Laboratory Networks for Diagnosis and Surveillance of Communicable Diseases

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Communicable Disease Surveillance Strategy

Global/Regional Laboratory Surveillance
- **Disease Specific networks**
  - ARM, Influenza, CJD, Rabies, VHF
- **Sub-regional networks**
- **Other networks** (other CCs, military, Pasteur Institutes etc.)

Global/Regional Epidemiological Surveillance
- **Regional Surveillance Strategies**
- Epidemic Intelligence (outbreak verification team, GPHIN)
- International Health Regulations (IHR) (under revision, pilot test in 21 countries)

National Surveillance Systems
- **National Surveillance assessments and action plans**
- **Surveillance Standards** (Surveillance Kit)
- **Laboratory Strength** Lyon
- **Field Epidemiology** (TEPHINET, INCLEN)

Preparedness & Response to Epidemics
- **Preparedness & Response to Epidemics**
WHO Communicable Disease Collaborating Centres

- Are part of a global network of institutions and laboratories which are formally designated by WHO in recognition of their specific expertise
- Work with WHO on the basis of agreed terms of reference and work plan
- Support WHO in its programs and activities at country, regional and global levels
- Play an important role in the strengthening of capabilities in developing countries
- Designation process - renewable every four years
WHO Communicable Disease Collaborating Centres

- Over 200 centres to monitor bacterial, viral, parasitic and zoonotic diseases, emerging infections and drug resistant pathogens

- Institutions
  - Central public health labs
  - Centres for disease prevention and control
  - National institutes of health
  - Hospital and health care institutions
  - Universities research and academic institutions
  - Pasteur institutes
  - Military laboratories
  - Multi-centre networks
  - Departments and programmes in the institutions not whole institution
WHO Communicable Disease Collaborating Centres

- Investigation, confirmation and control communicable diseases, surveillance, research, expert advice
- Laboratory diagnosis and characterization of strains/isolates (influenza network)
- Develop, improve and evaluate diagnostic assays
- Produce and supply diagnostic and reference reagents/strains other laboratories (arbovirus and VHF lab networks)
- Quality assurance (AMR and Drug resistance TB networks)
- Provide specialized training, develop training materials, and assist countries to build capacity and transfer technology
Global network of WHO collaborating centres for viral, bacterial, parasitic and zoonotic diseases, emerging infections and drug resistant pathogens.
WHO Collaborating Centre Specialized Networks

- Polio network
- Influenza laboratory network (FluNet)
- Antimicrobial Resistance Network
- TB Antimicrobial Resistance Network
- Salmonella Surveillance (Salm-Surv)
WHO Influenza Surveillance Network

110 National Centres (83 countries)

4 WHO Collaborating Centres (for reference and research on influenza)
Global network of WHO collaborating centres and laboratories for communicable diseases working with CDS/CSR
Welcome to the Searchable database of WHO Collaborating Centres and laboratories working on Communicable Diseases with CDS

1. Type of Centre

Select a type of centre from the left panel or search across all centres.
Types of centres include:
WHO Collaborating Centres designated WHOCC (D) or proposed WHOCC (ND), National Influenza Centres (NIC), Influenza Vaccine Manufacturers (VAC), Other laboratories working with WHO-CDS, such as reference laboratories.

You can design your queries for two types of Searches

a) Select one or more parameters from sections 2 and 3 in the left panel to search for centers by specialty area, region, country, centre head or WHO local point.
Submit your query by pressing the Search centres button at the top of the left panel.

b) Select one or more parameters from sections 4 and 5 in the left panel to search for centres by disease/pathogen/subject area and capability for laboratory diagnosis/characterisation, surveillance, reagent production, and training.
Submit your query by pressing the Search centres button to show a list of centres with the searched capability (ex. Dengue and PCR).
Submit your query by pressing the Search capabilities button to show a list of technical capabilities (ex for Arbovirus and Antibody detection).

2. Geographical location

Select a country or a WHO region from the left panel or search across all countries and regions. WHO regions are: AFRO (African region), AMRO (American region), EMRO (Eastern Mediterranean region), EURO (Europe region), SEARO (South-East Asia region), WPRO (Western Pacific region).
Search centre: Database Id: SENA131 Registry file: A18/2862-SEN Region: AFRO

Head: Dr Christian Mathot
WHO CCTitle: WHO Collaborating Centre for Arbovirus Reference and Research
Institution: Unité d’Arbovirologie Institut Pasteur de Dakar
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Website: in preparation
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<table>
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<tr>
<th>Disease Pathogen Name</th>
<th>Technical Capabilities</th>
<th>Nb</th>
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<td>Arboviruses</td>
<td>Diagnostic Capability</td>
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<td>Arboviruses</td>
<td>Reagent Capability</td>
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<td>Arboviruses</td>
<td>Training Capability</td>
<td>1</td>
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<td>Arboviruses causing haemorrhagic fevers</td>
<td>Surveillance Capability</td>
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<td>Diagnostic Capability</td>
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<td>Rift Valley fever virus</td>
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<td>Rift Valley fever virus</td>
<td>Reagent Capability</td>
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</tr>
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Data Entry

Password protected remote data entry facility for each centre/laboratory to update/edit its own data.

Login:

Password:

Submit  Reset

To prevent unauthorized use of your WHOCC Net account, EXIT/QUIT ALL of your Web browser sessions and windows when you finish.
Next Steps

- Assessment of technical and geographic gaps
- Identify possible additional centres and facilitate links
- Promote use of WHOCC Net (WHO staff, WHO CCs, Ministries of Health, Other public health workers)
- Link or add other networks and centres for communicable diseases to WHOCC Net
Situation of Public Health Laboratories in Many Developing Countries

- Lack of capability to diagnose the identified priority diseases
- Lack of trained staff, funding, equipment, reagents, supplies
- Poor use of laboratory services
- Absence of standard procedures, quality control and supervision
- Absence of national reference laboratory in certain countries
- Weak link to epidemiological services
How can collaborating centres and other specialized laboratory networks strengthen and support diagnosis and surveillance of communicable diseases at national level?
Suggested Work Process

• Select states/countries and regions
• List priority diseases for surveillance
• Conduct/review assessment data of national/state capabilities
• Develop detailed process algorithm for each level of health care, disease/syndrome, and laboratory
• Identify gaps
• Develop implementation plan to fill gaps
Guidelines for establishing a network of nominated national laboratories

• Selection criteria for members
• Selection process
• Benefits of participation
• Leadership
• Technical partners
• Establish Standards
• Equipment Reagents Supplies
• Establish code of conduct for members based on standards
• Coordination between epidemiologists and laboratory staff