diphtheria, pertussis, and tetanus vaccinations was also provided.

I might add that at that time the immunization level for polio did exceed 90 percent nationwide for school age children.

In August 1965, the Vaccination Assistance Act was amended to include measles. With additional funds made available, measles vaccine was widely administered in mass campaigns to all segments of the population. Immediately following the licensure of rubella vaccine in June 1969, Federal resources were directed exclusively to immunization of children against rubella. Communitywide immunization campaigns were conducted over a 3-year period.

The resurgence of measles in the early 1970's indicated that the strategy of focusing Federal grant support on a single disease at any one time needed modification. In 1972, Federal support of State immunization programs was directed toward all six common vaccine preventable diseases of childhood: Polio, measles, rubella, tetanus, diphtheria, and pertussis. Each grantee developed comprehensive programs to identify and vaccinate children who were not reached through previous mass campaigns, or who were not being reached through existing public and private efforts. Functional components of these programs included public awareness activities, systematic assessment of the immunization levels of entering school children and preschool populations, surveillance of cases and deaths of vaccine-preventable diseases, and outbreak control activities.

Particular emphasis was given to the adoption of laws or requirements that children be immunized to be eligible for enrollment into

school. School entry immunization requirements serve two major purposes. They allow concerned school and health officials to be certain that parents and guardians are fully informed of the importance of childhood immunizations. They also allow health officials to measure the proportion of children at age 5 in the community who are protected against these preventable diseases. Since the vaccines are recommended for administration early in life, some beginning for infants at 2 months of age, a significantly low level of immunity among school entrants increases the probability of outbreaks of communicable diseases.

In States with school entry requirements and an emphasis on compliance, measles incidence has been consistently lower than in those States without regulations. In the 34 States and the District of Columbia with school laws in 1973, the rate of reported measles in the population under 18 years of age was 26.5 cases of measles per 100,000, compared with 53.9 per 100,000 in the 16 States without school laws. In other words, the incidence of measles was twice as high in States without school laws.

A comparison of these rates in 1974 indicates a similar difference in measles incidence between States with and without school laws. Today, all but two States have school entry immunization laws.

As childhood diseases become less prevalent following the introduction and widespread use of effective vaccines, immunization levels tend to remain stable or decline. The threat to life and health posed by these diseases is quickly forgotten by parents. Health workers, teachers, and policymakers direct their attention to more visible problems. Typically, funding for the public programs for immunization activities drops and health department programs are cut back. Educational campaigns are reduced in number and scope and recognition of the need for immunization of newly born children declines.

Now we have reached the point at which epidemics are possible and in fact certain social and geographic segments of the population have the potential for serious outbreaks.

Mr. WAXMAN. Excuse me, Dr. Foegel.

When you say we are now at the point where certain segments of the population have the potential for serious outbreaks, are we talking about polio, measles, and all of these diseases that otherwise could be eradicated?

Dr. FOEGE. I think that we are talking about all six of the diseases; we have the potential for outbreaks. We are having a pertussis outbreak in Atlanta right now. We know that polio immunization levels are so low that I liken it to the forest fires in California. With a dry forest, if you have no introduction of fire or lightning, you don't have a fire. But, with the forest dry and an introduction, one can't say how serious a fire will be in advance.

Mr. WAXMAN. Are you saying there is a real possibility that we can have an epidemic of polio in this country?

Dr. FOEGE. It is; yes.

An annual survey of immunization levels has shown that more than one-third of the Nation's children between 1 and 4 years of age have not received measles or rubella vaccine or a complete series of oral polio vaccine—table 1. Although more than 95 percent had received at least one DTP injection, more than 25 percent had not received a complete series.

Overall, of 52.5 million children under the age of 15, approximately 20 million or 40 percent require one or more vaccinations to give them full protection—table 2. The challenge is clear. While we are seeking all-time low levels for some of these diseases, particularly diphtheria, pertussis, and tetanus, the potential for outbreaks is present.

Immunization levels are not as high as they should be, and are particularly low in rural areas, in central city areas, and among the poor. As a result, measles is up by 55 percent this year compared to last—figure 4—and rubella is up 75 percent—figure 5. We clearly have the national capability to reverse these trends and maintain a declining incidence for all of the common vaccine-preventable diseases. However, technical capability is not enough. What we have lacked in the past is a sufficient national commitment. We have given prevention priority in our rhetoric, but the challenge is to demonstrate our interest in prevention through resources and action.

#### HEW'S IMMUNIZATION INITIATIVE

To meet this challenge, the Secretary has announced a major national immunization initiative which has two goals: one, assuring adequate immunization of 90 percent of the Nation's children by October 1979; two, establishing of a continuing mechanism which would thereafter insure the immunization of nearly 100 percent of the 3 million children born into the population each year.

Supplemental grant funds of \$4 million were appropriated in fiscal year 1977, for a total of \$17 million, to begin carrying out this initiative. In fiscal year 1978, \$23 million for grants is included in the conference report. About one-half of these funds will be used to purchase vaccines. The remainder will be used to employ individuals who will assess the immunity levels of individuals and groups, provide community education and motivation, conduct surveillance and outbreak control, and provide immunization services.

To insure that these funds are targeted to identified problems and appropriate activities, grant guidelines have been developed which require State and local jurisdictions to develop comprehensive plans for integrating immunization activities with other preventive services.

A major effort will be undertaken to identify children who need immunizations. Since more than one-half of those in need are of school age, schools will serve as a major focus of activity. Although only two States do not now have laws or regulations which require some immunizations prior to first entry to school, there has been uneven enforcement of the laws which do exist. Secretary Califano has written a personal letter to each Governor suggesting the need for rigorous enforcement of existing requirements, and urging those States without laws to consider establishing school entry requirements.

We understand that some Governors are, in turn, giving their personal attention to enforcement of school entry requirements this fall.

Vigorous efforts will also be undertaken to systematically identify incompletely immunized preschool-age children through the existing health care system.

Private physicians traditionally provide 60 to 70 percent of the immunizations which are given each year. The initiative is relying heavily on the private sector of medicine to continue providing immu-

nizations to the children they currently serve, and to expand their efforts to reach the inadequately immunized.

The Department has received strong statements in support of the immunization initiative from the many national organizations representing the health profession. In addition, these organizations have developed plans of action to involve their constituencies. Their efforts will include funds for public service announcements, articles in their organizational newsletters and journals and recommendations that members participate in local immunization campaigns. Public immunization services will be greatly expanded by increasing the number and hours of public clinics and by holding public clinics in special locations, such as schools. In addition to developing minimal standards for immunization levels, attempts will also be made to develop standards for the maximum disease levels consistent with an adequate immunization program. Standards on outbreak investigation and control will be developed to evaluate the response performance of immunization projects.

The amount of work necessary to determine precisely who and where each of the 20 million incompletely immunized children are and then to arrange to refer the child to a clinic or physician's office far exceeds the number of State and local workers who will be available for the task. We know that we will have to rely on volunteers to carry out many of the most important jobs in this campaign. Already we have had an enthusiastic response from both voluntary organizations and individual citizens.

To insure the most effective use of volunteers, a contract with the National League for Nursing has been negotiated for the systematic recruitment and training of volunteers in all States and communities throughout the Nation. A national coordinating committee for volunteers has been formed, and similar committees will be organized in each State where they do not currently exist.

Public information and education activities will be increased through the expanded utilization of an existing coalition of private medicine, public health at all levels of government, volunteer organizations, civic groups, industry, and labor. This coalition will assist in the development of national goals, develop and interpret strategy, develop and distribute educational materials, review the implementation of the strategy, and evaluate progress. The coalition emphasizes the need for common goals and objectives, a common message regarding the need for immunization, and common materials for utilization at the national, State, and local levels.

A contract for the development of public information materials for the immunization initiative will be awarded in early September. The contractor will create, design, produce, and, where appropriate, distribute materials to major media, including radio, television, newspapers, magazines, as well as outdoor and transit advertising. These materials and the work carried out by the contractor will reinforce the ongoing activities undertaken by State and local agencies.

State and local health agencies will continue to develop materials applicable to their specific needs and community programs. Materials developed under this contract will be available in the fall for distribution to the media and to State and local agencies.

We have commitments for the active participation of national medical organizations, industry, labor unions, nursing groups, Congress of Parents and Teachers, American Red Cross, and other volunteer and professional organizations. These groups have already been helpful in providing informational materials to their memberships and to the general public. We will continue to rely on their willingness to respond.

To insure the success of the initiative, Secretary Califano has established a work group in his own office to coordinate the activities of the many agencies and organizations whose participation is needed. Each agency in the Department has been directed to participate fully. Particular emphasis is being placed on insuring that other federally supported health care programs of the Department achieve maximum immunization coverage among the children they serve. The Bureau of Community Health Services is providing additional guidance and funds to grantees, particularly in maternal and child health programs, to insure that a comprehensive audit of immunization records is undertaken, that inadequately immunized children are immunized, and that ongoing cooperation with health department immunization programs is maintained.

As you know, the administration also has introduced a major legislative proposal known as the child health assessment program which would replace and improve medicaid's early periodic screening, diagnosis, and treatment program—EPSDT—for children. This legislation is designed to make some badly needed improvements in the health services we provide to poor children by expanding the requirements for eligibility to include children under age 6, on the basis of income and resources, not simply categorical eligibility. An increase in the Federal match will be provided for screening and followup ambulatory care. In addition, current EPSDT regulations are being strengthened to see that children in need of immunization are identified early and provided immunizations on the first visit. Stronger case management procedures will also be implemented.

The Secretary has also called on the Office of Education to place the highest priority on enlisting the support of school systems in educating the public about the need for immunization and in cooperating with health departments in assessing immunization status of children in school, in reporting cases of vaccine-preventable diseases, in carrying out outbreak control programs when disease is discovered, and in enforcing school entry immunization laws. Other agencies within and outside of DHEW are being called upon to take similar appropriate actions.

#### ADDITIONAL CHALLENGE

There is no question but that the achievement of the initiative is complicated by persisting problems associated with liability for injury resulting from immunization. The Department, with the advise and help of many people, is looking carefully at a number of alternative solutions.

Until a final recommendation is developed, we and the manufacturers are working out short-term solutions to this problem to insure a continuing supply of vaccine. As a result of discussions, the Government has accepted responsibility for warning prospective vaccinees of the risks as well as the benefits of vaccination. We are attempting to

do this by presenting a balanced statement of risks and benefits in language that is easily understood.

While such "informed consent" procedures have been employed for other purposes for many years, and on a comprehensive basis for immunizations during the swine flu program, they have not been used in a uniform manner for ongoing immunization programs. The implementation of such procedures in general immunization programs presents significant problems and challenges.

With the swine flu program experience as a background, we are improving the procedures for developing and testing information documents which we believe will result in a product which is more acceptable and useful to the recipient as well as the provider of vaccination.

#### CONCLUSION

In closing, I would like to emphasize a few important points concerning the initiative. The attainment of the Secretary's goals will be difficult. It will require the cooperation of all the involved departments of the Federal Government, State and local health agencies, private medicine, volunteer agencies, industry, labor, and vaccine manufacturers.

From this intense effort we must leave a legacy of commitment. The immunization initiative can be seen as the modern equivalent of the barn raising, requiring a total community concern. We feel it would be intolerable for a country spending \$139 billion on health to fail in an effort which is cost beneficial, preventive, and essential to the health of our children.

Our goal is not only to raise immunization awareness and immunity levels in this country, but to establish a system of delivery which will prevent a recurrence of today's situation. We will also be refining during the initiative a means of identifying outbreaks early and responding in a way which will contain the diseases. We have learned from the measles problem which you in Los Angeles confronted this spring.

The Department pledges its best efforts to these objectives and invites the participation of all groups and individuals. Our greatest danger is if we lose our passion and become complacent before the goal is achieved. In a real sense the goal must be daily re-achieved and we must therefore dedicate ourselves to the maintenance—and I stress the word "maintenance"—of a program to protect this generation and future generations.

Thank you for allowing us to appear. I would be happy to answer questions.

[The attachments referred to follow:]

Fig. 1 REPORTED ANNUAL POLIOMYELITIS INCIDENCE RATES, UNITED STATES, 1941-1976\*

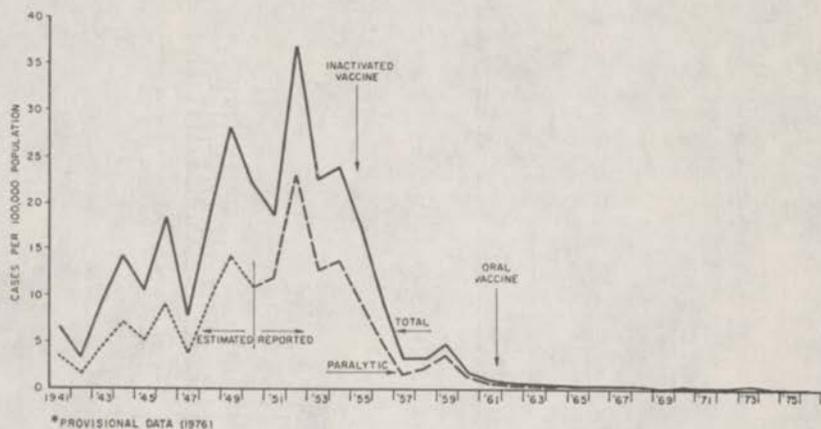


FIGURE 2  
REPORTED CASES OF MEASLES BY FOUR-WEEK PERIODS, UNITED STATES,  
1956-1976

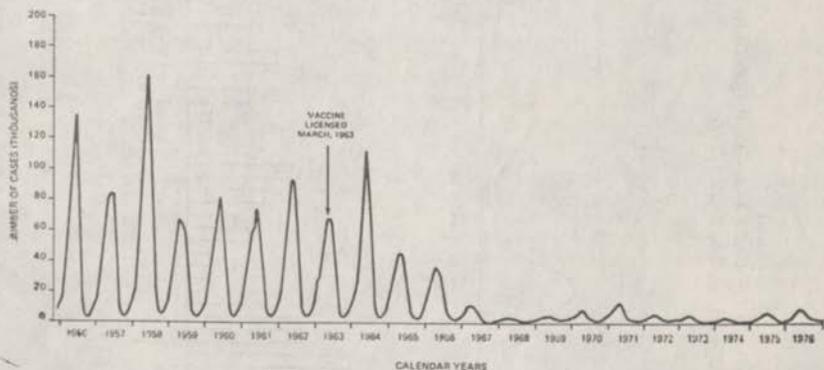
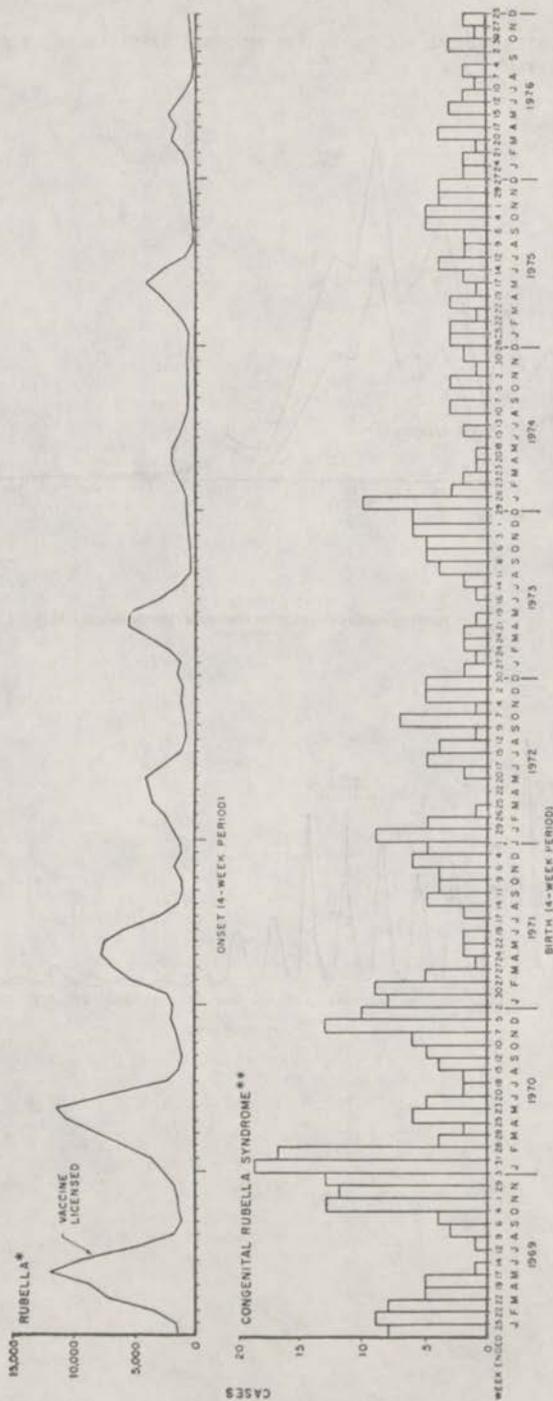


FIGURE 3  
 CASES OF RUBELLA, BY PERIOD OF ONSET, AND OF CONGENITAL RUBELLA SYNDROME, BY PERIOD OF BIRTH, USA, 1969-1976



\* OFFICIAL TELEGRAPHIC REPORT'S FROM STATES AND AREAS

\*\* FROM CRS REGISTRY

Figure 4  
 NUMBER OF REPORTED MEASLES CASES BY WEEK  
 UNITED STATES, 1976 and 1977

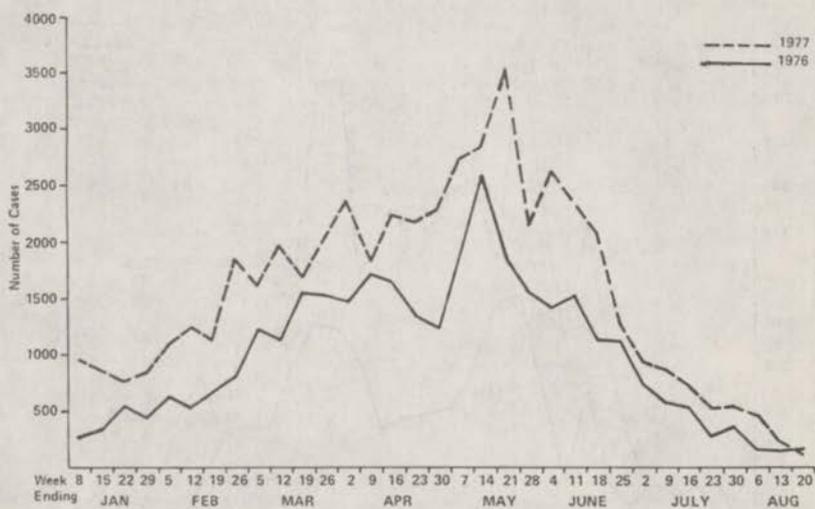


Figure 5  
NUMBER OF REPORTED RUBELLA CASES BY WEEK  
UNITED STATES, 1976 and 1977

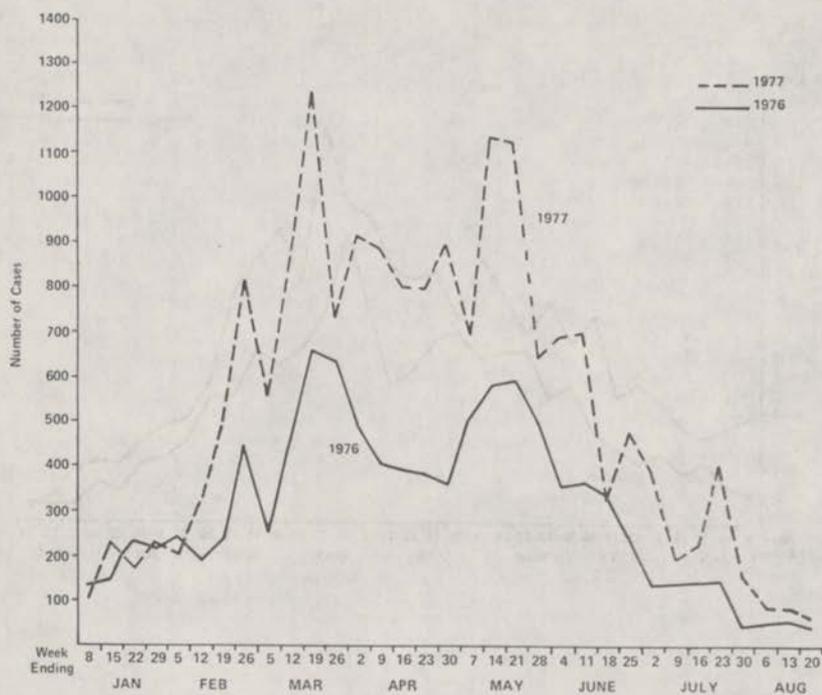


TABLE I.—PERCENT OF POPULATION 1 TO 4 YEARS OF AGE WITH SPECIFIED DOSES OF POLIO, DIPHTHERIA-TETANUS PERTUSSIS (DTP), MEASLES, RUBELLA, AND MUMPS VACCINES, UNITED STATES, 1964-76

Year	Polio, 3-plus doses	DTP, 3-plus doses	Measles, 1 dose	Rubella, 1 dose	Mumps-1 dose
1964	78.6	76.0	24.0	(1)	(2)
1965	73.9	73.9	33.2	(1)	(2)
1966	70.2	74.5	45.5	(1)	(2)
1967	70.9	77.9	56.4	(1)	(2)
1968	68.3	76.5	58.8	(1)	(2)
1969	67.7	77.4	61.4	(1)	(2)
1970	65.9	76.1	57.2	37.2	(2)
1971	67.3	78.7	61.0	51.2	(2)
1972	62.9	75.6	62.2	56.9	(2)
1973	60.4	72.6	61.2	55.6	34.7
1974	63.1	73.9	64.5	59.8	39.4
1975	64.8	75.2	65.5	61.9	44.4
1976 <sup>3</sup>	61.6	71.4	65.9	61.7	48.3

<sup>1</sup> Rubella vaccine was licensed in June 1969.

<sup>2</sup> Mumps vaccine was included in the questionnaire in 1973.

<sup>3</sup> Data collected during 1976 are not directly comparable with data collected prior to 1976 because of a change in the questionnaire design.

Source: U.S. immunization surveys, 1964-76.

TABLE 2.—NUMBER OF CHILDREN EITHER INCOMPLETELY OR NOT IMMUNIZED, 1976

Age range	Total number of children in United States	Polio	Measles	Rubella <sup>1</sup>	DPT/DT	Mumps
0 to 1.....	3,026,000	2,359,000	4,186,000	4,702,000	2,157,000	6,347,000
1 to 4.....	12,313,000	4,714,000	4,376,000	5,275,000	3,511,000	8,527,000
5 to 9.....	17,349,000	4,877,000	5,134,000	4,422,000	3,753,000	10,113,000
10 to 12.....	11,534,000	6,838,000				
10 to 13.....	15,605,000					
10 to 14.....	19,819,000					
Total.....	52,507,000	18,788,000	13,696,000	14,399,000	12,960,000	24,987,000

<sup>1</sup> Rubella not recommended past puberty.

Source: U.S. immunization survey, preliminary data.

Mr. WAXMAN. Thank you very much for your testimony. We appreciate your coming today.

Dr. FOEGE, as I understand your testimony, you are advising us that, in 1977, there is a chance that we are going to have epidemics of diseases that otherwise could be completely eliminated because we have vaccines that are effective enough to prevent those diseases from occurring. Is that correct?

Dr. FOEGE. That is correct. There are two things: one, the potential for epidemics; two, with certain diseases, measles and rubella, I consider we are having an epidemic. We see an epidemic as being an unusual occurrence. When there is a 55-percent increase in measles, that is an unusual occurrence.

Mr. WAXMAN. We are now talking about a national immunization program to deal with this whole question. You see it as a national problem, I take it.

Dr. FOEGE. It is very much a national problem.

Mr. WAXMAN. Is this a problem that is peculiar to the large cities of the country? Or do you see it in every other area of the country as well?

Dr. FOEGE. At the moment, the problem is inner cities, rural areas, in the lower socioeconomic groups. But I think the potential for an outbreak is everywhere. We simply have to see it as a national problem rather than a State problem or a geographic problem.

Mr. WAXMAN. Is there a correlation between Federal funding and the success of immunization programs in the various States? Can it be shown that, when the Federal Government spends less on immunization programs, outbreaks of childhood diseases are more frequent?

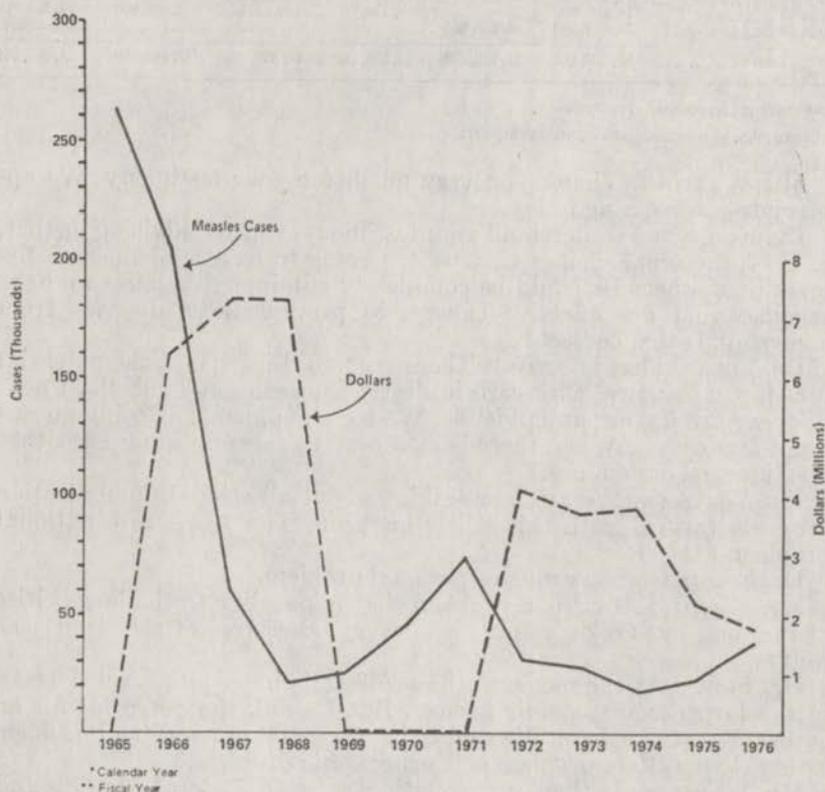
Dr. FOEGE. We think this is true, that there is an inverse relationship. When funds decrease from the Federal sources, incidence of disease increases.

I would be happy to insert for the record, in fact, for measles a comparison between Federal funds that have been allocated and measles incidence. It shows that, as the increase in Federal funds in the late 1960's resulted in a decrease of disease, then funds were stopped in the late 1960's; and measles incidence increased. Because of this, funds were restarted, and measles incidence went down. In the last several years, funds have again gone down; and measles incidence is increasing.

Mr. WAXMAN. Without objection, that will be received at this point and made part of the record.

[The chart referred to follows:]

MEASLES CASES\* AND FEDERAL GRANT FUNDS\*\* OBLIGATED FOR  
MEASLES CONTROL PROGRAMS BY YEAR  
UNITED STATES 1965-1976



Mr. WAXMAN. Some have suggested that we will never have 100-percent immunization of our children until we have accurate records on children's vaccinations. Would you favor a centralized data bank at the CDC recording children's vaccination records?

Dr. FOEGE. This is an intriguing idea, and there are two sides to it. Some States have tried it with varying results. They have had the poorest results where they need the best results; that is, in the lower socioeconomic groups.

It raises certain questions. No. 1, we do not have a birth certificate system nationally. Therefore, to start such a program would require getting information from the States. But, since the States and local health departments would have to follow up on children, to have a national system might simply introduce a new layer of information coming to the Federal Government and then back out.

It also raises some questions of privacy, whether the Federal Government should have records on children where you can identify where they live and their health status.

For all of these reasons, we wonder whether, instead of starting with a record and trying to follow up on a child, it might not be better to start with a child in a local area and follow up their record.

At this point I think we are concerned that there are some adverse implications. We would prefer to see such a record kept at State and local levels.

Mr. WAXMAN. Can you tell us specifically how the child health assessment program, which is now before Congress, will improve the immunization levels? What specific aspects of that bill would deal with the immunization questions?

Dr. FOEGE. I think there are several areas. No. 1 is, it would increase the number of children eligible for the program. No. 2, it would make eligibility available on an income basis rather than on a family status basis. No. 3, there would be strong attention given to following up immunization levels in this bill.

The present EPSDT program, while it covers 12 million children, we find that, in fact, only about 2 of the 12 million are being covered with immunization programs. So, we think the new bill would increase the number of children who could be covered and would build in procedures to increase the chances that they would be covered.

Mr. WAXMAN. Are we dealing with a question of laws not being enforced? In California and other States, we have laws that require the schools see some proof of vaccination. Yet, when we had the measles outbreak in Los Angeles, we found out that that law was not being enforced.

How big a problem is it that the laws are not being enforced? What can we do to make sure that these laws are being enforced?

Dr. FOEGE. I think, as with complacency in parents, this happens with such laws. So, we have a spectrum of how well they are being enforced.

Congressman Maguire mentioned New Jersey. Because of their problem some years ago, they have done a much better job of enforcement.

There is a direct relationship. Enforcement of school entry laws in New Jersey has been very good this last year. The number of cases of measles for the entire State of New Jersey has been less than 200 this year.

We found this both generally and specifically. A State can improve its disease condition by enforcing the law. We have the feeling, while there is still a spectrum of enforcing the law, that, in general, States are enforcing better this fall than they have in the past. I think that they are attempting to do a better job because of the immunization initiative.

Mr. WAXMAN. What leverage does the Federal Government have over the States to make sure that they enforce the law?

Dr. FOEGE. Section 317 of the Public Health Service Act specifically states that the Federal Government cannot force a State to force people to be immunized in order to get into school. So, the Federal Government does not have leverage here.

But I think the States, on their own, are beginning to realize that, where they enforce the law, they have fewer problems. So, I think the States are doing a better job on their own. But we cannot insist that they enforce this.

Mr. WAXMAN. You refer in your testimony to the swine flu experiences and lessons that we are learning from that experience. Can you tell us whether the swine flu vaccination campaign had an adverse effect on people getting vaccinations for other diseases? Did Americans lose faith in the effectiveness of vaccinations? Were resources diverted from polio and measles programs to the swine flu program?

Mr. FOEGE. We do not have hard facts, Mr. Chairman, to say exactly what has happened. But we would expect that it is reasonable to conclude that there was diversion of resources and that there may be some leftover problems in people getting immunizations. We are attempting to correct this because we think this is a totally different problem. We have the experience of many more years and many more people with the childhood immunization programs. While we recognize a problem may exist, we are trying to counteract it with our information.

Mr. WAXMAN. As I understand it, with measles we find that some children who were vaccinated are still getting measles. We find that booster shots do not always give permanent immunity.

What is the efficacy of some of these vaccines? What length of time can one expect to be protected after having gotten immunization shots for measles or some of these other illnesses that we are discussing?

Dr. FOEGE. To talk about measles, one of the problems in the early days when measles immunization was first available is that many times gamma globulin was being given at the same time. We now know that this decreased the efficacy; some children did not get an immunity to measles. Therefore, they have been seen in later years to have measles.

Likewise, oftentimes, the vaccine was given at an early age. We now know that, prior to 12 months of age, there is a decreased incidence of takes because of maternal antibodies in the child.

I think we now recognize what some of these problems are. Our feeling is that measles vaccine is more than 90 percent effective. These past problems have helped us learn for the future. But a problem of waning immunity to measles is not a big problem.

Mr. WAXMAN. How about the length of time in which they will be effective?

Dr. FOEGE. We think that measles vaccination is a lifelong procedure. We think a single dose for most people protects them for life.

Mr. WAXMAN. How about the polio shots?

Dr. FOEGE. Polio requires, of course, more than one dose. But we feel that children that have had the initial series and their booster before school will have probably lifelong protection.

The problem with answering these questions too specifically is that we have to follow children for 20, 30, 40 years before we can say this was certain. But, on the basis of the information we have now, we are projecting that these provide lifelong immunity.

Mr. WAXMAN. What if the parent just does not recall or is just not aware whether the child has been vaccinated before for a particular disease? Should the parent have the child get a second vaccination? Is there any health problem with a second vaccination?

Dr. FOEGE. There is no health problem with having a second dose of measles vaccine or an additional polio vaccine. Our recommendation would be, If the parents are not certain, they should err on the side of having more immunizations rather than too few.

Mr. WAXMAN. I would like to call on my colleague, Mr. Lent for some questions he might have.

Mr. LENT. Thank you very much, Mr. Chairman.

Dr. Foege, you testified earlier that a polio outbreak at this time was a possibility, given the present state of immunization. You also testified that, in your opinion, we now are in an epidemic stage insofar as both measles and rubella are concerned.

Would your answer as to the possibility for an outbreak be the same with respect to the other three common vaccine-preventable diseases? I am speaking of tetanus, diphtheria, and pertussis.

Dr. FOEGE. Let me go back to clarify one statement I made. When I talk about measles and rubella being a present epidemic, I mean for 1977. With both diseases, in recent weeks, the incidence has gone way down, as we expect in the summertime. With measles, for instance, the incidence for the last 2 weeks is down to last year's incidence. So, at the present time, we might not say there is an epidemic of measles; but, for 1977, there has certainly been an epidemic of measles.

Now on to your other question, the potential exists for pertussis, diphtheria, and for tetanus to have epidemics. With pertussis and diphtheria, of course, this could be caused by spread from person to person. With tetanus, this is a single person getting this from spores, from an injury. But, if you have more susceptibles, then you also have more cases of tetanus from injury.

Mr. LENT. We all agree that we have millions of children in this country who are presently without proper immunization. Will the administration's proposed program for fiscal year 1978 provide enough funds to buy sufficient vaccine to immunize all of these children who now lack protection?

Dr. FOEGE. We think it will. We have calculated on the basis of what will private practice provide, what can be provided through EPSDT program, what will be provided through the programs that the Health Services Administration conducts with maternal child health.

Mr. LENT. In dollars, can you give us any idea what the bill is going to be?

Dr. FOEGE. Yes. For this year, \$23 million have been appropriated for grants. An additional \$2 million will be used for national purposes. We expect that \$25 million will be sufficient for fiscal year 1978.

In fiscal year 1979, we will be asking for more money than that.

Mr. LENT. Of these figures that you have given us, approximately 50 percent is going to be earmarked for the manufacture and purchase of the vaccines?

Dr. FOEGE. That is right.

Mr. LENT. Why is it that oftentimes you read that States and localities, instead of purchasing their vaccines through the Federal program, pay more and go to the outside to private vendors? I cannot figure that out. I know it is a fact.

Dr. FOEGE. Part of this, of course, has been due to the fact that we have had fluctuating Federal levels that States have not been able to

depend on to make their plans. For instance, last year the grants for immunization were less than \$5 million. When you compare that to \$17 million this year and \$23 million next year, there simply was not much money available to States for vaccines last year. Many of them had to make ad hoc private arrangements.

Mr. LENT. Is the problem that the Federal Government has a slipshod program or they are not fast enough in delivering the vaccines after the order, and, therefore, the States and localities go out and pay 25 percent more because they have prompt delivery and better quality? Is there anything to that charge?

Dr. FOEGE. No. I think it is simply because we have not had sufficient Federal funds in the last 3 or 4 years.

Mr. LENT. With respect to the new program which calls for establishing voluntary groups in each State to encourage immunization, how would these voluntary groups work? What would these groups be able to do? How would they improve on the present system? Is there any danger that these voluntary groups might cause a lot of confusion by getting in the way of established organizations and procedures?

Dr. FOEGE. We are hoping to prevent any confusion by having both a national agency that will oversee volunteer groups and in each State to have such a group and to contract to the single National League of Nursing to coordinate volunteer activities.

We would see the volunteers doing a great deal of work in publicity and the dissemination of information. We would also see them involved in identifying the children who are not immunized. This means some very tedious work of going through school records, for instance, to see what is in the record for each child and what is missing.

We would think they could also be involved in outbreak investigation and control. When we have an outbreak and it requires setting up clinics on short notice in schools and so forth, it takes a large number of volunteers to organize the publicity for that, getting shouldered into line, getting information out, and so forth.

Mr. LENT. Doctor, we all seem to agree that the existing State laws—including the one in my State of New York—are not being adequately enforced. Why is this so? The second part of my question is this: Would you recommend that we have a national immunization law instead of 50 separate ones?

Dr. FOEGE. I think that it is by oversight, that it is easier not to get into a strong compliance program at the beginning of the school year when there are so many other things happening. So, this has often fallen by the wayside, particularly when there is no disease on the horizon that is worrying people. So, over the years, again, everyone has become complacent about it.

I believe, now that we are up to all but two States with laws, that it is probably better to use the approach that Secretary Califano is now using of going to the Governors and pleading with them to enforce the laws. I think we will probably see this year that a national approach to this will not be needed.

Mr. LENT. Doctor, what are your most troublesome problems in dealing with State and local health officials? I assume you do have some problems in this area.

Dr. FOEGE. I think actually we have very few problems, particularly in this area of immunizations. Everyone has the same objective. Where we get into difficulties is when we cannot provide what is needed, as in the last several years when we simply have not been able to provide the vaccines that are needed.

The State of California, for instance, then has problems supplying vaccine to Los Angeles. Those are the types of difficulties.

But I do not think we have had difficulties in dealing with the States when our philosophy has been the same.

Mr. LENT. I have no further questions, Mr. Chairman.

Mr. WAXMAN. Thank you very much.

Congressman Maguire.

Mr. MAGUIRE. Thank you, Mr. Chairman.

Which are the two States, Dr. Foegen, that do not presently have an immunization requirement for entry into school?

Dr. FOEGE. Idaho and Wyoming.

Mr. MAGUIRE. Have they given any reasons as to why they are the only two States not to do so?

Dr. FOEGE. I do not know the reasons myself. I have not been involved with those two States.

Mr. MAGUIRE. Mr. Vandermeer, have they been asked?

Mr. VANDERMEER. Both States have been asked. The State of Wyoming has had, traditionally, extremely high rates of immunity among all of their children. They feel that their record is sufficient such that they do not need a law to improve or to maintain their very high record of immunity.

I am not familiar or conversant with the situation in Idaho, Mr. Maguire.

Mr. MAGUIRE. Following up on Mr. Lent's question, are there States that have particularly bad records of enforcement with respect to laws that are on the books? This is either as reflected in an analysis of programs that they actually conduct or as reflected in the incidence of disease statistics, or both.

Dr. FOEGE. I think the most accurate way of answering that is, we do not have States that, for 10 years, have had the most serious problems in the country. Instead, what happens is waxing and waning. States do a good job for 2 or 3 or 4 years because someone is interested in this. Then that person moves or, because they have no disease, this person no longer gets the support that he formerly had; and then the State has a problem a few years later.

I think this up-and-down pattern has been more characteristic rather than States that are resistant to improving their immunization levels.

Mr. MAGUIRE. We have roughly a 60-percent level now of immunization. You are asking for a 90-percent level in a short period of time; that is by 1979.

When have we gotten above 90 percent ever in the past on any of these diseases?

Dr. FOEGE. Well, you certainly have pointed out the challenge here. We have been able to get above 90 percent with three doses of polio in 1964 for school-age populations. If you would like, I will include for the record the percent of population in the school-age child—the immunity levels by year from 1964 to 1976 for polio, diphtheria, tetanus, pertussis, measles, rubella, and mumps.

In 1964, for polio, we had 90.9 percent of our children with three or more doses. Then, gradually, this decreased until, by 1976, for school-age children, we were down to less than 72 percent.

So, we know it can be done.

[The table referred to follows:]

PERCENT OF POPULATION 5 TO 9 YEARS OF AGE WITH SPECIFIED DOSES OF POLIO, DIPHTHERIA-TETANUS-PERTUSSIS (DTP), MEASLES, RUBELLA, AND MUMPS VACCINES, UNITED STATES, 1964-76

Year	Polio 3-plus doses	DTP, 3-plus doses	Measles, 1 dose	Rubella, 1 dose	Mumps, 1 dose
1964.....	90.9	85.0	(1)	(2)	(3)
1965.....	89.9	83.9	19.3	(2)	(3)
1966.....	88.2	83.4	28.0	(2)	(3)
1967.....	88.3	87.6	40.8	(2)	(3)
1968.....	48.9	85.4	50.4	(2)	(3)
1969.....	83.6	86.1	59.0	(2)	(3)
1970.....	82.3	85.9	62.8	46.5	(3)
1971.....	81.2	86.4	68.0	63.2	(3)
1972.....	78.9	85.4	70.9	66.8	(3)
1973.....	71.4	81.9	71.2	64.9	32.6
1974.....	73.5	84.7	74.2	68.0	39.2
1975.....	76.7	84.4	74.2	70.0	47.5
1976 <sup>4</sup> .....	71.8	78.3	74.7	69.5	50.7

<sup>1</sup> Data not available.

<sup>2</sup> Rubella vaccine was licensed in June 1969.

<sup>3</sup> Mumps vaccine was included in the questionnaire in 1973.

<sup>4</sup> Data collected during 1976 are not directly comparable with data collected prior to 1976 because of a change in the questionnaire design.

Source: U.S. immunization survey, 1964-76; HEW, PHS, CDC.

Mr. MAGUIRE. It has been done only with respect to the three-stage polio in 1 year. Other than that, it has not been done?

Dr. FOEGE. I think that is basically true. I would have to go back for smallpox to know what has happened in the past. But, talking about these current diseases, that is the only time we have been above 90 percent.

Mr. MAGUIRE. The 90 percent standard is described in the following way by Dr. David T. Carzone in an August 4, 1977, article in the *New England Journal of Medicine*:

Our national policy calls for immunization of 90 percent of all children, which should be adequate if the immunizations are distributed uniformly in all geographic and social groups.

Now, from your statement, and from other information that is available to the committee, it seems quite apparent that the past record is one which indicates that immunizations are not distributed uniformly. I would suspect that we would have to be fairly cautious about the future with respect to our achieving a uniform distribution.

If that is true, that we are going to have difficulty achieving uniform distribution, is 90 percent an adequate figure? Is 90 percent the proper figure for each of the six? Or do the percentages that you would want to target differ in relationship to the particular disease that you are talking about?

Dr. FOEGE. There are two things that have happened in recent years that might help us reach 90 percent, even though historically this appears to be difficult. No. 1, the number of programs that are now targeted for children in lower socioeconomic groups, which we did not have 15 or 20 years ago. No. 2 is the kind of motivation that is

coming from the top down. I strongly believe that we have had problems in the past getting the proper national climate for immunization initiatives. It happened with polio back in the 1960's because it was a national problem and everyone joined in.

I think what has happened now in the last few months is that we do have motivation from the President to the Secretary on down. That is the way motivation flows—down rather than up.

I believe those two things make this a target that can be achieved. But I do not want to minimize the difficulty of achieving it. It will be very difficult, and it is going to require that we constantly—week by week and day by day—keep on top of the program.

Mr. MAGUIRE. Would I be right, though, in thinking that, to the extent that we fail to uniformly distribute the immunization, we must raise the 90-percent figure in order to achieve the equivalent result?

Dr. FOEGE. That is right. If we cannot reach 90 percent in some socioeconomic groups, we have to get better than that in some others. Is that what you are saying?

Mr. MAGUIRE. No; that is not quite what I am suggesting. I am saying that the average figure would have to be higher than 90 percent if we have a situation in which there was uneven distribution of immunization.

You would agree with that?

Dr. FOEGE. I think so, if I understand the point you are making.

Mr. MAGUIRE. You have in your own statement of course, said you want to get as close to 100 percent as you can.

Dr. FOEGE. That is right.

Mr. MAGUIRE. Now, do you have any notion of when we might hope to achieve rates beyond 90 percent?

Dr. FOEGE. We would expect that, at the time the 90 percent of the backlog is actually achieved, we should have the maintenance system in place that is now providing access to immunization to all children; and we should be achieving as close to 100 percent as physically possible by that time.

Mr. MAGUIRE. Does that mean 98 percent or 94 percent or what?

Dr. FOEGE. That is hard to deal with. I have been living with immunization programs for the last 10 years in different continents. It is so hard to set a level and say that we will achieve it. If you set the level, then that also becomes the upper limit of what people achieve. If we say that we will go as close to 100 percent as possible, then our upper limit has been determined.

Mr. MAGUIRE. I think that is not really our central problem, having an upper limit defined. I think our central problem is having an adequate floor defined.

I appreciate the reference you made to the State of New Jersey, which I do think has an excellent record. In the years following the outbreaks that I referred to in my opening statement, the State did take rather strenuous steps to bring New Jersey to a much more favorable position.

I am wondering if you do not think that the kinds of things that were done in New Jersey and in Texas, for example, where they followup on birth certificates and actually write to every parent to explain to them that they want them to take the child to a clinic and why, are worthwhile?

I wonder if those kinds of direct, stringent, and specific steps for initiation and followup are not going to be required. Your statement is full of goals and objectives and statements of support and volunteers and public information programs and working groups, et cetera. I wonder if those kinds of specific steps are not going to be the only things that are really going to result in forward movement.

Dr. FÖEGE. I would agree with you that these are the things that have to be done. What we will see with the initiative, we hope, is that a procedure that works in one area can be quickly transferred to other areas rather than be isolated in that State for the next 5 or 10 years.

Mr. MAGUIRE. Thank you, Mr. Chairman.

Mr. WAXMAN. The committee counsel, Mr. Atkisson, has a few questions.

Mr. ATKISSON. Thank you, Mr. Chairman.

Dr. Föege, from a strictly medical standpoint, is there an optimum age at which a child should be immunized? This is if other things are equal and presuming that we live in a vacuum.

Dr. FÖEGE. The problem, of course, is that the different immunizations have different age requirements. Diphtheria, tetanus, and pertussis can be started very early, at 2 months or even earlier.

But, if we gave measles vaccine at that age, most children would not get immunity from it. So, we have the problem of different requirements for different vaccines and trying to come up with a schedule that gives the fewest visits back to a physician.

Mr. ATKISSON. You have outlined the fact that the chief mechanism by which we hope to increase immunization programs' effectiveness is through the States' enforcement of school entry laws. I am concerned that, since children do not begin school generally until they are 5 or 6, a great many parents would not see the compelling need for that medical visit until 5 or 6.

Have you found from your studies that parents are playing a kind of catchup ball? They start to enroll Johnny in school and then realize that there is that requirement and then go back and get the necessary immunizations at age 5 or 6.

Dr. FÖEGE. I think this is an excellent point. What happens with school entry is that this really becomes an assessment of how good the preschool program has been. It does become a catchup.

But, if you look at the figures by type of vaccine or school age groups, for polio, three doses or more in 1976, 71.8 percent had three or more doses. But, even in the preschool, it was only 10 percentage points below that. That means that not all parents are not—the majority of parents are waiting for school entry before they get to that point.

Nonetheless, your point is a good one. We should not emphasize school entrance to the point where it keeps people from getting vaccines at the optimal age, which, for measles, is at about 15 months of age. For diphtheria, pertussis, and tetanus, it should be started at 2 months of age.

Mr. ATKISSON. Thank you, Mr. Chairman.

Mr. WAXMAN. Thank you, Doctor, for your testimony. It has been very helpful in pointing out to us the national consequences of the immunization program. Thank you for being with us today.

Dr. FÖEGE. Thank you.

**Mr. WAXMAN.** Our next two witnesses are going to talk about the Los Angeles experience. One of the witnesses is a practicing doctor who has seen firsthand the tragic consequences of failure to immunize.

I would like to call Dr. Gary D. Overturf, assistant professor of pediatrics, director of communicable disease services for Los Angeles County, University of Southern California Medical Center and Dr. Paul F. Wehrle, Hastings professor of pediatrics and director of professional services-Pediatric Pavilion, Los Angeles County-USC Medical Center.

**STATEMENTS OF GARY D. OVERTURF, M.D., ASSISTANT PROFESSOR, PEDIATRICS, UNIVERSITY OF SOUTHERN CALIFORNIA, CHIEF, COMMUNICABLE DISEASE SERVICE, LOS ANGELES COUNTY-UNIVERSITY OF SOUTHERN CALIFORNIA MEDICAL CENTER; AND PAUL F. WEHRLE, M.D., HASTINGS PROFESSOR OF PEDIATRICS, UNIVERSITY OF SOUTHERN CALIFORNIA AND CHIEF, PROFESSIONAL SERVICES, PEDIATRIC PAVILION, LOS ANGELES COUNTY-UNIVERSITY OF SOUTHERN CALIFORNIA MEDICAL CENTER**

**Dr. OVERTURF.** Thank you, Mr. Chairman and members of the committee.

I will briefly outline the experiences of the communicable disease unit of the Los Angeles County-USC Medical Center over the last 30 months, which is the period for which data are readily available.

The communicable disease unit of the Los Angeles County-USC Medical Center serves the physicians and hospitals of Los Angeles County area as a referral center for diagnosis and treatment of communicable and infectious diseases. Annual admissions range from about 650 to 1,200 patients per year.

Although our unit has the major responsibility for hospitalization of children and adults with communicable diseases in this community, the vast majority of outpatient visits of children with communicable diseases are handled by other community-sponsored clinics and by private physicians. This unit is not the only unit which hospitalizes children with communicable diseases, but the hospital admissions that we have tend to reflect our referral position. Therefore, our admissions are disproportionate to the clinic visits. Patients with severe diseases tend to be referred to the C.D. unit. In addition, the hospital serves a large, medically indigent population, which utilizes the hospital and its staff as a primary care facility.

Our statistics are somewhat skewed by the fact that we serve lower socioeconomic groups and that we also serve as a community referral for patients from middle-income and higher-income groups.

I have with me two tables which I would like to submit for the record.

**Mr. WAXMAN.** Without objection, they will be inserted into the record following your statement [see p. 26].

**Dr. OVERTURF.** The first table depicts the 180 children and adults with communicable diseases seen during the past 30 months: rubeola, rubella, mumps, pertussis, diphtheria, tetanus, and polio. All of them could have been prevented by currently available immunization pro-

cedures. Of these 180 infections, approximately 15 to 20 percent occurred in persons who were greater than 15 years of age. Eight deaths occurred in the group of 180 patients who were hospitalized. Two were in children who had measles and pertussis, respectively; six were in adults. There were two deaths in these adults due to diphtheria, and four were due to tetanus. In addition, there were 1,026 patients who visited the outpatient department with these same diseases.

It should be further stressed that 50 percent of the admissions for mumps—28 total—were for infections involving the brain or spinal cord—meningitis and encephalitis—and 4 of the 81 admissions for measles were in children suffering from encephalitis. In addition, we had a single child with polio, who will continue to suffer a lifelong existence of paralysis and difficulty with ambulation.

I think real financial costs are difficult to compute. The death of an adult patient resulting in a permanent loss of income to a family, or the continued costs of rehabilitation or institutionalization of one victim of encephalitis or polio, or the decrease in productivity in a patient following encephalitis may be monumental, and are almost impossible to compute. Direct costs to the patients and his family are noted in our second table and, at best, are only minimal. However, even these costs, which total \$375,000 of direct charges to the 1,206 patients, could have been prevented by adherence to recommended immunization practices.

These costs, however, cannot reflect the suffering of a lifelong struggle against a crippling sequela of one of these diseases or the emotional trauma of a family's loss of a parent or child.

During the past 30 months, then, admissions to the C.D. unit has reflected at least two epidemics due to diseases preventable by immunization; these being measles and whooping cough. The potential for further epidemics will remain unless current immunization levels within the population are improved and public education of the need for immunization is clarified. In addition, strong community and Government cooperation are required to enforce existing immunization recommendations. These epidemics will continue to occur unless these goals are realized.

I will be glad to take any questions regarding materials I submitted. [The tables referred to follow:]

TABLE 1a.—HOSPITAL ADMISSIONS AND OUTPATIENT VISITS (OPD) TO THE COMMUNICABLE DISEASE UNIT OF LAC-USC MEDICAL CENTER OF PATIENTS WITH DISEASES PREVENTABLE BY CURRENT IMMUNIZATION PROCEDURES (30-MO. PERIOD, JAN. 1, 1975-JUNE 30, 1977)

Diseases	1975		1976		1977 (6 mo)	
	Admissions	OPD	Admissions	OPD	Admissions	OPD
Rubeola, <sup>1</sup> Rubella <sup>2</sup> .....	6	80	24	194	51	317
Mumps.....	11	204	15	142	2	39
Pertussis <sup>3</sup> .....	1429	37	30	13	4	0
Diphtheria.....	2	0	1	0	0	0
Tetanus <sup>4</sup> .....	1	0	2	0	1	0
Polio.....	0	0	0	0	1	0
Total.....	1449	321	1472	349	59	356

- <sup>1</sup> Measles.  
<sup>2</sup> 3-day measles.  
<sup>3</sup> Whooping cough.  
<sup>4</sup> Deaths.  
<sup>5</sup> Lockjaw.

TABLE 2b.—ESTIMATED ECONOMIC IMPACT IN TERMS OF DIRECT PATIENT CHARGES ONLY FOR ALL PATIENT VISITS AND ADMISSIONS TO CD UNIT OF LAC-USC MEDICAL CENTER FOR DISEASES PREVENTABLE BY CURRENT IMMUNIZATION PROCEDURES (30-MO. PERIOD)

Disease	Admissions	Outpatient visits <sup>2</sup>	Charges
Rubeola/rubella.....	81	591	\$173,951
Mumps.....	28	385	72,290
Pertussis.....	63	50	116,133
Diphtheria.....	3	-----	4,940
Tetanus.....	4	-----	6,174
Polio.....	1	-----	1,869
Total.....	180	1,026	375,357

<sup>1</sup> Average hospital stay equals 6.8 days times \$267 per day.

<sup>2</sup> Charges per OPD visit equals average \$56 per visit.

Mr. WAXMAN. We will hear from Dr. Wehrle first.

#### STATEMENT OF PAUL F. WEHRLE, M.D.

Dr. WEHRLE. Thank you, Mr. Chairman and members of the committee, for the opportunity to appear here this morning.

I am presently chief of professional services of the Pediatric Pavilion of the Los Angeles County-University of Southern California Medical Center and also am serving as chairman of district 9 for the American Academy of Pediatrics and am a member of the executive board of that organization.

The Academy of Pediatrics has been interested in preventive medicine for some time. It is an organization composed of specialists in pediatrics. Since infection is a major part of pediatric practice, I find it not unexpected that the topic this morning is of considerable concern to the academy as well as to those others in this room.

My comments this morning are based on more than 25 years of experience in the management and prevention of communicable disease, the last 17 of these years at the Los Angeles County-University of Southern California Medical Center. During this time, I have become convinced that immunization procedures available today offer the single most economical and practical approach toward the control and even elimination of important causes of illness and death among the citizens of this and all other countries.

I would like to divide my comments into three portions. The first, anecdotal illustrations of some of the patients included in Dr. Overturf's presentation; the second, an account of the efforts of the American Academy of Pediatrics, the California Medical Association, and similar organizations of physicians in providing greater protection through immunization of children and adolescents against communicable disease; and, finally, an important step presently under consideration by the California State Legislature and supported by the American Academy of Pediatrics which provides indemnification expressly for children who suffer an adverse reaction to required immunizations.

First, three illustrations from my hospital within the last year are useful in drawing attention to the fact that preventable communicable diseases occur in all socioeconomic groups and are not respecters of

age or sex. The first example is that of a 1-year-old child who was taken by his family to visit relatives in Nogales, Ariz. Almost immediately upon return, the child became ill and was brought to our institution with extensive weakness of his shoulder and both legs. The right leg has virtually no function and will represent a permanent and severe disabling problem for the years to come.

This infection was probably acquired across the border in Nogales, Ariz., and illustrates better than any other patient this year the need for adequate poliomyelitis immunization, particularly for those visiting in areas wherein the infection may remain as an endemic problem.

The second is a 4-year-old girl residing in the suburbs of Los Angeles who had not been protected with measles immunization. This child acquired measles and developed pneumonia, which is a frequent complication. The pneumonia was not a bacterial variety, but appeared to be progressive interstitial type which did not respond to antibiotics and other forms of supportive treatment. She expired despite every effort to reverse the process.

The third is a 65-year-old lady who on a round-the-world trip with her husband, developed a sore throat in Manila, Philippine Islands. After preliminary treatment there, she returned as soon as possible to Los Angeles and died of diphtheria with the characteristic heart complications less than 48 hours after her return.

It is obvious that this and the two other illnesses cited were completely preventable by the tools at hand, and they further illustrate the fact that diseases believed by some to be of little importance currently still represent serious problems of disability and death to those remaining unprotected.

With respect to the American Academy of Pediatrics efforts, as an example of an association of physicians interested in this problem, as district chairman for the State of California and as a member of the executive board of that organization, I call attention to the fact that this academy has led the medical profession in drawing attention to the importance of the prevention of communicable diseases. The "Red Book" representing the report of the Committee on Infectious Diseases of that organization has been revised periodically since the first edition was prepared in 1938. The book, supplied to all members of the American Academy of Pediatrics and all physicians and organizations requesting it, is presently in its 18th edition, which will be available within the next few weeks.

This has provided an authorization and concise review of all important communicable diseases, their prevention and treatment. The efforts of the committee have been closely coordinated with the Advisory Committee on Immunization Practices of the U.S. Public Health Service as well as with the efforts of other groups concerned with the prevention of communicable disease.

In addition to efforts directed toward the physician, the academy has, with the support of the Kellogg Foundation, prepared a program for educational TV, which has been shown in many parts of the country. It is entitled "Ounce of Prevention." Immunization and the benefits of such have been emphasized in it. Hopefully, this, together with many other educational efforts of the academy, will provide this program an extra bit of support.

Additional efforts have included the development of convenient immunization records for the use of the family which will be accessible for the physician, at which time the child is brought to the office and other approaches, educational handout materials, and so on. It is very similar to what has been done by the official State and local health agencies and the California State Medical Association.

Finally, I would like to call attention to important legislation currently under consideration by the California State Legislature. California law requires that each child entering school for the first time present evidence, unless exempt for personal or medical reasons, that he or she has been protected by immunization against poliomyelitis, diphtheria, pertussis, tetanus, and measles.

In addition, the California State Health Department recommends that all children be immunized as well against rubella and mumps. Although these immunizations are considered safe and effective, occasionally children or adults have been reported to have adverse reactions and complications following immunization.

In an effort to reduce the economic problems which may accompany such immunization reactions, Senator Jerry Smith, representing San Jose in the California State Legislature, has introduced Senate bill 967 which would require the State Department of Health to reimburse the medical expenses incurred for a child under the age of 18 years as a result of a severe reaction to a State-required immunization. Such reimbursement would not exceed \$25,000, would be made without regard to ability to pay, and would be made without requirement of repayment in the future.

Eligibility for reimbursement under this proposed legislation would be limited to persons requiring extensive medical care and includes the provision that no person shall be liable for any injury caused by an act or omission in the administration of a vaccine or immunizing agent to a minor, including the residual effects of the vaccine or immunizing agent, if such immunization is required by State law and the act or omission does not constitute willful misconduct.

This important legislative measure has the full support of the American Academy of Pediatrics and represents an important step in protecting those individuals participating in immunization programs designed for the protection of the general public. Its intent is clearly to compensate those few individuals who may sustain harmful effects of a vaccine which is administered to them under State requirements and for the protection of the individual as well as the protection of the community in which they reside.

Thank you very much, Mr. Chairman.

Mr. WAXMAN. Thank you.

Dr. Overturf, I notice from your biographical data, that you had your medical training in New Mexico. I wonder if you would comment on differences you may have seen in immunization levels among the poor, the Spanish speaking and Indian population, as compared to the middle-class population in Los Angeles.

I ask this question in the context of a point that has just come out from the Children's Defense Fund in Washington, D.C. They claim that there are two levels of health care in this country; one for poor children and one for middle class. They say that, according to the Children's Defense Fund report, in 1975, 47 percent of the children

under 1 year of age living in large metropolitan areas designated as poor had not yet received any polio vaccine. They talk about 58 per cent of poor infants in our large inner cities not having received shots for diphtheria, tetanus, or whooping cough.

Does your own personal experience tend to confirm that kind of statement?

Dr. OVERTURE. The communicable disease unit here does take care of largely medical indigent patients, patients from lower socioeconomic groups. I think it is probably the reason why we continue to see a number of patients each year with these diseases hospitalized in our unit.

I think another problem is dealing with groups within the population who have different attitudes or feeling about immunization procedures, and therefore isolated by differences in their social attitudes toward immunization to a certain extent. This is probably true of a number of groups in our population. It is one of the reasons why we have difficulty in reaching and educating them.

Mr. WAXMAN. Another specific group that is not based on poverty that has a special interest in immunization is pregnant women. Women who are pregnant who are not immune to German measles and who contract German measles during their first trimester may have children who are mentally retarded.

What efforts are being made to inform women of the danger of German measles and of the availability of vaccination to eliminate that danger?

Dr. OVERTURE. In this State, at the time that examinations are completed for entrance into a marriage contract, the opportunity to define one's susceptibility to rubella is offered to the woman.

I think the tack in this country overall has been to immunize the child against rubella with the assumption that immunity will be persistent and the unborn child will therefore be protected. But immunization is also offered to those people who have not had this opportunity previously.

Mr. WAXMAN. Dr. Wehrle, is it possible that one reason immunization levels are so low is the fact that immunization schedules are so complicated? Parents have to remember which shots their children should have at 2 months, at 6 months, and at 15 months.

Is there some way of simplifying these schedules? Can any of these shots be consolidated?

Dr. WEHRLE. Yes, sir. I think that, over the years, there has been considerable simplification of the schedules. For example, when I first began dealing with the prevention of communicable diseases, pertussis vaccine was given alone. Also, diphtheria vaccine was given alone. The tetanus or lockjaw protection was often not included in the vaccine supplied to public clinics because tetanus was not considered a disease of public health importance by many. It is not communicable from one person to another. It requires a wound in order to start the process resulting in disease.

Here was a beautiful example of three vaccines originally given in multiple divided doses combined as a single product and given in fewer injections and resulting in at least as effective protection by this technique.

Similarly, measles, mumps, and rubella vaccines have been combined. The combination of the three polio vaccines in a single dose which provides no need for keeping track of type 1, type 2, or type 3 polio virus vaccine, since all three are combined in the same particular dose administered, is another example.

So, it is simply a matter of counting the numbers of doses. We are trying at the present time, in many laboratories across the country to reduce the complexity of this even further. I think your point is an excellent one. The academy and the California Medical Association, the State and local health department here have been working toward a simplification of recordkeeping, too, so that the small wallet-size card will provide the kind of documentation that is necessary to avoid the reduplication and readministration of vaccines to individuals who may well be already adequately immunized.

MR. WAXMAN. Are laws that provide for compulsory immunization before children enter public school really enough? What about getting children immunized at preschool ages?

DR. WEHRLE. May I respond to this in two ways. One was that one of the benefits I think was missed in some of the earlier inquiries concerning the school immunization laws. One of the real benefits, to me, is, if you immunize the individuals as they enter school—at least children who may have been missed before—you provide protection not only to them and to their classmates, but also a substantial measure of protection to the small infant lying in the crib at home. He does not get his measles or his whooping cough or other kinds of illnesses very easily from other children because his contacts are limited.

The older child, particularly the one entering school, is the one who brings the infection back to the household and comes over and, in the spirit of cooperation and interest, sees how his young brother is doing, inoculates him quite inadvertently with measles, rubella, or whatever else he may be carrying or incubating.

Getting the preschool child is a more difficult process. I think that here we simply have got to have more vigorous attempts on the part of public health nursing, on the part of health educators to get out into the neighborhoods. Very few people are going to come to the health center or to the hospital or to the physician's office if it is located at some distance. It is much more convenient to have things happen right in the area.

This is why I was particularly pleased with Dr. Foege's comments. The emphasis here is on a more aggressive, to-the-people kind of health program than we have had in the past due to many types of limitations.

MR. WAXMAN. Dr. Wehrle, did you agree with Dr. Foege's statement that we are facing the potential of an increase in polio cases among children?

DR. WEHRLE. I think that we certainly are.

If you look at the proportion of individuals immunized now, it is substantially less, by anyone's measurement, than it was immediately after the well-known polio immunization drives: The Sabin on Sunday program, which was sponsored by the California Medical Association, the Academy of Pediatrics, the State health department, and the local Los Angeles County Health Department and Medical Society.

With that kind of publicity and that kind of drive, we were able to get to exceedingly high levels.

As my friend and former colleague, Dave Karzon, indicated in the article that Mr. Maguire made reference to, the problem that we face is that people, unlike the experimental animal, do not really have a very good herd immunity protection. The herd is not randomly-distributed. What we do is have these individuals who are vaccinated—some of them are randomly distributed. But the soft spots can occur, and they can occur in almost any segment of the population. We normally think of the soft spots in the lower socioeconomic groups; this may not always be the case.

We have soft spots in other areas. Occasionally, they are in areas that are well supplied with medical care. These occur for a number of reasons. Sometimes religious reasons will prevent acceptance of immunization programs.

Mr. WAXMAN. You do agree that we are facing a risk of a lot more polio cases than we have seen in at least over a decade?

Dr. WEHRLE. I would certainly agree with this. I think we have to be careful, though, how we use the term "epidemic." Epidemic is defined in the dictionary as an increase in the disease prevalence over that expected normally for person, place, and time.

An epidemic does not mean that everyone in Los Angeles is suddenly going to become paralyzed. What it means is that we will have an increase in the expected prevalence of poliomyelitis. I am absolutely certain that this is going to happen in many parts of the country.

Mr. WAXMAN. Generally over the last few years, we have seen relatively few cases of polio.

Dr. WEHRLE. That is correct.

Mr. WAXMAN. I am wondering whether a child who gets polio because he was not immunized will have trouble getting good treatment for his disability. Has there really been an ongoing research effort to try to deal with the therapy of polio? Or have we only put all of our emphasis in the prevention of polio?

Dr. WEHRLE. I think the emphasis has gone, very clearly, into the prevention of poliomyelitis. However, the paralysis that we see with poliomyelitis is clinically similar to other injuries of the spinal cord. The child who has a spinal cord injury following a motorcycle accident or who has another viral infection involving the spinal cord would really require very similar kinds of measures to those in polio in the past. However, I think your point is well taken. I personally feel that, until we are further along toward the solution of this problem, the research effort should include both prevention as well as some for continued assessment of the gains from treatment.

Mr. WAXMAN. Dr. Overturf, do you have any comment about therapy that would be available if a child did contract polio?

Dr. OVERTURF. I would agree with Dr. Wehrle that the therapy specifically for the neurologically disabled child is similar in polio as it would be to other kinds of diseases that do occur for which there is no preventive procedure at the present time.

I think care would probably be adequate. But, even with the best of care, the losses due to a case of polio in an individual child are permanent. Only certain things can be done to minimize that loss.

Mr. WAXMAN. Congressman Lent?

Mr. LENT. Thank you, Mr. Chairman.

Dr. Wehrle and Dr. Overturf, I would assume—and you can correct me if I am wrong—that both of you in your professions do deal with Federal health agencies on immunization programs. I was wondering if you could help us in our oversight function by telling us what, if any, are your most troublesome problems that you have in dealing with these Federal health officials.

Dr. OVERTURF. I think there are practical problems of delivery and supply of vaccines when assistance is available on a Federal basis. This probably continues to be a problem in most States and largely constitutes simply a problem of communications between local governments and the Federal Government.

I think some other disturbing problems have occurred as a result of our recent experience with the nationally mandated swine flu immunization program. There has been a tendency to decline in immunization procedures among the population. It is a problem which is going to have to be reversed.

There is more concern about some of the adverse effects that may occur with immunization procedures.

Mr. LENT. In other words, you would not attribute this dropoff so much to complacency, as our first witness did, as to sort of an active fear on the part of parents?

Dr. OVERTURF. No.

I want it very clear that I think complacency is by far and away the major problem. But, in recent months, some reluctance of immunization procedures has occurred due to possible adverse effects. I think at times, it is an overexaggerated reluctance based on the possible effects of immunization.

Mr. WAXMAN. Will the gentleman yield?

Mr. LENT. Yes.

Mr. WAXMAN. I am interested in this point that you are making about the public concern about the adverse effects of immunizations, particularly in light of the swine flu situation.

In the swine flu case, the vaccine was not as well tested and studied as polio, measles and diphtheria vaccines. Whatever potential adverse effects may come from those immunizations, we have more familiarity with them. Would you agree?

Dr. OVERTURF. In this situation, a specific problem occurred with a specific vaccine with which we had lesser knowledge; although we had knowledge of other vaccines that were similar.

Fears regarding this vaccine have been extended to more accepted vaccine procedures of which we have far better knowledge. The problem is not with routine vaccine procedures, rather this is transferring concerns to well-accepted procedures.

Mr. WAXMAN. We found in the swine flu case that immunizations were recommended to the American people. Then Guillain-Barré syndrome started occurring, and other adverse reactions came about. It was never predicted and the public was never aware of the risk that they were subjecting themselves to.

Have we checked thoroughly to be sure in these immunization programs that Guillain-Barré is not a factor? Have we done a thorough

study so that we know what the potential adverse reactions are and can guard against them?

Dr. Wehrle, do you have any comments?

Dr. WEHRLE. Yes. The problem in retrospect is a lot easier to see than it was in looking for it and anticipating the possibility. The Guillain-Barré syndrome is a disease entity for which there is no known etiology. It occurs primarily in young adults on through the middle years, and occasionally in elderly individuals as well.

The influenza vaccines that were made this last time were basically exactly the same kind of influenza vaccines that had been available for a very long period of time, since in the 1940's. They had been administered to literally millions of people in the Armed Forces and in industry. I think that the reason that this had never been recognized was that it was not a mass program involving millions and millions of doses of vaccine in a very short period of time. So, suddenly you had the opportunity to see something that could have been present before and remained obscure.

It is interesting that the vaccine appears to be associated with Guillain-Barré syndrome, whether it be a strain that was used previously or the swine flu strain itself or a mixture of these strains or the B virus group vaccine. So, it does not seem to be a swine flu problem per se.

Each of the vaccines, as they have been used, has been evaluated very carefully. Some of these, particularly the Sabin oral polio vaccine and the Salk inactivated polio vaccine—DPT as well—have been given on very intensive programs with careful surveillance. As a matter of fact, with the Sabin oral polio vaccine program, we did some careful planning ahead, as Dr. James Chin did for the swine influenza program, in order to encourage reporting from our colleagues all over the State, and particularly to me in Los Angeles County, any type of adverse reaction seen.

We have looked carefully, I do not think there is any way that you can be absolutely certain when you are dealing with biological phenomena. I think it would be most unlikely that we would find hidden hazards such as appeared to be the case with the swine flu program.

Mr. LENT. Dr. Wehrle, I take it from your rather pointed support in your statement of the Smith bill, which is pending in the California legislature providing indemnification for youngsters who sustain adverse effects of immunization, that you feel this kind of legislation is necessary to give reassurance to parents of children that there is some protection.

Would you think that this kind of legislation might be desirable on a national level as well as just in the State of California?

Dr. WEHRLE. Yes, Mr. Lent, I certainly would. I have favored this publicly for at least 15 years.

The thing that becomes apparent to me is that we see headlines of vaccine accidents or someone is being sued because of an alleged vaccine accident. I think that an approach such as this, perhaps initially at the State level to see how it runs, and then adopt it at the national level, would be very helpful. This then would provide I think a much less heated scrutiny of the events that have taken place; whether this really is indeed a result of the vaccine or likely to be a result of a vaccine or whether it is something that has happened purely acciden-

tally. I am sure that many of the Guillain-Barré episodes were. They probably would have occurred anyway, providing the vaccine had not been given.

I think that you have to look carefully. Some of the alleged vaccine accidents are pretty obvious. In one case I recall, a flagpole fell on a person who was in the process of putting it up. After that, his leg was not quite as functional as it was before. I prefer to think of this as flagpole paralysis rather than a vaccine accident.

Mr. WAXMAN. Excuse me, are you saying that some of the people that contracted Guillain-Barré would have contracted it whether they had had the vaccination or not?

Dr. WEHRLE. I think there is no question about that.

The problem that you have always is that, when a vaccine is given, then the assumption is made, rightly or wrongly, that anything happening during the next 30 days may have some relationship to the vaccine and may, indeed, have been induced. Now, it is obvious with an automobile accident that this was not induced by the administration of the vaccine.

Mr. WAXMAN. You see no casual connection between the immunizations and the Guillain-Barré syndrome occurring in so many people that had had the immunization?

Dr. WEHRLE. That is almost my point, but not quite.

If I may, if you take a disease that occurs at random—as Guillain-Barré apparently does in the population—you expect so many cases per 100,000 population during a given period of time. If, however, the rate of that disease occurrence increases above that expected—as appears to be the case with Guillain-Barré—this means that you have additional cases that are occurring that are probably associated with a vaccine administration in some way. But it does not mean that all of those individuals who receive vaccine and developed the condition would necessarily have not developed the condition had they not received the vaccine.

In other words, we expect a certain number of cases in these kinds of problems. If the increase goes up, then the tendency is to include all in the category of those presumably induced by the vaccine.

Mr. WAXMAN. In other words, you are making a statement that I think most people were not aware of: There are people who had Guillain-Barré syndrome that had never been vaccinated at all.

Dr. WEHRLE. That is absolutely correct, sir.

The reason that the vaccine has been suspected of causing an increased frequency is that the rate in the general population, as well as you can determine it, is at a relatively low level; whereas, among those known to have been vaccinated, the rate is substantially higher.

It is the difference between these two rates that has caused the concern.

There are other reasons, of course, for reporting in Guillain-Barré among individuals who have received vaccine because there is some indemnification. I think this is one of the reasons why Dr. Chin and others in the State health department have been looking ahead toward ways of scrutinizing the events around the illness very carefully in order to carefully assess whether or not the vaccine was indeed at fault.

Mr. WAXMAN. Thank you, Mr. Lent.

Mr. LENT. My line of questioning was what your most troublesome problems are in dealing with Federal health agencies in immunization programs. You mentioned, one, the delivery and supply of vaccine. Could you elaborate on that? Have you had problems getting vaccines through the Federal procurement system?

Dr. WEHRLE. I think that this really is a question that is more appropriately directed to Dr. Chin from the State health department and Dr. Shirley Fannin from the Los Angeles County Health Department, who will be next.

Mr. LENT. Have there been any other problems in your dealings with the Federal health agencies?

Dr. WEHRLE. My relationships have been most cordial, as they have been with the State agencies.

Mr. LENT. Do you have any recommendations that we might carry back to Washington for the improved cooperation between the Federal and county health services? Is there any area which has been particularly abrasive where you think an improvement could be made?

Dr. WEHRLE. I think that we are fortunate at this time in having a Secretary who is a forceful person and is very much interested in the immunization program, as you heard earlier. We are also particularly fortunate in having a pediatrician who is the Assistant Secretary for Health. Dr. Julius Richmond is a person who has been long interested in preventive medicine and is a very fine person. He was appointed quite recently. He, together with Dr. William Foege, will provide the leadership that is very much needed for this important program.

Mr. LENT. You doctors would then give your support to the proposed increase in funding for the national immunization program, and you would furthermore support the allocation of funds with roughly 50 percent going toward the purchase of new vaccines and the balance being divided between the technical assistance training and the locating and vaccinating of youngsters.

Dr. WEHRLE. Yes; there is no question whatsoever about support. I think my only comment would be that this is perhaps overdue. We ought to proceed with this, and the support ought to be continued on a regular basis rather than the intermittent terminations that have taken place in the past and which were unfortunate.

Mr. LENT. Thank you, Doctor.

I have no further questions, Mr. Chairman.

Mr. WAXMAN. Mr. Maguire?

Mr. MAGUIRE. Thank you, Mr. Chairman.

Dr. Wehrle, with respect to Senate bill 967, I have a couple of questions. You indicate that you favor the bill. It includes a provision whereby reimbursement in the case of severe reactions would not exceed \$25,000.

What if the complications are severe enough that the cost would exceed \$25,000, a figure which, after all, is not very great in relation to care and treatment of persons with very difficult problems? Indeed, if a death were to occur, why should \$25,000 be a limitation?

Dr. WEHRLE. I personally think that, as this is tried in the future, it may very well amount to more than this. The facts are that the vaccines that we use are exceedingly safe. The reactions are measured, as far as serious reactions are concerned, in a very few per million or millions of doses of vaccine.

The best figures, for example, with poliomyelitis vaccines would suggest that perhaps one individual may conceivably have some kind of adverse reaction out of 7 1/2 million individuals immunized. So, with a population in California slightly in excess of 20 million, we would have, I think, a reasonably measurable number of reactions that might occur.

The intent of the bill is to appropriate \$50,000 for the initial year to set up an immunization adverse reaction fund, a continuously appropriated fund created by the bill to carry out the provisions. The individual expenses would be in an amount not to exceed \$25,000. Many of the expenses, of course, would be substantially less.

I do not know of any way of predicting this any better than this initial estimate represents. I think it is, again, something that is overdue and something that would be desirable after a pilot trial in a State to adopt this on a much broader scale.

Mr. MAGUIRE. I appreciate the thrust of your answer. But it would seem to me, to the extent that these occurrences are going to be very rare indeed, that it would seem less difficult to have a somewhat more flexible ceiling. You and I referred affirmatively to Dr. Karzon; he indicates that there are seven vaccine-associated cases on the average per year of polio. Indeed, there is literally no drug or procedure which is risk-free.

If that is true and we cannot really tell how serious an individual case might be, it seems to me that the ceiling ought to be looked at as to whether or not it is adequate.

Dr. WEHRLE. I am sure that it will be, Mr. Maguire. The hearings on this bill have not yet been scheduled. They are anticipated in the near future. We hope that it will come out and that many of us will have an opportunity to support it at that time.

You can be assured that this would be one of the concerns that I would have, as to whether there might not be more. However, with the kind of intent, and limiting it to severe adverse reactions, and setting this up as a fund, then I think that this is about as close an estimate as one can reach at this time.

Mr. MAGUIRE. I have another point with respect to this bill. It concerns protections of those who administer the vaccine. Congressman Lent indicated that the purpose here is to reassure parents. But I am wondering who is really being protected by language which requires willful misconduct as the test for responsibility with respect to an improperly administered vaccine or an untoward result.

That is a very difficult test under the law. It practically means you have to have a criminal act being committed. I am not sure that, if somebody got the wrong bottle or inadvertently injected too much or whatever the case might be in an individual instance—it would seem to me that that person would be protected by the language that is at least described in summary form here.

I wonder why an ordinary test of negligence might not be more appropriate. I recognize that this is not the forum to deal with all of these particulars. But, since you had made such a major point in your statement of supporting this bill, I did want to ask these questions.

Dr. WEHRLE. I appreciate your comments. I think the problem that we face is that, with any vaccine or any medication, for that matter, there is always a possibility of an idiosyncratic or atypical kind of

reaction in an individual. In Dr. Karzon's comments regarding the polio vaccine problems, some of these infants—as a matter of fact, a substantial portion of the infants who have gotten into some kind of difficulty attributable to the polio vaccine have been infants with hereditary or acquired-in-early-infancy defects in their immune mechanisms.

So, while the vaccine works fine for everyone else and is an absolutely essential vaccine, for an occasional infant without any way that this can be detected in advance in any practical fashion at this time, this infant then finds himself with a serious problem.

Mr. MAGUIRE. Doctor, let me interrupt to say that I fully understand that kind of case and why you would want protection included in the bill.

What I am concerned about is the other kind of case where someone is simply sloppy, inefficient, inadequately aware of proper procedure, or whatever it is, as I read the proposal, that person administering the vaccine would be fully protected. I am not sure that, as a parent, I would want such a person acting in such a fashion to be fully protected. I wonder if you would.

Dr. WEHRLE. There is a provision in the bill which involves the duty of the State health department to investigate the circumstances. I think that it is, to me anyway, quite simple to separate out the problems that would be incurred by improper administration of a vaccine from those which represent the inherent idiosyncratic kind of reaction.

I also feel strongly that, unless we go in some direction such as this, that we will end up having no vaccines available or all vaccines will have to be provided and developed and produced by the Federal Government or some other agency. The vaccines traditionally have not been a very attractive product for most manufacturers.

I think the publicity and some of the litigation that has resulted from either real or alleged vaccine reactions has discouraged some of the manufacturers. If I am correct, I think we have exactly one manufacturer making poliomyelitis vaccine in the entire United States. That company, I believe, is in New York State.

Mr. MAGUIRE. I appreciate the problems of manufacturers and their desire to be able to produce vaccines. I appreciate the problems of those who administer the vaccines and not wanting to be held liable for things that are beyond their control.

But I am still concerned about the language that I see described here in your statement as to adequacy in protecting my family or anybody's family against an event which might not be idiosyncratic along the lines that you suggested. It might not, on the other hand, be willful misconduct, but where there might be, by any reasonable person, an assumption that a higher level of competence might have been exerted in the situation.

I want to appeal to my chairman here, who I know has great influence in the California Legislature, to have this matter refined somewhat more carefully. And I appeal to you as well, as you consider it with legislators with whom you work that that point should be looked at very, very carefully.

Dr. WEHRLE. Thank you very much, Mr. Maguire. I am sure that this will come out in the hearings and will receive very careful scrutiny.

Mr. MAGUIRE. Thank you, Mr. Chairman.

Mr. WAXMAN. Thank you.

Thank you both very much for your testimony

Dr. OVERTURE. Thank you.

Dr. WEHRLE. Thank you.

Mr. WAXMAN. I would like to call as a panel Dr. Eunice Turrell, coordinator of student health services for Los Angeles; Dr. Shirley Fannin, chief of acute communicable disease control, Los Angeles County Department of Health Services; and Dr. Jeanette Wilkins, director of Hastings Foundation Infectious Disease Laboratory.

**STATEMENTS OF EUNICE TURRELL, M.D., COORDINATOR, STUDENT HEALTH SERVICES, DISTRICT HEALTH SERVICES BRANCH, DIVISION OF EDUCATIONAL SUPPORT SERVICES, LOS ANGELES UNIFIED SCHOOL DISTRICT; SHIRLEY L. FANNIN, M.D., CHIEF, ACUTE COMMUNICABLE DISEASE CONTROL, COUNTY OF LOS ANGELES/DEPARTMENT OF HEALTH SERVICES; AND JEANETTE WILKINS, M.D., ASSOCIATE PROFESSOR OF PEDIATRICS, LOS ANGELES COUNTY-UNIVERSITY OF SOUTHERN CALIFORNIA MEDICAL CENTER**

Dr. TURRELL. Mr. Chairman and members of the committee, I am Eunice Turrell, a school physician and coordinator of student health services for the Los Angeles Unified School District.

For the benefit of committee members not familiar with this community, Los Angeles Unified School District is one of 95 school districts in Los Angeles County. The district covers a geographical area of 710 square miles providing services for residents of Los Angeles City, eight other cities and sections of 18 more on a contract basis at 435 elementary schools, 124 secondary schools, 21 special schools, 85 children's centers, and seven development centers for the handicapped.

At the time of the measles epidemic, there was an average enrollment of 44,011 kindergartens, 274,596 elementary students, 133,848 junior high students, 128,334 senior high students. It is an approximate total enrollment of 581,000. Health services for these students are provided at district expense by 50 physicians and 380 school nurses.

In April 1977, when it became evident that cases of measles were escalating instead of declining, a measles epidemic was declared by the health officer, and school districts were informed of the mandate. Los Angeles Unified School District responded by formally notifying all schools, administrative offices, school doctors and school nurses of the requirements of the order.

School nurses with assistance from school physicians assessed health records and collected data for the Health Department. Parents of students with incomplete immunization records were notified. This is reflected in exhibits A1, A2, and memorandum No. 19, which I brought for the record.

Mr. WAXMAN. Without objection, the materials you refer to will be inserted in the record following your statement [see p. 42].

Dr. TURRELL. A series of clinics were set up at school sites in each administrative area to provide immunization for those students whose parents sent written requests for service.

Biologics and necessary materials were provided by the Department of Health Services with school nurses and school physicians giving the immunizations.

Exhibit B shows the number of students by administrative area found to have inadequate immunization data on April 15.

Exhibit C designates the number of students whose parents requested exemption from compliance on the basis of medical statement or against parental belief.

Exhibit D shows the number of students excluded from school for noncompliance with the immunization law on May 2.

Exhibit E shows the number of students—869—whose records still indicated noncompliance at the close of school. Many of these students, I suspect, were school dropouts or no longer residents of the school district.

What rule should the school play in helping to avoid epidemics of other preventable diseases in the future?

I am sure we all agree that the school's primary function is to provide educational services. If schools are also to be responsible for implementing State or Federal health requirements, then categorical funding must be made available for school districts to employ physicians, nurses, and other professionals in order to provide essential services and comply with legislative mandates.

At present, the Los Angeles Unified School District's funding for health services must compete with the educational dollar. Whenever there is a budgetary deficit, health services are threatened with reductions or actually reduced, resulting in loss of staff and poor morale among those remaining.

We need State laws with uniform immunization requirements. California's laws grew like Topsy with different requirements for each immunization.

Accurate records must be kept with diligent followup by school nurses for all students admitted conditionally. Mobility of families presents a problem in this respect, since several schools have 100 per cent turnover each year.

There must be strict adherence to immunization laws by school personnel and exclusion from school for noncompliance. School administrators have been reluctant to exclude students because of loss of ADA for the district, loss of educational services, and what appeared to be an unjust punishment to the students for parental neglect.

The school district is a provider of screening services for the child health and disability prevention program. School physicians and nurses are immunizing kindergarten children when appropriate with biologics provided by the Health Department. This service could be expanded to serve siblings both older and younger.

I am not sure that I have any special recommendations regarding public apathy. Strengthening student health education courses and providing preventive health classes for adults may be helpful. Improving parental awareness by developing audiovisual programs for television might have value. School health personnel are concerned about inadequate immunization levels for polio, diphtheria, tetanus, and whooping cough which require a series of shots.

In conclusion, the Los Angeles Unified School District Health Services Branch is dedicated to upgrading the immunization status of all students within the jurisdiction of the district.

To support this objective, all school districts must have additional financial aid from State and Federal resources. School districts do not have financial ability to support a health program which provides all the State mandated health services.

I am recommending that this committee use its influence to provide funding for school physicians and nurses to do the job which legislation mandates they perform.

Thank you.

[The exhibits referred to follow:]

## EXHIBIT A1

LOS ANGELES UNIFIED SCHOOL DISTRICT  
Office of the Deputy Superintendent

Memorandum No. 19  
April 12, 1977

IMMEDIATE ACTION REQUIRED

SUBJECT: MEASLES EPIDEMIC

The Department of Preventive Health Services, under the authority of Section 3110 of the Health and Safety Code and Section 49403 (new) of the California Education Code, is ordering school districts and private schools in Los Angeles County to:

1. Provide to the Department of Health Services by April 15, 1977, a list of all students enrolled in grades K-12 who are not adequately immunized against measles, who have not had the disease, and who are not legally excepted from school immunization requirements;
2. Notify the parents of such children that, if the children are not immunized within two weeks or by May 2, 1977, they will not be permitted to attend school until protected by immunization by order of the Health Officer;
3. Not permit any student referred to above to attend school on or after May 2, 1977, until protected by immunization.

Attached is a sample letter which may be sent to parent or legal guardian of pupils who need to comply with measles immunization requirements.

For assistance, please call Eunice Turrell, M.D., Coordinator, Student Health Services, 625-6321, or Mrs. Lillian Casady, Director, District Nursing Services, 625-6331.

APPROVED: HARRY HANDLER, Acting Deputy Superintendent

DISTRIBUTION: All Schools and Administrative Offices  
School Physicians  
School Nurses

EXHIBIT A2

Office of the Deputy Superintendent  
MEMORANDUM NO.19 Attachment--1  
April 12, 1977

Dear Parent or Legal Guardian:

This is to inform you that School Health records indicate that your child has not complied with California State law requiring immunization against Measles (Rubeola, 10-day, Sarampión).

Your child will be excluded from school by order of the Los Angeles County Department of Preventive Health Services, beginning May 2, 1977, unless you

1. Provide evidence of having received the immunization.

OR

2. Present a written statement by a licensed physician that the immunization is not safe for your child.

OR

3. File a written statement that immunization is contrary to your personal belief.

OR

4. Your child has had the disease.

For further assistance, please contact your school nurse.

Telephone: \_\_\_\_\_.

Sincerely,

Principal

MEMORANDUM NO. 19. Attachment--2  
 April 12, 1977

Office of the Deputy Superintendent

Estimados Padre o Guardían:

Esto es para informarle que según los Documentos de Salubridad en la escuela su hijo/a \_\_\_\_\_ no ha cumplido con la ley del Estado de California que requiere una vacuna contra sarampión (Rubeola, diez días).

Su hijo/a será excluido de la escuela por orden del Departamento de Salubridad del Condado de Los Angeles empezando el 2 de Mayo a menos que Ud.

1. Presente comprobante que haya recibido la vacuna.

O

2. Presente una declaración del médico que la vacuna no es propio para su hijo.

O

3. Presente una declaración que la vacuna es contra sus creencias personales.

O

4. Compruebe que a su hijo, le ha dado ya el sarampión.

Para mayor informe, favor de comunicarse con la enfermera de la escuela.

Teléfono: \_\_\_\_\_

Att:

Directora

## EXHIBIT B

COMPILATION BY ADMINISTRATIVE AREAS  
 PUPILS' MEASLES IMMUNIZATION LEVELS

Following is the statistical data as reported, reflecting the number of pupils who had not complied with the Measles immunization regulation as mandated by the Education Code, grades kindergarten through twelfth, as of April 15, 1977. In addition students over 16 years of age are also being assessed for their Measles immunization status, as directed by Dr. Shirley Fannin of the County Health Services.

<u>ADMINISTRATIVE AREA</u>	<u>UNIMMUNIZED ELEMENTARY</u>	<u>PERCENT ELEMENTARY</u>	<u>UNIMMUNIZED SECONDARY</u>	<u>PERCENT SECONDARY</u>
A	833	7%	3,440	17%
B	2,613	7%	4,373	17%
C	2,523	8%	5,374	23%
D	530	2%	2,363	10%
E	1,135	4%	2,018	9%
F	1,469	5%	2,188	12%
G	1,027	3%	2,118	10%
H	897	3%	2,378	13%
I	506	2%	2,153	9%
J	416	2%	1,071	5%
K	872	3%	2,625	9%
L	419	2%	4,249	14%

Total Elementary Unimmunized . . . 12,407

Total Secondary Unimmunized . . . 30,910

## EXHIBIT C

June 6, 1977

MEASLES WAIVERS  
(All Schools)

AREAS	
A	1,814
B	164
C	312
D	321
E	112
F	130
G	34
H	267
I	140
J	133
K	143
L	149
	2,389

INTER-OFFICE CORRESPONDENCE  
LOS ANGELES CITY SCHOOLS

EXHIBIT D

TO: Mr. Richard Lawrence, Assistant Superintendent  
Division of Educational Support Services

Date May 2, 1977

FROM: Mrs. Lillian L. Casady, Director  
Nursing Services Branch

SUBJECT: MEASLES IMMUNIZATION ASSESSMENTS UP-DATE

In accordance with your request, following is the immunization assessments for the Areas to date.

AREA	ELEMENTARY			SECONDARY		
	4/18	4/29	5/2	4/18	4/19	5/2
A	833	403	198	3440	2279	1071
B	2613	1804	892	4373	3199	2482
C	2523	1521	756	5374	5898	2524
D	530	303	173	2363	2126	1132
E	1135	837	443	2018	2838	3308
F	1469	771	457	2188	1470	1592
G	1027	420	205	2118	1186	724
H	897	380	130	2378	1080	622
I	506	278	104	2153	1106	850
J	416	263	115	1071	1026	934
K	872	693	238	2625	1793	1570
L	419	190	109	4249	1893	1715
Totals	13,240	7,863	4,657	34,350	25,894	18,524

Totals - May 2, 1977

Elementary	4,657
Secondary	18,524
	<u>23,181</u>

INTER-OFFICE CORRESPONDENCE  
Los Angeles City Schools

EXHIBIT E

TO: Mr. Richard Lawrence, Assistant Superintendent  
Division of Educational Support Services  
Date June 15, 1977

FROM: Mrs. Lillian L. Casady, Director *llc*  
District Nursing Services Branch

SUBJECT: MEASLES IMMUNIZATION ASSESSMENT UP-DATE AS OF 6/15/77

<u>AREA</u>	<u>ELEMENTARY</u>	<u>SECONDARY</u>	<u>TOTAL</u>
A	-0-	74	74
B	24	231	255
C	13	258	271
D	1	28	29
E	3	113	116
F	4	43	47
G	-0-	8	8
H	-0-	-0-	-0-
I	-0-	19	19
J	-0-	-0-	-0-
K	2	47	49
L	-0-	1	1
TOTALS	47	822	869

COMPARISON

June 14, 1977	873
June 15, 1977	869

LLC:lc

xc: Eva Hain

Mr. WAXMAN. Thank you very much.  
Dr. Fannin?

#### STATEMENT OF SHIRLEY FANNIN, M.D.

Dr. FANNIN. Thank you, Mr. Chairman.

I am Dr. Shirley Fannin, chief of acute communicable disease control for the Department of Health Services, Los Angeles County.

The philosophy of public health with regard to immunization is that no child should die or become disabled either temporarily or permanently from a disease that is preventable. Immunizable diseases are just some of the diseases.

The immunizable diseases of childhood are measles, polio, diphtheria, tetanus, whooping cough, rubella, and mumps. There are presently safe, effective vaccines for these diseases.

The younger age group of children, the zero to 2-year-old, are at greatest risk for the more devastating complications of the immunizable diseases.

The school age child and the younger children who go to nursery school and who go into day care centers are the most significant sources of communicable diseases of childhood.

The economic burden of the preventable diseases can be calculated by considering several factors. One of them is the cost of medical care for the acute illness. The others are the cost of the loss of work of the parents who have to stay home to care for the child for as high as 2 weeks and the long-term care costs of children who suffer permanent damage from the diseases.

Even though school immunization laws have required DPT—or diphtheria, pertussis, and tetanus—polio and measles immunization of all first-time school enterers in California for more than 10 years, compliance has been incomplete. Polio has been in effect since 1963, and diphtheria, I believe, since in the forties.

Since 1974, the State health department has attempted to actively encourage compliance by doing yearly kindergarten assessment. Table I in my presentation will indicate improving levels in each of the succeeding years since school assessment began and also improvement in the numbers of students responding to kindergarten assessment.

Mr. WAXMAN. Without objection, the materials to which you refer will be inserted in the record following your statement. [See p. 52.]

Dr. FANNIN. Prior to the time where we began to do these studies, we really had no idea whether there were records in the school on what the percentages were. If you notice, for 1974-75, only 71.5 percent of students responded to the survey.

Some assumption might be made that, oh well, they are immunized, but they just did not report. But, for purposes of calculating immunization levels, I think we have to assume the reverse: persons who are not reporting their immunization probably are not immunized.

That would take the level of polio in 1974-75 kindergarten class to below 79 and all the others, too. However, if you notice, between 1974-75 and 1976-77, we increased our responding rate to 92.6 percent, which is very good. I think the 1976-77 kindergarten assessment probably was an accurate reflection of levels, at least when they enter school.

Last year Los Angeles County had its worst year for measles since 1966, which was the year mass immunization against measles first began in this country. On the basis of epidemiologic data that had been gathered in 1975, a heavy season was predicted for the 1975-76 season. An active measles surveillance and control program was put into operation in December 1975. This program was only moderately successful for various reasons. We only had what we thought was a moderately heavy year.

The surveillance system continued to pick up sporadic cases throughout the summer of 1976. Early in September, the first school outbreaks were noted in the Antelope Valley. The map that I included, to give you an idea of the county and its health services region, shows Antelope Valley at the extreme top of the map. Control efforts were hampered by inappropriately delayed responses to this outbreak and by lack of adequate amounts of vaccine at the time.

Before the outbreaks had subsided in the schools throughout the Antelope Valley, central Los Angeles began experiencing outbreaks in several of their schools. Again, control efforts were delayed by insufficient vaccine supplies and lack of coordination between the schools and the Health Department.

By early January, measles cases were being reported from 26 out of our 27 health districts. Soon thereafter, the 27th health district began reporting. One death had occurred and three cases of measles encephalitis had been reported. Vaccine supply problems made a mass immunization effort unfeasible. You cannot get people excited about coming out and getting immunized if you do not have the vaccine to give to them.

Late in January, we were able to get together 50,000 doses of vaccine. The county of Los Angeles bought 35,000 of those doses outside of the contract. Within 2 weeks, we had put together two mass immunization clinics on Saturdays, where we gave more than 37,000 immunizations just on those 2 days. The publicity at the time was geared to warning the community of the epidemic we were having and urging parents to have their children immunized.

Measles cases continued unabated; the curve for reported cases continued almost straight line. Each successive week brought more and more reports of outbreaks. Immunization activity in the schools was virtually nil. Yet ongoing attempts to do outbreak control in school-based clinics met with some resistance.

In March a second death occurred in a 4-year-old who had been exposed to her 8- and 9-year-old siblings, who had in turn caught measles from another school-age child. Three more encephalitis cases had occurred by that time.

It was then decided in late March that a direct approach to bringing the epidemic under control would have to be made. Data indicated that more than 50 percent of the cases were occurring in the school-age population. Citing section 3110 of the Health and Safety Code, wherein, the health officer of Los Angeles County is given the power to do whatever is necessary to control communicable disease and prevent further spread. An order was given to all schools to identify all children who were not appropriately immunized against measles and ex-

clude them from school until they were immunized. The deadline to accomplish this was May 2.

During the month of April, more than 200,000 doses of measles vaccine were given. The schools, private doctors, and the Health Department worked many long hours to accomplish this. Within 2 weeks after the May deadline, a definite decline in measles cases was noted. Most of that 200,000 doses of vaccine was actually given the last 2 weeks in April. The ending of school on June 11 marked the end of the epidemic.

There was not 100-percent compliance with the health officer's order by the schools. Some had records that were almost impossible to audit. Some complained of insufficient time to comply, but the large majority of them did a good job; and the results speaks for themselves.

Because of this epidemic and the attendant activity, several good things have happened. First, most schools expressed the desire to cooperate with the health department in reviewing their records and cleaning up the group of students inadequately immunized against all the disease required by law.

Second, Senate bill 942, which is the Rains bill, was introduced and is presently passing through the legislature. This bill combines all the immunization laws into one and sets responsibility for compliance.

Third, a renewed public interest in immunization has resulted.

Local government is doing a great deal now toward immunization. They have ongoing immunization clinics throughout the county. But it really requires financial assistance from the State and Federal Governments at a high enough level to insure continuing emphasis on immunizing the child citizens of our community.

Table III demonstrates the county's experience with funding since funding was first available in 1965. If you look at the demography of Los Angeles County, the number of individuals that have to be found and immunized over a period of time, I think the moneys there will be less impressive. If we were a county of 500 population, that would seem like a lot of money; but, for us, Los Angeles County, it is just not sufficient to really make a continuing major effort above and beyond what the clinics in the county already do.

As funding decreases, program adjustments have to be made which prevent continuing high-level activity.

Immunization is one of the best values for dollars spent of any health program. We fully support Mr. Califano's announced goal of 90 percent immunization by 1979. We sincerely hope that Congress indicates its support by appropriately funding this major task.

I would also like to say that, of importance in funding, there should be a static level of funding, with increased levels as needs arise, rather than the waxing and the waning pattern. With diseases like polio, we really cannot afford to be in the middle of a polio epidemic before we get the unimmunized immunized. There is no instant gratification for polio. One dose won't immunize. It takes approximately 6 months at least to adequately immunize if you start from no prior doses and begin to immunize.

We can ill afford to wait until the first cases occur in the community. Everybody would want instant immunity, and that is not possible.

With measles, one dose will immunize, particularly if the person to be immunized is over the age of 1 year. One can assure the person that there is a 95 percent chance that within 2 weeks they will be non-susceptible or immune to the disease. Two weeks of anxiety is not hard to deal with. Six months of anxiety can be pretty hard to deal with at the citizen level.

I think we really do need a static level of funding, with increase as the need increases rather than waxing and waning funding.

[Attachments referred to follow:]

TABLE I.—KINDERGARTEN IMMUNIZATION LEVELS, LOS ANGELES COUNTY, BY PERCENT ADEQUATELY IMMUNIZED

	May 1974 <sup>1</sup>	1974-75 <sup>2</sup>	1975-76 <sup>3</sup>	1976-77 <sup>4</sup>
Polio.....	63	79	83	82
DPT.....	78	83	88	89
Measles.....	82	87	85	86
Rubella.....	34	32	35	50
Mumps.....		20	21	31

<sup>1</sup> Random sample survey of kindergarten students from 30 schools throughout Los Angeles County.

<sup>2</sup> 71.5 percent of students reporting.

<sup>3</sup> 80 percent of students reporting.

<sup>4</sup> 92.6 percent of students reporting.

TABLE II-a.—REPORTED MEASLES CASES BY DISTRICT, LOS ANGELES COUNTY, OCTOBER 1976, TO JUNE 28, 1977

Health district	Number of reported cases	Rate per 100,000 persons less than 25 yr of age
Alhambra.....	84	76.8
Bellflower.....	108	81.9
Central.....	127	189.6
Compton.....	103	81.9
East Los Angeles.....	86	110.7
East Valley.....	122	95.8
El Monte <sup>1</sup> .....	178	116.7
Glendale.....	124	104.2
Harbor.....	43	51.0
Hollywood-Wilshire.....	63	64.7
Inglewood.....	109	64.2
Long Beach City.....	70	47.4
Monrovia.....	95	85.0
Northeast.....	153	149.9
Pasadena City.....	124	286.4
Pomona.....	51	32.6
San Antonio.....	159	132.8
San Fernando <sup>2</sup> .....	251	187.5
South.....	84	108.8
Southeast.....	64	159.6
Southwest.....	158	113.2
Torrance.....	45	30.8
West.....	160	88.5
West Valley.....	306	121.4
Whittier <sup>3</sup> .....	43	32.7

<sup>1</sup> Includes La Puente District.

<sup>2</sup> Includes Antelope Valley District.

<sup>3</sup> Includes Pico Rivera District.

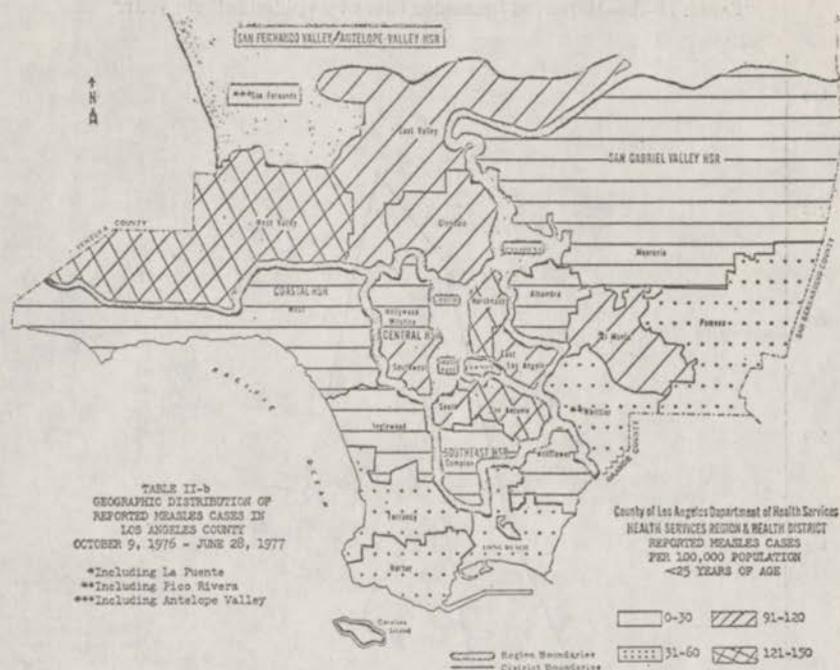


TABLE II-b  
GEOGRAPHIC DISTRIBUTION OF  
REPORTED MEASLES CASES IN  
LOS ANGELES COUNTY  
OCTOBER 9, 1970 - JUNE 28, 1977

\*Including La Puente  
\*\*Including Pico Rivera  
\*\*\*Including Antelope Valley

County of Los Angeles Department of Health Services  
HEALTH SERVICES REGION & HEALTH DISTRICT  
REPORTED MEASLES CASES  
PER 100,000 POPULATION  
<25 YEARS OF AGE

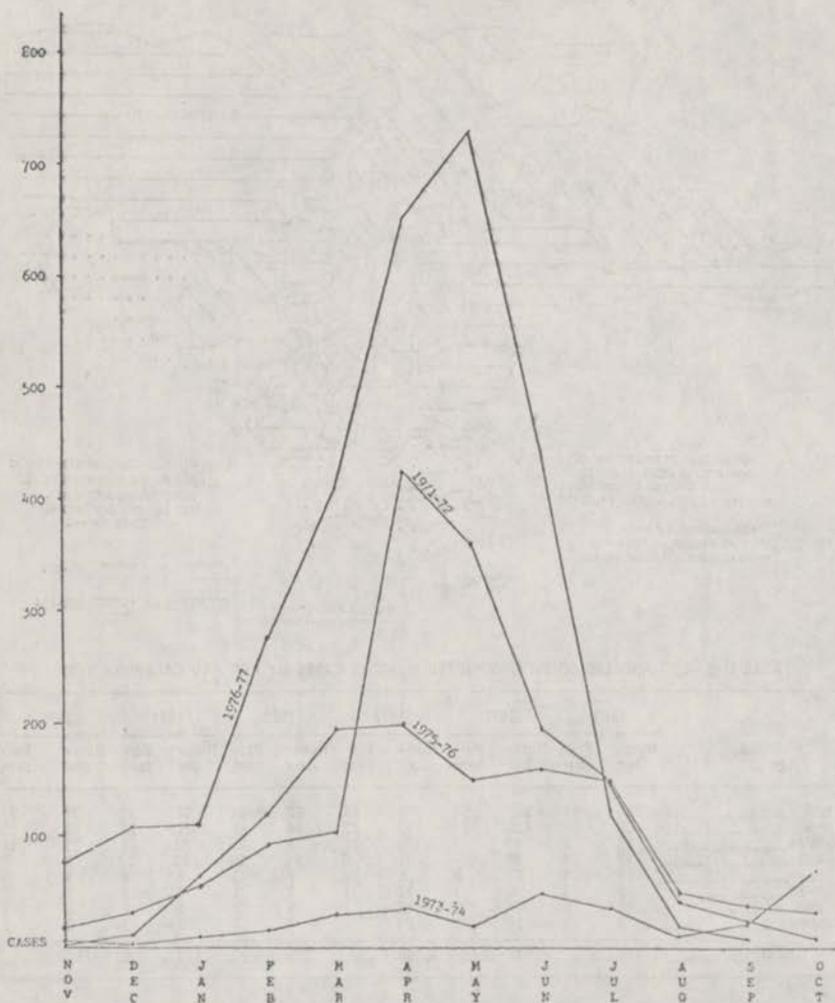
TABLE II-c.—LOS ANGELES COUNTY, REPORTED MEASLES CASES BY AGE AND CALENDAR YEAR

Age	1970		1971		1972		1973		1974		1975	
	Number	Per cent										
0 to 4.....	291	61	291	53	745	56	92	40	94	53	37	27
5 to 9.....	106	22	138	25	297	22	48	21	21	12	48	35
10 to 14.....	32	7	40	7	139	10	35	15	20	11	25	18
15 to 19.....	18	4	38	7	76	6	36	16	30	17	9	7
20 to 24.....	19	4	17	3	26	2	7	3	8	4	8	6
25 to 29.....	3	1	5	1	17	1	2	1	3	2	3	2
30 plus.....	4	1	7	1	12	1	5	2	1	1	4	3
Unknown.....	3	1	11	2	24	2	7	3	2	1	2	1
Total.....	476		547		1,336		232		179		136	

REPORTED MEASLES CASES BY AGE AND EPIDEMIOLOGIC YEAR

Age	1975-76 <sup>1</sup>		1976-77 <sup>1</sup> (to Jun 28)	
	Number	Percent	Number	Percent
0 to 4.....	281	30	880	31
5 to 9.....	307	33	764	27
10 to 14.....	188	20	631	22
15 to 19.....	105	11	279	10
20 to 24.....	18	2	93	3
25 to 29.....	15	2	46	2
30 plus.....	9	1	36	1
Unknown.....	11	1	140	5
Total.....	934		2,869	

<sup>1</sup>Measles epidemiologic year begins on calendar week 41 and ends with calendar week 40 of the following year.

TABLE II-d.—Reported<sup>1</sup> measles cases by epidemiologic year.<sup>2</sup>

<sup>1</sup> 85 to 90 percent of reported cases are confirmed. Reported cases may only represent 10 to 15 percent of the cases that actually occur.

<sup>2</sup> Measles Epidemiologic Year begins on Calendar Week 40 and end with Calendar Week 40 of the following year.

TABLE III.—IMMUNIZATION PROJECT APPROPRIATIONS, 1965-77

	Federal vaccine and cash	State fund	Federal vaccine
1965-67 <sup>1</sup>	\$2,243,429		
1967-68	666,250		
1968-69	397,940		
1969-70	445,537		
1970-71	886,827		
1971-72	533,100		
1972-73	578,458		
1973-74	208,600		
1974-75	255,000		
1975-76		\$216,000	\$140,000
1976-77		236,109	175,000
July to December 1977 <sup>2</sup>		152,785	311,690

<sup>1</sup> 2-yr grant award.<sup>2</sup> Includes funding for Long Beach.

## LOS ANGELES COUNTY FACT SHEET

U.S. population	214,280,000
California population	21,520,000
Los Angeles County population	7,018,603

Los Angeles County represents 3 percent of the national population and 32.6 percent of the State's population.

Los Angeles County has an area of 4,083 square miles.

Los Angeles is divided into five health service regions:

Region	Population	Percent
Central	1,183,258	16.8
Coastal	2,066,851	29.5
San Fernando/Antelope Valley	1,520,849	21.7
San Gabriel Valley	1,532,600	21.8
Southeast	715,045	10.2
Total	7,018,603	100.0

## POPULATION BY RACE

[In percent]

Region	White	Spanish surname	Black	Other
Central	32.1	36.2	23.7	8.0
Coastal	76.9	13.8	5.0	4.3
San Fernando/Antelope Valley	83.6	13.0	1.6	1.8
San Gabriel Valley	71.1	22.3	3.8	2.8
Southeast	38.8	19.1	39.7	2.4
County	65.7	19.8	10.7	3.9

Enrollment of Students<sup>1</sup> in Los Angeles County:

Public schools	1,300,000
Private schools	175,000
Special programs	44,000
Total	1,519,000

K-12

<sup>1</sup> 80,000 students unable to speak English in L.A. City schools alone.



Dr. Wilkins?

**STATEMENT OF JEANETTE WILKINS, M.D.**

Dr. WILKINS. Thank you, Mr. Chairman.

I would like to inform you about the problems that exist with the measles vaccine and at the same time to point out that this is indeed a good vaccine.

Despite the availability of an effective and safe vaccine against measles, this disease remains endemic in many areas of the United States. The goal for active immunization is to induce in susceptible individuals an immunity equal to that acquired by natural infection, but without clinical symptomatology to eliminate the morbidity and mortality associated with natural disease.

Prior to licensure and distribution for general use, live further-attenuated measles virus vaccines were shown to be immunogenic or capable of inducing the formation of measles antibodies in previously susceptible individuals. Seroconversion rates of 91 to 100 percent were reported in infants equal to or greater than 12 months of age with these candidate vaccines administered under ideal conditions.

We saw the need to evaluate the response to measles vaccine under conditions of community use. From July 1965 through September 3, 1975, the responses of 1,031 infants and children from 6 months to 4 years of age to the measles vaccine were evaluated. The immunization program was explained to the mothers and, with written consent, the clinic physicians assumed comprehensive preventive and therapeutic responsibility for each child up to at least 3 years of age. This continuity of care provided close surveillance for untoward reactions to the vaccine and intercurrent infections. I might point out that we had no adverse reactions to the vaccine.

Vaccines evaluated were licensed commercial preparations. Further, the measles vaccines were representative of those lots administered concurrently during the 10-year study period by the Los Angeles County health facilities. In an attempt to simulate routine usage, all vaccines were stored and reconstituted immediately prior to administration as recommended in the product brochure provided by the individual manufacturers; the expiration date of each individual vaccine was observed.

In our study population, the serologic responses of measles-susceptible infants and children equal to or greater than 12 months of age were shown to be independent of other vaccines—rubella, mumps, polio, or diphtheria-pertussis-tetanus—administered at the same time. Of importance, the seroconversion rate remained relatively constant over 10 consecutive years of surveillance.

The overall rate of seroconversion was 92.8 percent. Thus only 40 of 690 previously susceptible individuals equal to or greater than 12 months of age were considered "vaccine failures" and possibly remained susceptible to this disease even after attempted immunization.

Vaccine failures or "nonresponders" occurred randomly in those children over 1 year of age. It is not known at present what factors other than passively acquired antibody from the mother might have resulted in the vaccine failures. However, further evaluation of the responses to the measles vaccine in infants demonstrated that other

factor or factors are indeed operative since infants with no demonstrable passively acquired antibody in their preinoculation sera did not develop antibody after vaccine administration. Therefore, until antibody production can be assumed or demonstrated in each individual inoculated, the administration of vaccine cannot be equated with immunity.

Unfortunately, passively acquired immunity from the mother has necessitated the postponement of active immunization until that age when the greatest number of seroconversions will be achieved. Only 13 percent of infants 6 months of age will make antibodies to the measles vaccine. There is an increasing number who will seroconvert after 6 months of age. It is 90 percent by 11 months of age, 90 percent will demonstrate seroconversion.

Therefore it has not been practical to vaccinate at 6 months of age and then again each month up to 12 months of age so as to immunize each child as it becomes susceptible following the loss of maternal antibody. So, by necessity, we have had to delay immunization until that age when the greatest number will be adequately immunized with one attempt at immunization. Unfortunately, this has left many children from 6 to 12 months of age unprotected against measles at a critical time in their lives.

To protect these infants, the younger ones, it has been necessary to produce a significant level of vaccine-induced immunity among older infants and children to reduce measles exposure of the younger and unimmunized of all age groups. This approach has not been totally effective as shown by the number of young infants who acquire measles in their community.

In our study population of 1,031 infants and children 6 months to 4 years of age, 47—4.6 percent—had serological evidence of prior disease. Of these, 29 infants—61.7 percent—were documented to have been equal to or less than 14 months of age at the time of acquisition of measles. Young infants with serological evidence of past disease were seen during each of the 10 years of study.

Current recommendations propose that infants 12 through 14 months of age should not be electively inoculated with measles vaccine. In my opinion, this will clearly enlarge the existing pool of susceptible individuals in our infant population. As long as one case of measles is recognized anywhere in the United States, it is apparent that an outbreak of larger significance can occur.

Therefore, our findings that infants 12 through 14 months of age can respond as well as older infants and children to the currently available vaccine does not support the current recommendations that attempted immunization should be postponed until 15 months of age.

It is not known what the role of an apparent 8-percent incidence rate of "vaccine failures" would be in the perpetuation of this disease in communities if all infants were inoculated at the designated age. Clearly, nonimmunized individuals have made up the majority of recognized cases. A larger proportion of vaccine failures may have been produced by the simultaneous administration of gamma globulin with the Edmonston B vaccine, the precursor of the present vaccine, especially in those who as infants were given active-passive immunization at less than 13 months of age.

The occurrence of measles in our current teenage population during the recent epidemic points to this factor since the live further-attenuated vaccine was not utilized prior to 1965. The occurrence of disease and transmission of measles virus by infected "vaccine failures" have been documented. Further, it has become apparent that not all health care providers have appreciated the live nature of the further-attenuated measles vaccine; it has been poorly stored or reconstituted with DPT vaccine containing thiomersol which kills the virus.

In addition, it has been administered simultaneously, as Dr. Foege said, with gamma globulin and has been given to infants less than 12 months of age who may have persistent maternally acquired measles antibody, both of which can nullify the effect of this vaccine.

All of these conditions may have resulted in inadequate stimulation of antibodies in individual vaccines in the past. These practices must stop if the full antigenic potential is to be fulfilled with this vaccine. Now that the above practices have been recognized, it is hoped that the number of vaccine failures will be reduced in the future.

The solution to the problem does not, therefore, point to the need for another measles vaccine that would be administered subcutaneously since, in clinical trials with the presently available vaccine, 97 to 100 percent seroconversion rates have been reported. There is, however, a need to determine why, in community use, the seroconversion rate is less. If it is the vaccine, can this be corrected by the assurance that in each vaccine vial a sufficient amount of virus is present?

If measles is to be eradicated, each parent must take advantage of the vaccine that is available. They cannot rely on the immunization of others to protect their child from this disease. Hopefully, through proper education of parents and health care providers and by continued serological surveillance of the immunogenicity of administered vaccines, measles can be eradicated in the United States.

Mr. WAXMAN. Thank you very much for your testimony.

Dr. WILKINS, is it not true that there are certain instances when children should not be immunized? An example is when a child is running a fever; he should not be vaccinated on that day. Can you tell us other special circumstances which indicate a child should not be vaccinated?

Dr. WILKINS. The fear of giving the vaccine concomitantly to a child who has an obvious infection is twofold. First, if they develop a complication, medico-legally you could not say that the vaccine had nothing to do with it. So, the safest thing has been not to give vaccines to individuals with fever.

There is also evidence that you may have active interference among viruses. Live vaccine viruses have to replicate in the body to make more viruses in order to give you an adequate antigenic stimulus. So, anything such as another viral infection interferes with the replication of the vaccine virus in the body would nullify the effect of the vaccine.

Another thing, with the polio vaccine viruses, in order to be attenuated, these viruses were trained to grow at 104° F. Because of this, there was some fear that the polio vaccine viruses might over replicate in those with fever, and be more of a potential threat to cause disease in the febrile patient.

Mr. WAXMAN. Tony Morris, formerly an immunization officer for the FDA, thinks that all children should be tested to determine their

natural immunity before they are vaccinated. This would avoid unnecessary immunizations.

Do you agree that this should be done before children are immunized? How costly would this procedure be?

Dr. WILKINS. I am a big advocate of being able to determine who is or who is not immune to any particular disease before any vaccination. I think one of the biggest problems right now is not being able to look at a person and say that they have had measles. You can look at candidate vaccines for smallpox and if they have a scar[s] you can equate that with having been antigenically stimulated with that particular virus.

As it stands now, we cannot determine with any degree of practicality who is or who is not immune to measles. Therefore, it has caused what I consider chaos. Individuals are over vaccinated and given more vaccine when one dose would offer them—as far as we know—a long-term immunity.

The test for measles immunity is not a simple test. The most sensitive test available requires blood from the vaccinee and that we use certain monkey red cells; there are not enough of these monkeys in the world to test all the children in the United States.

A skin test or noninvasive test would be ideal. For TB we screen with a skin test. If someone would look into the feasibility of being able to detect the immune from the nonimmune, then a lot of our problems would dissolve. Now we do not know who is and who is not.

If they escape getting vaccinated at 12 months of age, you have got, every month, in Los Angeles County (from what I understand from Dr. Fannin, 3,000 children are born each month), 3,000 children become susceptible to measles and at school entrance, 50 times 3,000 is millions of children as they go up into high school. You are now dealing with millions of children and you cannot determine who has and who has not been immunized.

We need a rapid, simple, preferably noninvasive, cheap test. If it were available, it could be cheap. It is not as simple as saying that we need it. It takes someone with a better scientific background, including chemistry, to figure it out and work toward this goal. I think it would make a lot of problems less acute for us.

Mr. WAXMAN. Dr. Turrell, who monitors the immunization records of each school child in the Los Angeles school system? Is this done by the school nurse? If she finds from a child's record that he lacks a basic vaccination, what action is taken by the school officials?

Dr. TURRELL. This has been one of the problems in the past, Mr. Chairman. We could not always get the cooperation of the school administrator to exclude a child. They feel that the primary purpose is education. As educators, they do not appreciate the need for immunizations as much as we do. Some have been very cooperative, and we have excluded children. They have gotten their immunizations. Other administrators have not done this.

We are hoping now that the new California law will have enough teeth in it that our health staff will be able to exclude the children until they comply with the law.

Mr. WAXMAN. What has been your experience in terms of the cooperativeness of the parents once they are informed that the child needs a vaccination? Do you often have to go back twice?

Dr. TURRELL. Twice, three times, four times, five times. It is very hard to impress on some families the need for immunization. They are all getting very reluctant to be told by Big Brother or government or the local agency what they should do for their child. We are getting quite a bit of resistance.

I think the only way we can help in that respect is to continue our education of the students themselves. I think that would be the area we should concentrate on, educating the students.

Mr. WAXMAN. Does the school curriculum in science and health classes stress the importance of vaccinations?

Dr. TURRELL. We have health education classes. I think that this should be one component of that. I am not too familiar with our high school program at the present time; but I think it should be included, at least in the junior high level.

Mr. WAXMAN. Is the PTA interested in immunization levels of school children? Have they been of assistance?

Dr. TURRELL. The PTA has always cooperated. In the past when the county health department used to have immunization clinics in the schools, PTA was there backing up and helping with the children and volunteering their services.

Mr. WAXMAN. Are parents aware that vaccinations are free? Do you run into parents that think it will cost them some money and, therefore, avoid getting the shots?

Dr. TURRELL. There may be a few that are unfamiliar with health services in the county. Those we readily inform that they may obtain it from any of the health clinics in their neighborhood. We even provide lists of clinic times.

In the past, we got into a little difficulty because of the lack of vaccines available to the country, the lack of time available to give immunizations, and the cutoff times in the clinics. Sometimes parents would go, and they would not be served that day. They would be discouraged and perhaps not come back. It would take a lot more urging by the school nurse to get them to the clinic.

Mr. WAXMAN. Thank you.

Congressman Lent.

Mr. LENT. Thank you, Mr. Chairman.

Dr. Turrell, Dr. Fannin is not here right now, and I hate to ask you questions about her statement. But she indicates in her statement that control efforts, with respect to the measles outbreak, were delayed by insufficient vaccine supplies and lack of coordination between the schools and the health department.

Do you agree with that statement, that there was a lack of coordination between the health department and the schools?

Dr. TURRELL. I do not believe that we were not cooperating with the Health Department. I am not quite sure what she means by lack of coordination.

Mr. LENT. Well, she is back now; so we can ask her.

How about the vaccine supplies? Were they sufficient or insufficient?

Dr. TURRELL. They were not sufficient. Even in our child health program, the Health Department was unable to provide us with measles vaccines for several months to immunize kindergarten children.

Mr. LENT. So, the school district gets the vaccine from the county Health Department?

Dr. TURRELL. That is correct.

Mr. LENT. Do you know where they get it?

Dr. TURRELL. I thought they were getting it from the State and from the Center for Disease Control.

Mr. LENT. Do you administer the immunization right on the premises of the school?

Dr. TURRELL. We have been in this one particular program. We do not do it as a general immunization program for school children; it is just for kindergarten children.

Mr. LENT. There is another statement in Dr. Fannin's report where she indicates that immunization activity in the schools was virtually nil. Attempts to do outbreak control in school-based clinics met with some resistance.

Do you have any familiarity with what this resistance might have been?

Dr. TURRELL. I think that was in reference to school staff providing their services to perform immunizations, as opposed to the Health Department staff.

Mr. LENT. Maybe I can ask Dr. Fannin that. Dr. Fannin, in your statement, you indicate that, "control efforts were delayed by insufficient vaccine supplies and lack of coordination between the schools and the Health Department."

Can you tell us why there were insufficient vaccines? Can you pinpoint what this lack of coordination was between the schools and the Health Department?

Dr. FANNIN. To put it in a picture, Los Angeles County is 4,083 square miles. Our largest school district in Los Angeles City Unified, which is in the middle of the city and parts of the suburbs. It makes up 45 percent of the school population in Los Angeles County.

There are 88 school districts; Los Angeles City Unified is just 1 of the 88. So, when we talk about lack of coordination, we are talking about specific incidents such as an outbreak of 15 cases of measles in a junior high school and an attempt on our part to get a school based clinic going. We felt this indicated a high susceptibility rate in that population, and we were asked by school to wait until each of the 15 cases was confirmed absolutely as being rubeola. When you are in the middle of a rubeola epidemic, you do not look for something else.

By the time we were able to get a school outbreak clinic organized, there were 45 cases. Before the outbreak was over, it was closer to 60 cases in that junior high school.

Mr. LENT. Who was it who said these cases—the first 15—had to be confirmed before you could set up a clinic?

Dr. FANNIN. Various people are required to approve before we—the health department—can go into a school and set up a clinic. We have to get approval from the school authority, that is, doctors, principals, to do so.

I think, to give a more complete picture, what had happened over a period of time, with both the health department and with the schools, was a decreasing emphasis on school health. Some school districts, for instance, with 35 schools would have one school nurse to represent the professional aspect of school health in the whole school district.

If you looked, over a period of time, even Los Angeles City Unified—I am sure Dr. Turrell can speak more directly to that—every year would have a decreasing number of school nurses. There would not be one nurse per school. A nurse would be taking care of five schools or three schools. She might get to each school a half day or a day a week. Her duties were not assumed by somebody else. The job did not continue getting done. Literally, the job ceased getting done; or it was done halfway by somebody who did not really understand the purpose of the job in the first place.

When somebody in a clerical position is made responsible for analyzing records of immunization in a school, you are not going to get an appropriate analysis of those records. That secretary or that clerk cannot take action on the basis of what she finds in the records.

As Dr. Turrell pointed out, when we made our immunization laws and when we did kindergarten assessment, we did not give the school any money to accomplish these tasks. We just said "We—the State—are going to mandate this and now go do it." With a decrease in their own funding, the schools have to make priorities, they choose education. Education is the first priority; school health is down the line. So, I think there have been long periods where things were happening that brought about the decreasing emphasis by the public health department and the schools on cooperating to get the job done.

Mr. LENT. In your professional opinion, Doctor, had the California law requiring immunization for admission into the schools been properly and adequately enforced, would this outbreak have taken place?

Dr. FANNIN. Because the school age child is the most important source of community spread and because, had it been complied with, close to 98 percent of the students in the schools would have been immunized, and 90 percent or more of them should have been immune, I do not think we would have had this epidemic.

I think that would have been a big enough population of non-susceptibles to have prevented an epidemic.

Mr. LENT. Why do you think it has—and you were quoted in your statement as saying this—that the California law requiring immunization has not been adequately enforced? What is the main reason? Is it a lack of commitment? Is it a lack of funds? Is it a lack of interest on the part of the school administrators?

Dr. FANNIN. It is my opinion that, in an era of shrinking resources, people are having to decide which thing to do first. I think the administrators in the school have education as their first focus and educational interests. Physicians and nurses, whose first focus might be school health, do not make up the budget or do not vote on the budget; they are employees of the system, not the ones who design the system or make the system function.

I think it is just a matter of where the emphasis is. Educators say they are supposed to educate; somebody else should be doing health care. I do not think we all recognize this rapidly enough. We—the public health people, were saying "We do not really have to worry too much about the schools because the school health people have the same goals we have; we just supply them with vaccine and supplies, and they will do the job."

We did not get together with the schools. Where they began to withdraw, we did not increase our services. We both kind of pulled back from the problem, I think.

Mr. LENT. Now that you have this horrendous experience behind you, have you taken any steps as between the county health department and the school officials to get together so that this type of thing does not occur in the future,

Dr. FANNIN. I think that one of the best things that came out of the whole situation was the fact that the schools have said, "We do not want this to happen again; we did not want it to happen in the first place. We got caught up in it." The health department has said the same thing: "We do not want this to happen again."

So, there has been a great deal of interest in getting the job done before we have another problem. Our entire program, from the immunization project standpoint, is going to be geared to cleaning up school records as phase 1 of the program this year. We will go into the schools, identify those needing immunization, and send them to be immunized.

We can do this together. We would like to have done it yesterday. We would like to do it over a period of the next 6 months. But that is entirely dependent on funding. We are going to do it, but whether it takes us 6 months, a year, or 3 years is going to depend on how many county resources we can get reallocated, and how much help we can get from the Federal and State governments. This is step 1.

However, the school is not the group most likely to be devastated by the diseases. We must have the time and money, once we get the school records cleaned up, to go back and focus on the 0-to-4-year age group, particularly the 0-to-2-year-old. We must begin looking not just at the kindergarten to 12th grade. We must look at the day care centers and the nursery schools. Those are childhood social settings. They will become just as important as the public school as being the source of community spread of disease. Our society is changing rapidly, wherein children enter social groups at an earlier age. We are going to have to look at that change and design programs accordingly.

In the last 10 or 15 years there has been a decided move from the home into social groupings early in life. Communicable diseases depend on social groupings. If a child has it, and it's communicable, he will give it to his neighbors. Children, by their nature, are not hygienic. Therefore, these diseases do spread more rapidly in schools or child care settings.

Mr. LENT. Thank you, members of the panel. I have no further questions.

Mr. WAXMAN. Thank you.

Mr. Maguire?

Mr. MAGUIRE. Thank you, Mr. Chairman.

Dr. Wilkins, you have indicated your dissatisfaction with recommendations which proposed that infants 12 through 14 should not be electively inoculated. I take it you are directly challenging the recommendation of the American Academy of Pediatrics Committee on Immunizations.

Dr. WILKINS. That is correct. They have invited me to New York in November. We will consider all the data available.

Mr. MAGUIRE. Were you involved at an earlier stage with that?

Dr. WILKINS. No, I was not.

Mr. MAGUIRE. But they are now going to invite you to present your data which presumably is data which they did not have at the time?

Dr. WILKINS. That is correct.

Mr. MAGUIRE. And it contradicts the data which they did have at the time?

Dr. WILKINS. That is correct.

Mr. MAGUIRE. I note that they have indicated, and health groups throughout the country, for example the Group Health Cooperative of Puget Sound, are indicating on the basis of their recommendation, immunization at 12 months is only 80 to 85 percent effective.

Your data, which you have indicated, contradict that?

Dr. WILKINS. Right.

I might add that this data represents more kids than have been evaluated in any one group, and it is unfortunate that this conflict did come up. We want to look at it scientifically. I think it has allowed us to further evaluate why individuals do fail to respond to the vaccine. My data, based upon larger numbers, tend to show that they are randomly distributed. If you do a small study, and you get one failure too many in one group, even if it happens to occur randomly, then it appears to be statistically significant.

Mr. MAGUIRE. Is there any evidence that it should be done earlier than 12 months?

Dr. WILKINS. There is evidence—it has got to be understood that if a mother has never had nor been effectively immunized against measles, her child is vulnerable to measles at the time the baby is born.

Mr. MAGUIRE. That is why I am asking the question.

Dr. WILKINS. Right.

In the past, the majority of mothers had measles, and 90 percent or more of the mothers had been naturally immunized. This was a protective mechanism for the baby because, up until 6 months of age, it is rare for a child whose mother has had measles to develop the disease.

Mr. MAGUIRE. Or whose mother has been immunized.

Dr. WILKINS. The antibody response to the vaccine has not been as high. So, it was hoped that in the future we would be able to immunize earlier infants of vaccinated mothers because these infants would lose their passive immunity earlier. But, because the virus has stayed in the community and caused the disease, it is further complicated. It has to be appreciated that it is complicated.

Ninety percent of children 11 months of age are vulnerable to measles, theoretically. However, you reach a point where, if you are going to have a mass immunization program—you must take on the individual to evaluate the antibody in the child. But based upon our current techniques to quantitatively measure the amount of antibody, we have discovered that antibody levels below our ability to detect may interfere with the vaccine virus.

Do you follow me?

Mr. MAGUIRE. Yes.

Dr. WILKINS. Therefore we cannot go in and even use the current test to predict response to vaccine in infants less than 12 months of age. These kids that I vaccinated all had serological evidence of not

being immune to measles. It was not until giving them the vaccine that I found out that among these were infants with undetectable antibody that interfered with response.

Mr. MAGUIRE. Does that lead us, then, to the conclusion that we cannot consider doing anything earlier than 12 months?

Dr. WILKINS. That is right.

Mr. MAGUIRE. It is a question only of whether or not we do it in 12 months as opposed to a later time?

Dr. WILKINS. That is right.

I wanted to add that there is some evidence, in the infants that I had vaccinated through 11 months of age, that those who were 6 through 9 months of age might not respond to later revaccination as effectively as if they had been allowed to wait until they lost the maternal antibody. It looks as if they did process the antigen but made inadequate amounts of antibody.

That is what I also want to take up with the Academy of Pediatrics.

Mr. MAGUIRE. Your argument in short is that your data say that, at 12 months, you are getting rates that are just as effective as you get at 15 months.

Dr. WILKINS. That is right.

Mr. MAGUIRE. Thank you, Mr. Chairman.

Dr. FANNIN. The comment on that from the public health standpoint: The earlier you can get the most people vaccinated, the better for preventing outbreaks or preventing disease. So, to us it is important.

If you look at the recommendation, the recommendations say routine immunization. That implication is without disease or significant disease in the community. Once there is significant disease in the community, the recommendations have always changed to whatever good it does to immunize the young children.

Mr. WAXMAN. Dr. Fannin, do we know at all what the immunization rate is among illegal aliens in Los Angeles? Is there a fear by illegal aliens that, if they go for vaccination shots, they will be detected as illegal?

Dr. FANNIN. I really cannot speak for the illegal alien on their fear of detection.

We do not have any data on the relative immunization level of the alien except anecdotal and observation data.

The child just coming from Mexico has a rather low immunity level. I say that because when the children start to school, they have no way of documenting that they are immunized, for the most part. Some will bring along an immunization card. But most of them cannot document that they have had immunization before.

The program—as I understand the program in Mexico—is to have major immunization pushes periodically rather than having a system of well-baby care where a large part of the population can be expected to have a total program of immunization. We just presume, unless they can document, that they have not been immunized.

I think that the "fear" of the illegal alien is exaggerated. I do not believe the disease looks at legal status. I think that, as we look through our numbers of cases, a lot more of our citizens got measles than the illegal alien or ones that one might guess might be illegal aliens.

I think it is hard to define there is an interesting observation about measles. Baja Calif.'s measles season follows ours. The peak season for measles there tend to be April-May rather than February-March. With the commuter traffic that we tend to have between Baja Calif. and Los Angeles, I would think that we export measles to them, if anybody gives anybody measles. This statement is just referable to measles.

The realistic fear is that, whenever you have an underdeveloped country that has an endemic level of communicable diseases which you are trying to eradicate or immunize against, you have to be aware that importation of that disease is always possible. Mexico this year had outbreaks of polio in some of their states. In fact, the one case of polio that Los Angeles had this year was an imported case. So, we have to realize that there is an endemic level of polio activity in Mexico. If a citizen from Los Angeles is not immunized appropriately and goes to Mexico, they may contract the disease and bring it back to spread to their neighbors who are susceptibles.

Mr. WAXMAN. Do we know whether there is a lower level of immunization among the poor socioeconomic groups?

Dr. FANNIN. Well, I think it is standard in any population that does not understand the necessity for or who have other overwhelming problems, that preventive medicine—immunization being part of that—is not a priority in their life. Curative medicine, of course, is a priority.

The thing about the measles data—and we have not analyzed it completely yet, mainly because we are really short of that type of staffing—is that measles was not a ghetto disease strictly this year. Measles was in the West Valley. Measles was in Pasadena—they had the highest case rate. Measles was all over.

Everybody tends to think of the ghetto as being the medically indigent. I really do not believe that. We do have programs which provide medical care for the very poor. We may need to look at our just-above-poverty group, who may not be able to afford the cost of preventive care and who are not used to getting it from public services.

All of these are conjectures. I think of interest to me was the large number of cases we had in nonghetto communities this year.

Mr. WAXMAN. Dr. Wilkins, did you have something to add to that?

Dr. WILKINS. I just wanted to point out that the large majority of the patients that were in our clinic were illegal aliens, as it turned out, when the county started requiring us to determine their status. These clinics were funded by Federal sources through CDC by providing the nurses and the care for these patients. They were not charged. Therefore, we never asked them.

For the 3,000 children the return rate was fantastic. They had a place to go where they were not threatened. They were educated as to the needs of immunizations, and they ate it up. They were always there. I can attest to it by the 9,000 sera that I have obtained over the years from children. They were very faithful in coming back. We had films for them in Spanish that educated them. They were there on their birthday to get their measles shot.

I just think it is lack of education in that particular population. It may be apathy in many, other populations; but there are still many people who have not been given the opportunity of education as far as the need for these immunizations.

MR. WAXMAN. Do you think the illegal alien population is sufficiently aware of the need for immunizations?

DR. WILKINS. No; they are not; not until you bring them in and educate them. But, when you do educate them to the need, there is nothing that negates their desire to take the immunizations once they are offered the opportunity.

They are scared to go into certain centers for immunizations. They are scared to come in. They do not come in until they are so sick; this is the truth.

MR. WAXMAN. I thank you all very much. Your testimony has been very helpful. We appreciate your coming.

Our last witness is Dr. James Chin, the director of infectious disease section, Department of Health, State of California.

**STATEMENT OF JAMES CHIN, M.D., DIRECTOR, INFECTIOUS DISEASE SECTION, DEPARTMENT OF HEALTH, STATE OF CALIFORNIA**

DR. CHIN. Mr. Chairman, it has been a long hearing. I want to express my admiration for your capacity to sit through it all with the interest that you have shown.

I do not have a prepared testimony. I want to make a few comments and then be available for questions.

I would like to start off by calling your attention to a prepared report, "Report and Recommendations of the National Immunization Work Groups." There were approximately half a dozen work groups that were appointed by the Under Secretary of Health early in the year to review the kind of problems that confront immunization programs.

The work groups met on several occasions. The major recommendations, I think, deal with some of the problems that confront the national immunization program.

One of the foremost recommendations was the formulation of some national coordinating committee. It would then be in a position to monitor progress and resolution of some of the major problems which confront the immunization programs. The major problems which were identified have already been discussed this morning. It is not necessarily the level of support for immunization programs, but the vagaries in the funding. There has to be a commitment to stable, long-range support of the immunization programs.

The whole issue of liability has been touched on. Obviously, the vaccine programs do not create the problem of liability, but liability is nevertheless a very, very important problem confronting routine immunization programs. Connected with this is the whole issue of informed consent. It is a duty now on public health clinics to provide a statement to recipients of vaccine in public clinics.

On the surface, this seems relatively simple to do; but, in practice, this becomes a very, very difficult procedure. We are going through the motions. If you have seen some of the forms that have been prepared, they are pretty technical and fairly long. We can get people to sign to get their vaccine, but I think we have no assurance that people really understand what is on the forms.

I think this is a very complex issue. I think that the heart of the recommendations of the work groups is to develop a national immunization coordinating policy committee to oversee these problems. These problems are not going to be resolved by the immunization initiative necessarily. It is going to be a long-range problem.

I would like now to comment briefly on some of the points that were brought out.

One, I think that the situation we have with regard to immunization levels in this country has improved since the early seventies, when it was recognized that immunization levels were declining, I do not want to minimize the problems we have. I am saying that, over the last several years, the situation has improved. We have a long way to go yet, but I do not want to be in the position of crying wolf every year that the problem is getting worse. Immunization levels have stabilized. About 1973-74, they turned upward slightly; but we still have a long, long way to go.

There was some comment with regard to the bill that is in the California Legislature regarding liability. I had a discussion with some of the legislative people. I think the thrust of that bill is to try to provide indemnification and compensation for what we consider unavoidable vaccine reactions.

I think that in subsequent amendments to that bill we will not be providing relief from liability for "negligent acts." But there has to be relief from liability for what is considered to be unavoidable—technically unavoidable—vaccine reactions.

Hopefully we will be able to develop a draft that will be acceptable. I know that the State of Alaska is also very much interested in developing such legislation.

Again, in the report of the national groups, this is one of the central recommendations: at the Federal level, the issue of liability has to be addressed.

I think that perhaps in some States like California and Alaska we can take some initial steps to try to resolve this problem, but I think eventually it will have to be addressed at the Federal level.

Mr. Lent asked throughout the hearing of potential problems that State and local officials might have with the Federal programs. I would say that one of the potential problems has always been the perception of the State and local programs that their input to development of policy guidelines, and specific objectives for national disease control programs in the past has not been considered on a formal basis.

I think that this general atmosphere has improved significantly. In Dr. Richmond's office and Dr. Foege's office, there has been, on their part, positive steps to involve State immunization project directors in the development of the guidelines for the immunization initiative.

Additional meetings are planned on a regular basis. Potential problems, such as communications between States, Federal, and local programs, plus formal input from State programs will, in my opinion, be resolved in the coming years.

There was the comment that you expressed about the Guillain-Barré syndrome and reactions to vaccines. I would like to say that reactions

to vaccines are by no means completely known. The Guillain-Barré problem was only recognized because 20 to 40 million doses of vaccine were given in a 3- to 4-month time period with intensive followup. If we had the same type of massive program with DPT, with polio vaccine, with measles vaccine, we may very well detect something like Guillain-Barré or something else that up to now has been totally overlooked.

We are dealing with complications in the range of one in a million or one in several million. We just do not have the high numbers without routine programs that will be able to detect these kinds of reactions.

Guillain-Barré is a syndrome that was present long before influenza vaccine was ever developed. The majority of Guillain-Barré cases which occur each year are not associated with influenza vaccine.

Clearly, the data that came out of the influenza program showed that there was a time relationship with the vaccine and Guillain-Barré; and, most likely, the influenza vaccine in some individuals increased their risk of developing Guillain-Barré. This question has yet to be completely sorted out.

I just want to make the point that we do not know everything there is to know about all vaccines. But we do know, from our experience, that they are the most effective and the safest medical procedures we have to control these diseases.

With that, I will conclude.

Mr. WAXMAN. I appreciate your comments. Some of the questions I anticipated asking you, you already handled very well.

I would like to ask you a couple of questions about the need by the State of California for Federal money to carry out the immunization programs.

Does California need more Federal funds? Has Federal support been consistent or erratic in the past? How has this affected immunization programs?

Dr. CHIN. In answer to your last question, it has been very erratic.

I think I can speak from both sides of the counter with regard to your question regarding adequacy of funding. From the Federal level, I think any program manager at the State level always needs more resources. However, when I speak from the State level to the county programs, I see it from a different perspective.

I think local programs always want more money without any strings. The State or the Federal programs always want to develop rigid guidelines and be fairly strict in terms of the appropriations.

From my perspective as the State epidemiologist in California in terms of Federal money; yes, I think we need more funds. However, I think the major problem is not the level of funding, but some assurance that, if we plan a certain level of program for the next 2 or 3 years, after that, in terms of maintenance and continuation, that fiscal support is not going to be thrown back at State or local health departments.

I think this was brought out very vividly in the national report. It is not, necessarily, the level of funding; but it is the stability of the funding so that you can do some long-range planning.

Mr. WAXMAN. Mr. Lent?

Mr. LENT. I thank you, Mr. Chairman.

Dr. Chin, have you had any difficulty with the availability of vaccines under the Federal procurement system?

Dr. CHIN. Yes; we have, but not as a result of the Federal procurement system. I think there are two aspects to this problem.

One, we had problems with the availability of polio vaccine at the time that the Federal contract was being negotiated. That was because of the insistence of the manufacturer that public clinics assume the responsibility of disseminating a risk-benefit statement to each recipient. As a result of protracted negotiations in getting vaccine at the Federal level, we did experience a shortage in public clinics of polio vaccine. This has been resolved.

If the States had to negotiate for the purchase of polio vaccine from these companies, we may have had the same problems. So, I do not think it was necessarily a Federal procurement problem per se. It was just that the whole liability issue affected the contract negotiations for Federal purchase of polio vaccine.

Mr. LENT. Putting the polio vaccine aside for a second, we were speaking with the last panel about the availability or nonavailability of the measles vaccine—

Dr. CHIN. That is the second aspect.

You have to recognize that, in 1976, the incidence of measles, in many parts of the country, went up. There were fairly large-scale outbreaks in the Midwest, specifically in Michigan and some other States. The CDC's stockpile of vaccine was somewhat eroded in response to some of these outbreaks.

At the time Los Angeles was confronted with their measles problem, the amount of measles vaccine available to CDC for State programs was limited. We did have a significant problem in January, February, and March of getting sufficient supplies for large-scale programs. You have to recognize that Los Angeles County is larger than most States. In addition, when they conduct a program, they sometimes need two or three times the amount of vaccine that they may actually use because of their logistics.

Mr. LENT. When you finally procured the measles vaccine, did you procure it through the Federal procurement system, or did you go outside that system?

Dr. CHIN. We went through every system that we had available to us. We had State funds to purchase measles vaccine if it was available for purchase.

The problem was it was not available. We were in constant telephone contact with the bureau of biologics to get production lots of measles vaccine released as promptly as possible so that it would be available to public programs. Physically, it was not available because of the lead time necessary to produce measles vaccine.

Mr. LENT. Does your department support the proposal for a national immunization commission to develop and oversee national immunization policies?

Dr. CHIN. I cannot speak for the department. I am here speaking as—well, I can speak in my capacity as president of the State and territorial epidemiologists. We clearly support this.

Mr. LENT. You see no difficulty with duplication of existing Federal programs?

Dr. CHIN. Definitely not. There is no question of the expertise of CDC in the technical area. But, when you are dealing with issues like liability, when you are dealing with issues of support and money, CDC can just go so far. When you are dealing with other issues like informed consent and public education, I think a body of this type, that would have input to perhaps Congress and to HEW would serve as a powerful watchdog for the national immunization program.

Mr. LENT. It might have input as well to the State of California and the City of Los Angeles.

Dr. CHIN. Clearly.

Mr. LENT. Should that input be purely advisory, or should they have authority?

Dr. CHIN. I think it should be advisory. As part of the requirements that are being drafted in the national immunization initiative, each State will be required to develop a coordinating committee composed of various representatives from private medicine, industry, volunteer groups, et cetera. My comment is that they should also do that at the national level.

Mr. LENT. Thank you.

I have no further questions, Mr. Chairman.

Mr. WAXMAN. Thank you. We appreciate your testimony.

Let me announce that several members of a Los Angeles group of former polio victims have joined us at the last part of our hearing.

I want to welcome them. They are called the Polio Survivors of Los Angeles. They are interested in expressing to us their concern that the county health officials do what they can to prevent and treat polio and educate people about vaccination.

We have been contacted by several individuals and groups that would have liked to testify. They would like to submit testimony for the record. Without objection, the record will be kept open for additional comments and/or dissenting views for a period of 2 weeks. After review by the chairman, it may be incorporated into the record of this hearing.

[No additional statements were received by the subcommittee by the time of printing.]

Mr. WAXMAN. With that, I thank everyone for attending.

The meeting is adjourned.

[Whereupon, at 1:30 p.m., the hearing was adjourned.]