

INTEGRATED DISEASE SURVEILLANCE & RESPONSE UPDATE BULLETIN

ISSUE 2

For IDS collaborators. An update bulletin on progress and plans

Letter from the Editor

Dear Collaborators,
Disease prevention and control programs depend on timely and reliable disease surveillance information for evidence-based decision making. In efforts to strengthen disease surveillance, Integrated Disease Surveillance and Response (IDSR) teams at CDC and the World Health Organization (WHO) are partnering with several programs to improve diagnostic information and the capacity for surveillance and response. These partnerships result in exchanging ideas and expertise, sharing products and resources, and conducting joint activities. These linkages enrich and energize partner organizations and help the ultimate beneficiaries of public health programs--individuals in the community. This issue highlights IDSR links with a pediatric meningitis surveillance project supported by the Global Alliance for Vaccines and Immunization, and the Gates' Foundation Children's Vaccine Program.

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- **Editor**, Bradley A. Perkins, M.D.
Chief, Meningitis and Special
Pathogens Branch, DMBD, NCID
- **Managing Editor**, Kathy Cavallaro, M.S.;
kfc1@cdc.gov
- **Contributing Editor**, Helen Perry, M.A.
- **Layout**, Diane Speight, B.A.

IDSR Links with Other Surveillance Programs

IDSR Laboratory Strengthening Strategies

Laboratory confirmation of certain priority diseases is a key element of the Integrated Disease Surveillance and Response (IDSR) strategy. The *Technical Guidelines for IDSR in the African Region* recommend that for epidemic-prone diseases, 5-10 suspected cases should be laboratory-confirmed once a disease-specific threshold has been reached. In order to strengthen national capacities for laboratory confirmation, the African Regional Office of the World Health Organization (WHO/AFRO) in collaboration with CDC has focused on the following priorities:

- Communications and information networks
- Standard laboratory diagnostic methods and materials
- Laboratory-based training

- Links to epidemiologic activities
- Links to other laboratory programs
- Quality control and quality assurance programs
- Advocacy for the role of the public health laboratories

Progress has been made on several fronts. Subregional conferences of national public health laboratory directors have fostered communications and information networks by allowing a forum for the discussion of common goals and challenges. Computers and software, supplied to the national public health laboratories, will help to ensure the continued development of these networks. WHO/AFRO, in collaboration with CDC, has adopted standard laboratory diagnostic methods for bacterial epidemic-prone diseases and supplied critical reagents for these methods to national public health laboratories.



Standard laboratory methods for bacterial meningitis, cholera, and shigella were the focus of the recent WHO-CDC workshop in Johannesburg, South Africa.

In June 2001, the first WHO-CDC laboratory-based training on standard diagnostic methods was held. This practical workshop was conducted in conjunction with another program—the Hib-Pediatric Bacterial Meningitis (Hib-PBM) Surveillance Network—because of common laboratory and epidemiologic objectives.

Hib-Pediatric Bacterial Meningitis Surveillance Network

The Global Alliance for Vaccines and Immunization (GAVI) supports the introduction of vaccines in developing countries. These include new vaccines for diseases such as *Haemophilus influenzae* type B (Hib), *Streptococcus pneumoniae*, and *Neisseria meningitidis*, all major causes of mortality and morbidity in children in developing countries. To evaluate the impact of these effective, yet costly vaccines, accurate and reliable information is needed to show that the extra cost of these vaccines is balanced by a significant reduction in disease.

Surveillance data also play a key role in advocacy for the vaccines. Information on laboratory-confirmed cases will give reliable data about disease burden. Physicians can use these data to advocate with high-level political and health leaders for new vaccines.

To facilitate the collection of surveillance data on these diseases, the Gates' Foundation Children's Vaccine Program (CVP) at the Program for Appropriate Technology in Health (PATH) has supported WHO/AFRO in the development of the Hib-PBM Surveillance Network. This network is being implemented in one

major pediatric hospital in each of more than 20 countries in the African region.

The program detects cases of meningitis caused by Hib, *S. pneumoniae*, and *N. meningitidis* in children under 5 years of age in sentinel hospitals. Each case is laboratory-confirmed by CSF culture and isolation performed by a laboratory at the sentinel site. To build the needed laboratory capacity, the program looked to the the WHO-CDC laboratory-based workshop as a vehicle for transferring technical expertise to laboratories in the Hib-PBM Surveillance Network.



Participants from 22 countries in Africa attended the WHO-CDC Joint Workshop in Johannesburg, South Africa.

Joint Workshop

The purpose of the WHO-CDC laboratory-based workshop was to build capacity in national public health laboratories for standard methods for isolation and identification of bacterial agents of meningitis, cholera, and shigella. To ensure the use of standard methods in the Hib-PBM Surveillance Network, the workshop was also made available to the laboratorians at the sentinel sites in the network. At the same venue, WHO conducted an orientation to the Hib-PBM Surveillance Network for participating epidemiologists, data managers, and laboratorians (See Table 1). The WHO-CDC Joint Workshop was conducted in June 2001 in collabo-

ration with the South African Institute for Medical Research (SAIMR), Johannesburg, South Africa. Participants in the workshop included laboratorians, epidemiologists, Expanded Programme for Immunization (EPI) managers, clinicians and data managers from national public health laboratories, ministries of health, and the Hib-PBM surveillance network (See page 3).

A second workshop will be conducted in November 2001 for national public health laboratorians from 20 Francophone countries and laboratorians from 9 Hib-PBM

sentinel sites. WHO/AFRO in collaboration with CDC will provide follow-up technical assistance to workshop participants over the coming months on surveillance and laboratory issues.

This joint workshop brought together laboratorians, epidemiologists, EPI managers, clinicians and data managers to collaborate on surveillance and laboratory activities. This collaboration allows various public health disciplines to understand each other's roles, needs, and challenges in surveillance activities of priority diseases. The joint activity demonstrates how IDSR can link with targeted programs such as GAVI to meet common goals and objectives.

Table 1. Curriculum for WHO–CDC Joint Workshop, Johannesburg, South Africa, June 4-8, 2001

Learning Module	Participants	Learning Objectives	Resources Provided to Participants	Countries Represented
Standard Laboratory Methods for Bacterial Meningitis, Cholera, and Shigella	<ul style="list-style-type: none"> National public health laboratorians Laboratorians from Hib-PBM sentinel sites 	<ul style="list-style-type: none"> Register specimens from suspected cases for laboratory confirmation Perform standard methods for laboratory confirmation of bacterial meningitis, cholera, and shigella infection Report results to requestor and appropriate authorities 	<ul style="list-style-type: none"> Manual: Laboratory Methods for the Diagnosis of Meningitis Manual: Laboratory Methods for the Diagnosis of Epidemic Dysentery and Cholera Reagents for confirming bacterial meningitis, cholera, and shigella 	Botswana Burundi Ethiopia Eritrea The Gambia Ghana Kenya Lesotho
Establishment of a Hib Pediatric Bacterial Meningitis Surveillance Network in the African Region	<ul style="list-style-type: none"> Clinicians and data managers from sentinel sites Data managers from sentinel sites 	<ul style="list-style-type: none"> Identify children presenting with suspected bacterial meningitis Register cases Collect CSF for laboratory confirmation Collect demographic and epidemiologic data on patients Collect indicators for quality of surveillance Enter data into database and produce line lists Report data to MoH, WHO/AFRO and partners Advocate for new vaccines 	<ul style="list-style-type: none"> Manual: Hib-Paediatric Bacterial Meningitis (Hib-PBM) Surveillance Network Surveillance Manual 	Malawi Mauritius Mozambique Namibia Nigeria Rwanda South Africa Seychelles Sierra Leone Swaziland Tanzania Uganda Zambia Zimbabwe
	<ul style="list-style-type: none"> National, sub-regional, and regional epidemiologists and data managers 	<ul style="list-style-type: none"> Support surveillance activities at sentinel sites Analyze and interpret data Report data Review indicators 		
	<ul style="list-style-type: none"> Laboratorians from Hib-PBM sentinel sites 	<ul style="list-style-type: none"> Receive and register specimens Send isolates to reference laboratory for serotyping/grouping and susceptibility testing Report results 		
	<ul style="list-style-type: none"> National public health laboratorians 	<ul style="list-style-type: none"> Support sentinel sites' laboratory work Ensure or facilitate serotyping/grouping and susceptibility testing 		

Participants and Facilitators of WHO–CDC Joint Workshop

PARTICIPANTS

Kekitinwa Addy
 Mekonnen Admassu
 Mercy Essel Ahun
 Caroline Sekela Akim
 Abdulatif Ali
 Beatrice C Amadi
 Ali Amour
 Gabriel M. Anabwani
 Tsighe Andebirhan
 Ghirmay Andemichael
 Mtonga Anne
 Oyenuga Oyebanji Anthony
 Gloria Asala
 Cornelia Afi Atsyor
 Mamadou Malifa Balde
 Robin Biellik
 N.I Bikitsha
 Leon A.A. Biscornet
 Odipto John Bosco
 Emilio Isaac Bule
 Flywell E. Chintolo
 Kennedy Chitala
 Owen Chitsatso

Cvandenbergh
 Paul Daza
 Niyungeko Déogratias
 Thomas Dhlamini
 Dudu Dlamini
 Tagodoe Dodji
 Francisco Paulo Dos Santos
 Seheye Emmanuel
 Mohammed Endris
 Nellie Lloyd Evans
 Mamodou Fatajo
 Tewolde G. Feshazion
 Filli Saïd Filli
 Barnabi Eusebio Fumo
 Idrissa Gamanga
 Guma Gaspard
 Haile Gherbregziabher
 Ntombi P. Ginindza
 Phanelu Habimana
 Clare Hamer
 Mariatu Jawando
 Esmath Kabengula
 Festus M. Kalokola
 Akapaka Kalu

Kandeke
 Loise Wandia Kariuki
 Agnes Katsulukuta
 Daniel Kertesz
 Ketshabile Khona
 Omar Juma Kidua
 Erica Kufa
 Rosamund Lewis
 Lindiwe B. Madondo
 Yussuf Hasi Makema
 Douglas M. Makewa
 Kalifa Manneh
 Exevia Mazarura
 Eshetu Messeret
 Pascal Mkanda
 Jose Mondlane
 Motloheloa Motloheloa
 Tshogohaco Motsemme
 Viola P. Msangi
 Muhirwa
 Victor Mumba
 Mary Munyoro
 Rosemary Mukasa
 Reuben Mwenda
 Muganga Narcisse

K.J. Nathoo
 Julius Mwangi Ndegwa
 Wedu Ndebele
 Ndiokubwayo
 Alemayehu Negati
 Adelard Ngabonziza
 Alpha Njie
 Mudzanani Nthambeleni
 Leiviavia Nunes
 Loveness Nyirenda
 Grace N. Okolo
 John Onephillips
 Margaret B. Quist-Therson
 Mitula Pamela
 Louis Anthony Pauline
 Zitsamele Cuddy Rene
 Lona Awo Renner
 Isabel Maria da S. Ruas
 Mohamed Samai
 Alhassan L. Seisay
 Philile Shabangu
 Elizabeth Ndafetwa Shipiki
 Linda Sikakwa

Bornwell Sikateyo
 Stanley Sonoiya
 Mankap B Tholley
 Götteried Uaaka
 Mudhokwani R. Webster

FACILITATORS

CDC
 Cheryl Bopp
 Bradford Kay (CDC/AFRO)
 Leslye-LaClaire
 Mac Otten (CDC/AFRO)
 Tanja Popovic
 Susanna Schmink
 Montse Soriano-Gabarro
 Joy Wells

SAIMR¹
 Lorraine Arntzen
 Heather Crewe-Brown
 John Freen
 Rick Spiegel
 Linda DeGouviea
 Anne von Gottberg
 Robin Huebner

Karen Keddy
 Tersia Kruger
 Marshagne Smith
 Arvinda Sooka
 Avril Wasas

WHO/HQ
 Max Hardiman
 Chris Nelson
 Pem Namgyal
 Jay Wegner

WHO/AFRO
 Bréhima Koumare
 Tarande Manzila
 Bekithemba Mhlanga
 Bernad Ntsama
 Keith Shaba
 Isaac Wamola

GAVI²
 Rick Spiegel
 LSHTM³
 Norman Noah

¹South African Institute for Medical Research

²Global Alliance for Vaccines and Immunization

³London School of Hygiene and Tropical Medicine



Perspective from WHO Headquarters

The World Health Organization (WHO), in collaboration with CDC and the Ministries of Health, has developed a framework for supporting countries to strengthen national surveillance and response. This system is based on an integrated or multidisease approach.

The African Regional Office (AFRO) adopted the use of an integrated approach in 1998. This strategy aims at building national surveillance and response systems that provide reliable and timely information on the occurrence of priority communicable diseases. Such information is critical for early detection, confirmation and timely response to outbreaks. It is also essential for priority setting, planning, resource mobilization and allocation, and monitoring and evaluation of public health interventions.

In addition to AFRO, other WHO regions are piloting and implementing this approach. During the WHO Global

Meeting on Communicable Disease Surveillance and Monitoring in Cairo in January 2001, multidisease surveillance was approved by all regions. Within this paradigm, WHO Headquarters and the Regional Offices, in collaboration with donors and technical partners, support Member States in building national capacity for surveillance and response. This support involves system reviews, and support for field epidemiology, training and laboratory strengthening. Such support is reinforced through the provision of standards and guidelines, tools (e.g., health mapping) and disease-specific interventions.

An example of this concerted support to multidisease surveillance and response is the elaboration of *Technical Guidelines for Integrated Disease Surveillance and Response in the African Region* developed by WHO/AFRO, in close collaboration with CDC. This set of generic

recommendations describes the implementation of surveillance and response at each level of the health system. Other achievements include the following:

- harmonized integrated data collection, dissemination and reporting system (CISID) in the European Regional Office,
- integrated Early Warning and Response Network (EWARN) in South Sudan, Eastern Mediterranean Regional Office,
- Mekong Basin Multidisease Surveillance Network of the South East Asia Regional Office and Western Pacific Regional Office, and
- Field Epidemiology Training Programs of Pan American Health Organization.

WHO and partners endorse the documentation, sharing, dissemination and use of these experiences. The lessons learned, challenges and successes from various WHO regions and countries foster global surveillance and ensure global health security.

IDSR Efforts Support CDC Global Immunization Strategies

Recently, CDC outlined strategies on global immunization in the draft document *Global Immunization, 2001-2005: An Over-Arching Strategy for CDC*. The accomplishments of IDSR support several strategies under the goal related to surveillance for vaccine-preventable diseases (Table 2).

Table 2. CDC Global Immunization Strategies and IDSR Accomplishments

Global Immunization, 2001-2005: An Over-Arching Strategy for CDC			IDSR accomplishments
Goal	Objective	Strategy	
Improve global surveillance for vaccine-preventable diseases, including development and strengthening of laboratory surveillance.	Enhance surveillance infrastructure and training and implement use of indicators of quality for selected VPDs.	Promote integration of VPD surveillance with other international and regional initiatives for surveillance and laboratory support, particularly with the African regional strategy for integrated disease surveillance and response (IDS).	<ul style="list-style-type: none"> • Linkages with vertical programs such as GAVI (see page 1). • Collaboration with polio elimination program to facilitate meningitis surveillance by provincial AFP surveillance officers.
		Develop surveillance modules that can facilitate standardization of disease reporting among regional disease surveillance networks.	Development of Technical Guidelines for Integrated Disease Surveillance in the African Region. This resource provides a generic set of recommendations on how to carry out surveillance for priority diseases and conditions using an integrated approach at the district level.
		Strengthen national public health laboratories in developing countries by providing diagnostic reference reagents, laboratory manuals, and training for laboratory scientists.	Laboratory training—Standard Methods for Laboratory Confirmation of Meningitis, Cholera, Shigella, June 4-8, 2001, Johannesburg (See article p. 1 and Table 1).
		Develop and assess indicators for surveillance quality and utilize these to strengthen VPD surveillance.	<ul style="list-style-type: none"> • Development of draft indicators in collaboration with WHO/AFRO and HQ. • Field test of draft indicators is planned for FY02.
		Provide and/or support opportunities that bring leaders of regional surveillance networks together to exchange experiences and methodologies and propose new methods of collaboration.	<ul style="list-style-type: none"> • Laboratory Network meetings of national public health laboratory directors to discuss roles of the public health lab in surveillance, common needs, and guidelines for network development. • IDS Task Force where national epidemiologists shared experiences in assessing national surveillance systems and in developing plans of action for improving surveillance using an integrated approach.



Publications and Websites

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soon to be available at <http://www.cdc.gov/epo/dih/idsafrica.html>

Calendar of Events

May 24-25	Joint Review and Planning Meeting on UNF Project: Strengthening Surveillance and Control of Vaccine Preventable and Epidemic Prone Diseases. Harare, Zimbabwe.
May 28-30	2nd Integrated Disease Surveillance and Response Task Force Meeting. Sponsored by WHO/AFRO. Harare, Zimbabwe.
May 31- June 5	1st African Regional Conference, Training Programs in Epidemiology and Public Health Interventions Network (TEHPINET). Harare, Zimbabwe.
June 4-8	Joint WHO-CDC Workshop. Johannesburg, South Africa. <ul style="list-style-type: none">• Standard Laboratory Methods for Diagnosis of Bacterial Meningitis, Cholera, and Shigella• Workshop for the Establishment of a <i>Haemophilus influenzae</i> type B Pediatric Bacterial Meningitis (Hib-PBM) Surveillance Network in the African Region
June 10-15	Assessment of National Surveillance System. Mozambique.
July 2	Interagency Coordination and Planning Meeting for IDSR. Accra, Ghana.
July 16-20	IDSR Plan of Action Workshop. Conakry, Guinée.
July 11	Planning meeting of USAID, PHR Plus, The CHANGE Project, and CDC to plan joint activities for working with MoH Tanzania in the implementation of the MoH's work plan for Integrated Disease Surveillance and Response. Washington, DC.
October 1-3	Interagency Coordination and Planning Meeting for IDSR. Sponsored by MoH Mali, WHO, CDC. Bamako, Mali.
October 1-5	WHO-CDC Workshop. Johannesburg, South Africa. <ul style="list-style-type: none">• Standard Laboratory Methods for Diagnosis of Plague
November 5-9	Joint WHO-CDC Workshop. Johannesburg, South Africa. <ul style="list-style-type: none">• Standard Laboratory Methods for Diagnosis of Bacterial Meningitis, Cholera, and Shigella• Workshop for the Establishment of a <i>Haemophilus influenzae</i> type B Pediatric Bacterial Meningitis Surveillance Network in the African Region
December 3-7	Task Force on Immunization. Sponsored by WHO/AFRO. Addis Ababa, Ethiopia.

IDS Teams

WHO/AFRO

Wondi Alemu
Peter Gaturuku
Antoine Kabore
Paul Lusamba-Dikassa
Mac Otten
Louis Ouedraogo
Idrissa Sow

WHO/HQ

Stella Chungong
Guenael Rodier
Mike Ryan
Kathy Roth

CDC IDS Team

Judy Berry
Kathy Cavallaro
Bassam Jarrar
Bradford Kay
Sharon McDonnell
Peter Nsubuga
Bradley A. Perkins
Helen Perry
Nancy Rosenstein
Montse Soriano-Gabarro

USAID

Connie Davis
Mary Harvey
Hope Sukin
Murray Trostle

UN Foundation

Ministries of Health

African countries

