

WHO HIVResNet
Meeting Report of the 2009 Steering Committee
10-11 November, 2009
Geneva, Switzerland



Background

Global scale-up of ART will inevitably be accompanied by the emergence of HIV Drug Resistance (HIVDR), as has been observed in countries where antiretroviral therapy is routinely utilized. Rapid or uncontrolled emergence of HIVDR is a widely feared consequence of ART scale-up, which could undermine the success of ART programmes. Thus, the worldwide effort to achieve universal access and improve treatment outcomes must be guided by ongoing national, regional, and global evaluations of HIVDR.

To support the optimal functioning of treatment programmes and maintain the effectiveness of first- and second-line ART regimens, WHO and its collaborators have developed a global strategy to prevent and assess the emergence and transmission of HIV drug resistance using a public health approach. To date, more than 60 countries have adapted this strategy, and provided an evidence base for developing action plans to further limit the emergence of HIVDR and improve ART service delivery.

WHO and its partners provide technical assistance to governments to adapt and implement the national HIV drug resistance strategy. The strategy relies on standardized routine minimum-resource assessments and surveys, built predominantly into existing national ART programmes, that provide information to support optimal use of available antiretroviral drugs (ARVs).

Objectives of the WHO HIVDR Prevention and Assessment Strategy at the national level are to provide data to inform ART programme practices, to (1) minimize the *preventable* emergence of HIVDR; and (2) maintain patients successfully on first-line ART as long as possible. At the national and global level, the objectives are to (1) provide data to guide population-based selection of ART regimens; and (2) provide data on programmatic factors related to HIVDR emergence and best practices to minimize it.

The eight elements of the WHO-recommended Elements of the National HIVDR Prevention and Assessment Strategy are:

- A. Development of a national HIVDR Working Group
- B. Regular assessment of HIVDR "early warning" indicators from ART sites
- C. Surveys to monitor HIVDR prevention and associated factors
- D. Surveillance of HIVDR transmission
- E. HIVDR database
- F. Designation of a WHO-accredited HIVDR genotyping laboratory
- G. Review of and support for HIVDR prevention activities
- H. Preparation of annual HIVDR report and recommendations

The WHO HIVResNet is an international advisory network of epidemiologists, clinicians, lab scientists and public health experts providing support to WHO in development and implementation of the WHO global HIV drug resistance prevention and assessment strategy. A Steering Committee of the network has met annually since 2008 to review progress in global implementation of the strategy, to make recommendations to optimize progress and to consider new directions.

Participation:

Participating Steering Committee members included global experts from governments, international non-governmental organizations and academia, and WHO HIV Drug Resistance staff from Headquarters, and the Regional and Sub-Regional Offices. Key HIVDR consultants to WHO also participated. The meeting was chaired by Dr. Mark Wainberg. The full list of participants is included as an Annex.

Meeting Objectives:

The meeting was convened to review global and regional progress in the implementation of the WHO global HIV drug resistance prevention and assessment strategy, and to make recommendations to optimize progress and consider new directions. The specific objectives of the meeting were to:

1. Present an overview of the WHO HIV Drug Resistance Prevention and Assessment Strategy and summarize progress in global and regional implementation of the strategy.
2. Review the progress towards implementation of the Steering Committee's 2008 recommendations.
3. Evaluate overall progress to date, and make recommendations aimed at improving the strategy and its implementation.
4. Document that the strategy implementation has met the milestones established in association with the Gates Foundation, the principle funder of the project.

Findings:

The Steering Committee was advised about the recent progress in implementation of the WHO strategy. WHO regional and global HIV drug resistance teams and key partners presented updates in the following areas:

1. The WHO HIV Drug Resistance Prevention and Assessment Strategy - Historical Perspective and Implications for ART Guidelines, *Dr Siobhan Crowley*
2. HIV Drug Resistance Early Warning Indicators, *Dr Diane Bennett*
3. Surveys to monitor HIV drug resistance prevention at ART sites, *Dr Michael Jordan*
4. Surveys to evaluate transmission of Drug-Resistant HIV, *Dr Diane Bennett*
5. The HIVResNet Laboratory Network, *Dr Silvia Bertagnolio*
6. Review of 2008 Recommendations of Steering Committee, *Dr Mark Wainberg*
7. Progress towards implementation of 2008 Recommendations, *Dr Silvia Bertagnolio*
8. Regional Progress -
 - Western Pacific, *Dr Dongbao Yu*
 - South East Asia, *Dr Padmini Srikanthiah*
 - Eastern Mediterranean, *Dr Silvia Bertagnolio, on behalf of Dr Gabriele Riedner*
 - Europe, *Dr Ulrich Laukamm-Josten*
 - Americas, *Dr Giovanni Ravasi*
 - Africa, *Dr Rui Vaz*
 - West Africa - *Dr Rui Vaz*
 - Central Africa - *Prof Belabbes*
 - East/Southern Africa - *Dr Richard Banda*
9. Financial and technical support, *Dr Silvia Bertagnolio*
10. WHO/PEPFAR Collaboration on HIVDR, *Dr. Bharat Parekh*
11. WHO/TREAT Asia and Pharmaccess Collaboration on HIVDR, *Dr Annette Sohn*

PowerPoint presentations are posted on the WHO internet site:
<http://www.who.int/hiv/topics/drugresistance/hivresnet/en/index.html>

The Steering Committee noted the following broad findings:

- There has been good progress towards implementing the global strategy.
 - Progress has been made in developing normative guidance on HIVDR.
 - One of the core strengths of WHO's team and approach has been direct technical assistance.

- Countries require ongoing support to appropriately interpret and disseminate results, as well as implement actions based on them.
- There has also been good progress towards implementing the 2008 recommendations of the Steering Committee.
- There must be increased advocacy and pressure on WHO and partners, including funders, civil society and community activists, to include HIVDR prevention and assessment as a fundamental part of national treatment programmes.
- While financial support for country implementation may continue to be found through collaborating partners, including Global Fund, financial support for global coordination will be more difficult to replace once the seed funding from the Gates Foundation has been fully utilized. Public health actions taken to preserve the effectiveness of first- and second-line ARV drugs must be based on valid and comparable evidence across affected countries, and this is best assured through global strategy coordination.

Recommendations:

The Steering Committee provided expert opinion on optimizing progress, understanding lessons learned, and considering potential new directions. The following recommendations were made.

Programmatic priorities

- Simplify, consolidate and translate tools to support country implementation.
- Finalize pediatric guidelines, and increase support for pediatrics, including operational research. .
- Assess the role of mathematical modeling as a tool in global HIVDR.
- Reassess current EWI targets.
- Consider a number of actions to strengthen laboratory support for HIVDR activities:
 - Explore mechanisms for reducing the cost of genotyping and encouraging price reductions (for example through comparative price lists for genotyping laboratories);
 - Encourage further development of dried blood methods and certification of laboratories for DBS
 - Consider supporting a comparative study for in-house assays for quality assurance performance standards.

Project Management

- Shift provision of technical assistance to Regional staff, freeing HQ staff to focus on normative and advocacy roles. Develop mechanisms for improved communication between WHO HIVDR national, regional, and HQ staff to facilitate information sharing.
- Consider undertaking an external review of the WHO HIVDR strategy to prepare for the next phase of the strategy implementation and future funding requests. Expected outcomes should include recommendations on documenting progress towards goals, and specific measures and tools that can be developed to demonstrate that the strategy implementation is saving lives and money. Additional funds would need to be identified for this evaluation.
- Develop a “business plan” to clarify how HIVDR activities will move into the future, and to help WHO manage and optimize the internal and external resources required.

Technical Support to Countries

- Consider a focus on fewer countries prioritized by their high prevalence and high ART coverage.
- Consider changing the funding mechanisms to optimize country implementation, ensuring country input on use, timing and funding amounts.

Advocacy and Partnerships

- Continue to expand communications between WHO HIVDR staff and external donors and partners to facilitate information sharing, harmonization and coordination.
- Advocate for a stronger integration of EWI and other strategy elements as a crucial component of national ART programmes. The integration of the HIVDR strategy into national plans should become a prerequisite to funding country programmes, for example through Global Fund.
- Collaborate with Global Fund to determine extent of HIVDR activities in funded proposals, and to encourage inclusion of HIVDR activities through advocacy and provision of guidance and tools.
- Utilize lessons learned from implementation experiences to assist other regions. For example, AFRO's approach led to internalization of HIVDR strategy in government planning, and is a useful model for other regions.
- Continue to expand advocacy for use of national data in programme planning; advocate for countries to disseminate findings and experiences widely through WHO and HIVResNet mechanisms, through presentations at conferences and through publications in scientific journals.
- Advocate with international funders to provide financial support for global coordination of the strategy once Gates Foundation funding is completed.

Annex. List of Participants

LIST OF PARTICIPANTS

Harold JAFFE

University of Oxford
University Offices, Wellington Square
Oxford
OX1 2JD
UK
Email: harold.jaffe@dphpc.ox.ac.uk

Isabelle MEYER-ANDRIEUX

Médecins Sans Frontières (MSF)
78, rue de Lausanne
Case Postale 116
1211 Genève 21
Email: isabelle.andrieux-meyer@geneva.msf.org

Paula MUNDERI AUBERSON

Uganda Virus Institute
P.O. Box 49
Entebbe
Uganda
Email: Paula.Munderi@mrcuganda.org

Prapan PHANAPHUK

Thai Red Cross AIDS Research Centre
104 Rajdamri Road
Bangkok 10330
Thailand
Email: Praphan.P@chula.ac.th

Yiming SHAO

Division of Research on Virology and Immunology
National Center for AIDS/STD Control and
Prevention (NCAIDS)
Chinese Center for Disease Control and Prevention
Beijing 100050, China
Email: yshao@bnn.cn

Donald SUTHERLAND

International Public Health division
Public Health Agency of Canada
100 Colonnade Road
Ottawa, Ontario K1A 0K9
Canada
Email: donald_sutherland@phac-aspc.gc.ca

Sandra MOUNIER-JACK

London School of Hygiene & Tropical
Medicine
Keppel Street
London WC1E 7HT
UK

Bharat S. PAREKH

Serology/Incidence and Diagnostics Team
Centers for Disease Control and Prevention
1600 Clifton Road, MS-G19
Bldg 15/Room 2611
Atlanta, GA 30333
USA
Email: bsp1@cdc.gov

Christine ROUSSEAU

Global Health - Infectious Diseases
Development
Bill and Melinda Gates Foundation
P.O. Box 23350
Seattle, WA 98102
USA
Email:
Christine.Rousseau@gatesfoundation.org

Annette SOHN

TREAT Asia
AmfAR – The Foundation for AIDS Research
388 Sukhumvit Road, Suite 2104
Klongtoey, Bangkok 10110
Thailand
Email: annette.sohn@treatasia.org

Mark WAINBERG

McGill University AIDS Centre
Jewish General Hospital
3755 Chemin de la Côte Ste Catherine
Montreal
Canada
Email: mark.wainberg@mcgill.ca

Michael USSERY
DHHS/NIH/NIAID/DAIDS/TRP/DDCSB
Room 5151
6700B Rockledge
Bethesda, MD 20892-7624
USA
Email: mussery@niaid.nih.gov

Michael R. JORDAN (observer)
The Physicians of Tufts/NEMC
Division of Geographic Medicine and Infectious
Disease
Tufts University School of Medicine
Boston, MA 02111
USA
Email: mjordan@tuftsmedicalcenter.org

Steven HONG (observer)
Department of Public Health and Family
Medicine
Nutrition and Infection Unit
Tufts University School of Medicine
Boston, MA 02111
USA
Email: SHong@tufts-nemc.org

Zeenat PATEL (observer)
Hassle Free Clinic
60 Gerard Street East
Toronto, ON M5B 1G3
Canada
Email: zeenat.patel@gmail.com

PARTNERS

Paloma CUCHI
UNAIDS Secretariat
20, Avenue Appia
CH-1211 Geneva 27
Switzerland
Email: cuchip@unaids.org

Paulo MEIRELES
UNITAID/WHO
20 Avenue Appia
CH 1211 Geneva 27, Switzerland
Email: meirelesp@who.int

Stefano LAZZARI
Epidemic Preparedness and Response
The Global Fund to Fight AIDS, Tuberculosis
and Malaria
Chemin de Blandonnet 8
1214 Vernier
Geneva, Switzerland
Email: lazzaris@who.int

WHO SECRETARIAT

Regional Staff

Richard BANDA
Inter-country Support Team for Eastern & Southern
Africa (IST/ESA/AIDS)
AFRO
Email: BandaR@zw.afro.who.int

Giovanni RAVASI
HIV Drug Resistance Team
PAHO
Email: ravasigi@paho.org

El Hadj BELABBES
WHO Inter-country Support Team for Central
Africa
AFRO
Email: belabbese@ga.afro.who.int

Rui VAZ
Regional Adviser, HIV
AFRO
Email: vazr@afro.who.int

Padmini SRIKANTIAH

Drug Resistance Team

SEARO

Email: srikantiahp@searo.who.int

Dongbao YU

Drug Resistance Team

WPRO

Email: yud@wpro.who.int

Headquarters Staff

Silvia BERTAGNOLIO

Anti-retroviral Treatment and HIV Care

Diane E. BENNETT

Anti-retroviral Treatment and HIV Care

Karen KELLEY

Anti-retroviral Treatment and HIV Care

Ulrich LAUKAMM-JOSTEN

Regional Adviser, HIV and STIs

EURO

Email: matics@who.int

Siobhan CROWLEY

Anti-retroviral Treatment and HIV Care

Teguest GUERMA

Director a.i., HIV/AIDS