

DR. G. A. ADEMOLA
PRINCIPAL MEDICAL OFFICER
MINISTRY OF HEALTH
LAGOS, NIGERIA
1920-1969

The proceedings of this Seminar, to which he contributed so much, are dedicated to the memory of Dr. G. A. Ademola in gratitude for his leadership in smallpox eradication and measles control in Africa.

Dr. Ademola's death is a profound loss to his family, his many friends, and to his country which is healthier because he lived. The real tribute to his life is a memorial of uncounted living who survive him as the direct result of his continuing unselfish efforts to eliminate needless death and preventable illness.

Dr. Ademola received his medical degree from Durham University, a Diploma of Public Health degree from London University and a Master of Public Health degree from Harvard University. He was instrumental in providing the early interest in a smallpox eradication program for West and Central Africa and remained intimately involved in planning, organizing and carrying out the program in Nigeria. He was extremely gratified by the results of smallpox eradication and measles control, and in characteristic fashion was using his boundless energy to expand the program with additional assaults on the burden of disease shared by his countrymen; a burden which caused him much personal anguish.

Whether working for national health programs, giving of his time in clinics and hospitals during vacations, or aiding the victims of war, Dr. Ademola exemplified the full potential of a public servant. He remains an inspiration to those who knew him and a standard to emulate for those who would serve the health needs of Tropical Africa.

11 July 1969

PREFACE

In May 1969, a Seminar on Smallpox Eradication and Measles Control was convened in Lagos, Nigeria, under the joint sponsorship of the World Health Organization and the United States Agency for International Development (USAID). The Government of Nigeria served as host.

At the time of the Conference, most of the countries of Western and Central Africa were concluding the intensive systematic vaccination phase of programmes which had begun in January 1967 as a coordinated regional effort with support from United States bilateral assistance and WHO. Over 80 million of the 120 million inhabitants had been vaccinated against smallpox and more than 15 million children had been vaccinated against measles. Smallpox cases were being reported by only four countries and, in these, the cases were few and the number was diminishing rapidly. Measles incidence had also declined sharply in many areas. The Seminar provided an opportunity to exchange experiences regarding the execution and development of the programme, to examine critically its strengths and weaknesses, and to determine the future course of the programme in order to make further progress.

Participating in the Conference were 27 representatives and consultants from 17 Western and Central African countries; 49 technical advisers (USAID) from the National Communicable Disease Center staff, including those assigned to West and Central African countries, those from the Regional Office in Lagos, as well as the headquarters office in Atlanta, Georgia, USA; World Health Organization staff and consultants; and others from the Red Cross, UNICEF, and USAID.

Papers presented at the Conference, appropriately edited for brevity and clarity, are included in this document.

CHAIRMEN: Dr. M. P. Otolorin, Nigeria
Dr. G. A. Ademola, Nigeria
Dr. Cheick Sow, OCCGE
Dr. René Labusquière, OCEAC

SECRETARIES: Dr. D. A. Henderson, WHO
Dr. J. Donald Millar, NCDC/AID
Dr. George Lythcott, NCDC/AID

PARTICIPANTS

I. NATIONAL PARTICIPANTS

Cameroon	Dr. Andre Poirier	Directeur de l'Institut Pasteur, Yaounde
C.A.R.	Dr. Bernard Durand	Directeur du Service des Grandes Endémies
Chad	Dr. Jean-Marie Roux	Medecin-Chef du Secteur
Dahomey	Dr. Maximilian Yekpe	Medecin-Chef du Secteur Sud
Gambia	Dr. Peter N'Dow	Deputy Director of Medical Service
Ghana	Dr. Francis Grant	Senior Medical Officer (Epidemiology)
Guinea	Dr. Abdoulaye Barry	Medecin-Chef du Région
Liberia	Dr. J. B. Titus	Director of Preventive Medecine
Mali	Dr. Ousmane Sow	Medecin-Chef de la Division de la Medecine socio-préventive
Mauritania	Dr. Abdourahmane Sow	Interne des Hopitaux, Nouakchott
Niger	Dr. Leone Tchelle	Directeur de Service Nationale d'Hygiène et de la Médecine Mobile
	Mr. Issoufi Alzouma	Responsable, Campagne Variole Rougeole
	Mr. Issoufi Tidjiani	Agent Technique, Responsable Campagne Variole-Rougeole
	Dr. M. P. Otolorin	Chief Medical Adviser
	Dr. G. A. Ademola	Principal Health Officer
Nigeria	Dr. Emmanuel A. Smith	Director, Smallpox-Measles Programme
	Dr. J. I. Adetosoye	Director, Smallpox-Measles Programme, Western State
	Dr. I. S. Mebitaghan	Medical Officer, Medical Field Unit, Mid-Western State
	Dr. P. O. Adeoye	Director, Smallpox-Measles Programme, Northern State
	Dr. S. Ola Daniel	Department of Preventive Medecine, Lagos
Senegal	Dr. Makhone Seck	Directeur du Service des Grandes Endémies
Sierra Leone	Dr. Evelyn C. Cummings	Deputy Chief Medical Officer
Togo	Dr. Leopold Prince-Agbodjan	Directeur du Service des Grandes Endémies
Upper Volta	Dr. Louis Sentilhes	Conseiller Technique aupres du de la Santé Rurale

II. OCCGE

Dr. Cheick Sow Secrétaire général adjoint de l'OCCGE
(Bobo-Dioulasso, Upper Volta)

III. OCEAC

Dr. René Labusquière Secrétaire général de l'OCEAC (Yaoundi, Cameroun)

IV. WORLD HEALTH ORGANIZATION

Geneva	Dr. D. A. Henderson	Chief Medical Officer, Smallpox Eradication
Geneva	Mr. Jock Copland	Administrative Officer, Smallpox Eradication
Alexandria	Dr. Ehsan Shafa	Regional Smallpox Advisor, Eastern Mediterranean Region
Nigeria	Dr. D. A. W. Nugent	WHO Representative, Lagos
Mauritania	Dr. Hans Mayer	Medical Officer, Smallpox Eradication
Sudan	Mr. Moses Adepoju	Operations Officer, Smallpox Eradication

V. NATIONAL COMMUNICABLE DISEASE CENTER, SMALLPOX ERADICATION PROGRAMME

A. Headquarters, Atlanta

Dr. J. Donald Millar	Director, Smallpox Eradication Programme
Mr. Billy G. Griggs	Assistant Director and Program Management Officer
Mr. Donald L. Eddins	Chief, Statistical Services
Mr. James W. Hicks	Chief of Operations, Area A
Dr. William H. Foege	Chief of Operations, Area B
Dr. J. Michael Lane	Chief of Operations, Area C
Dr. Frederick L. Ruben	Deputy Chief of Operations, Area C

B. West African Regional Office - Lagos, Nigeria

Dr. George I. Lythcott	Chief
Dr. Ralph H. Henderson	Deputy Chief
Mr. James W. West	Administrative Officer
Mr. Gerald P. Flanders	Assistant Administrative Officer
Mr. John W. Greenley	Supply Management Officer
Mr. Hillard Davis	Statistician
Mr. Gordon Robbins	Health Educator
Mr. Nathaniel Rothstein	Virologist

C. National Technical Advisors

Cameroon	Dr. Bruce Peters	Medical Officer
	Mr. John McEnaney	Operations Officer
C.A.R.	Mr. Neal Ewen	Operations Officer
Chad	Mr. Russell S. Charter	Operations Officer
Dahomey	Mr. Jeannel Roy	Operations Officer
Gabon	Mr. Jay Friedman	Operations Officer
Ghana	Dr. David Melchinger	Medical Officer
	Mr. M. David Newberry	Operations Officer
Guinea	Dr. Joel Breman	Medical Officer
	Mr. Donald Malberg	Operations Officer
Ivory Coast	Mr. Harry R. Godfrey	Operations Officer
Liberia	Dr. David Thompson	Medical Officer
	Mr. Dennis Olsen	Operations Officer
Mali	Dr. Pascal J. Imperato	Medical Officer
	Mr. Mark LaPointe	Operations Officer
Niger	Dr. Logan Roots	Medical Officer
	Mr. Anthony R. Masso	Operations Officer
Nigeria	Dr. Stanley O. Foster	Medical Officer
	Mr. James E. Donoho	Operations Officer
Nigeria - Midwest	Mr. Paul A. Bond	Operations Officer
Nigeria - West	Mr. Lloyd Wade	Operations Officer
Nigeria - North	Dr. Richard B. Arnold	Medical Officer
	Dr. John Pifer	Medical Officer

Nigeria - North (continued)	Mr. Robert C. Hogan	Chief of Party
	Mr. Robert N. Evans	Operations Officer
	Miss Clara J. Jones	Operations Officer
	Mr. William D. Shoemaker	Equipment Specialist
Senegal	Mr. Robert C. Helmholtz	Operations Officer
	Mr. Lesley M. Jenkins	Operations Officer
Sierra Leone	Dr. Donald R. Hopkins	Medical Officer
	Mr. James Thornton	Operations Officer
Togo	Mr. Andrew N. Agle	Operations Officer
Upper Volta	Dr. Christopher D'Amada	Medical Officer
	Mr. Thomas A. Leonard	Operations Officer

VI. AGENCY FOR INTERNATIONAL DEVELOPMENT

Dr. A. Clayton Curtis	Chief, Public Health Division, Bureau for Africa
-----------------------	---

VII. CONSULTANTS

Dr. Gaston Binson	Medecin-Chef de l'Institut d'Hygiène, Abidjan, Ivory Coast
Dr. Georges F. Glokpor	Chef, Division de l'Epidémiologie Ministère de la Santé, Lome, Togo
Professor R. G. Hendrickse	Chairman, Department of Pediatrics, University Hospital, Ibadan, Nigeria
Professor Svetlana S. Marennikova	Laboratory of Smallpox Prophylaxis Research, Institute of Viral Preparations, Moscow, USSR
Professor Gordon Meiklejohn	Chairman, Department of Medicine, University of Colorado Medical School, Denver, Colorado, USA

TABLE OF CONTENTS
(Part I)

	<u>Page No.</u>
OPENING OF THE CONFERENCE -----	7
INTRODUCTION	
The Global Status of Smallpox Eradication -----	10
Development and Status of the Smallpox Eradication and Measles Control Programme in West Africa -----	21
SMALLPOX	
Epidemiology of Smallpox in West and Central Africa -----	29
Execution of the Smallpox Eradication-Measles Control Programme in Guinea -----	36
Results of Investigation and Control Programme in Sierra Leone -----	41
Use of House-to-House Surveys in Finding Smallpox Cases -----	45
Persistence of Smallpox in Remote Unvaccinated Villages -----	47
Smallpox Outbreak Associated with Exposure at a Funeral Ceremony: Yawei Chiefdom, Kailahun District, Sierra Leone -----	52
Role of Migrant Groups in the Transmission of Smallpox -----	55
A Study of Smallpox in the Tuaregs in Tahoua, Niger -----	57
A Review of Variolation in West Africa -----	59
The Role of Fetish Practices in Vaccination Campaigns -----	62
Summary -----	65

OPENING OF THE CONFERENCE

Dr. the Honourable J. E. Adetoro¹

It gives me great personal delight and gratification to welcome the delegates to this Seminar on Smallpox Eradication. That personal pleasure is derived partly from the fact that the twin campaign to eradicate smallpox and to control measles was officially launched a few weeks after my appointment as Federal Commissioner for Health. I have therefore followed every stage of its progress, and I am happy to note the great success which it has achieved in just over two years. It is a programme which has brought together an impressive array of talents gathered from the 20 countries that comprise the West African Region. This battery of talent has been so effectively utilized that we can now say that we are on the very threshold of complete eradication of smallpox in West Africa. I heartily congratulate each of you, the organizations and the Governments that have provided the financial, moral, and personal backing for such an outstanding achievement in such a short time.

To reflect back, it was only three years ago, at the 19th World Health Assembly, that the World Health Organization embarked upon a world-wide programme with the object of wiping out this old and much dreaded scourge of smallpox from the face of the earth. In these three years, so much has been achieved that we can all point with pride that smallpox is now confined to a few well defined geographic areas and that through the continuation of the aggressive measures which have been launched, we are confident of achieving the final goal of worldwide eradication by the year 1977. Here in the West Africa Region, the programme which began in the first half of 1967 has snowballed in extent and complexity, and today we have recorded a total of 80 million smallpox vaccinations. Last month smallpox was reported in only four of the 20 participating West African countries. All countries have completed, or will have completed by the end of this year, the massive attack phase of the programme and we anticipate that these countries will be smallpox-free by the beginning of 1970. It is indeed an outstanding achievement.

As I have already noted, briefly, this effort is a gigantic international, inter-governmental and inter-agency operation. We cannot over-stress the important roles played by the World Health Organization, particularly the Regional Office for Africa and the United States Agency for International Development. These two agencies have supported the planning and execution of the programme within the regional concept of attack and maintenance. This is in itself a logical arrangement within the global strategy against the disease, for all appreciate the fact that diseases recognize no political frontiers and have to be attacked on an integrated basis if we are not always to have with us the danger of reintroduction and cross-transmission.

With regard to the Nigerian sector of the programme, I am extremely pleased and proud to report that despite the tragic civil disturbances in which we have been engaged, there has been this year no major epidemic of smallpox. This achievement has been due largely to the efforts of over 50 vaccination teams which have been mobilized and deployed to meet the requirements of 60 million people in this country. The logistics of this programme are not easy. The geographic, social, economic, and transport problems concerned in the movement of teams through the creeks and tributaries of the Delta and coastal areas and throughout the huge sprawling areas in the geographic north have taxed our resources to the maximum. Air, road, water, and horse transportation has been used wherever necessary. These combined efforts have enabled us to vaccinate an average of 2.5 million Nigerians every month, and, as of this date, more than 36

¹Federal Commissioner for Health, Nigeria.

million people have been vaccinated by our roving teams. The logistics of this vast operation have added a most useful stock of experience which will no doubt be of immense value when the time comes to organize a similar assault on such other dreadful diseases as poliomyelitis, tuberculosis, tetanus, and whooping cough. Moreover, our success in this programme has given cause for confidence that similar campaigns in other parts of the world, particularly in South East Asia, South America, and East Africa can meet with similar success.

Although we have broken the backbone of smallpox in our West African Region, the task is by no means over and that is why we are gathered here this week to evaluate our methods, techniques, and to review critically our achievements and any shortcomings that may have revealed themselves during the last couple of years. As in the past, the Government and People of Nigeria continue to welcome all international gatherings, seminars, and conferences. Crisis or no crisis, we are all determined to continue to play our part in the activities that bring nations of the world together. We Nigerians appreciate the fact that while internally, we must stand together to succeed, it is equally important that a nation cannot constitute itself as an island complete and separate from the rest of the world. Therefore, we think it necessary to participate in every activity through which our common identity of interest and problems can be emphasized.

I wish you success in your deliberations.