MEETING REPORT

WHO HIVResNet MEETING REPORT

21 OCTOBER 2018, JOHANNESBURG, SOUTH AFRICA

World Health Organization

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ISBN 978-92-4-000353-8 (electronic version)
ISBN 978-92-4-000354-5 (print version)

Suggested citation. WHO HIVResNet meeting report, Johannesburg, South Africa, 21 October 2018. Geneva: World Health Organization; 2020. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at http://apps.who.int/iris.

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ACKNOWLEDGEMENTS

The report was written by Neil Parkin, under the coordination of Silvia Bertagnolio (WHO, HIV Department). We are extremely grateful for the inputs received by the HIVResNet meeting participants and to the presenters who have reviewed and approved the content of this report. We acknowledge the contributions of David Breuer for technical editing and L'IV Com Sàrl for layout.

BACKGROUND

The WHO HIV drug resistance network (WHO HIVResNet) is a large body of international experts, researchers, laboratorians, organizations, partners, stakeholders and civil society members with an advisory and implementation role to prevent, monitor and respond to HIV drug resistance. Established in 2004 by a partnership between WHO and the International AIDS Society, WHO HIVResNet supports activities to monitor and control the emergence of HIV drug resistance, optimize the use of HIV drug resistance testing, monitor the quality of antiretroviral therapy delivery for the purpose of preventing HIV drug resistance and support policies related to optimal first- and second-line antiretroviral therapy selection.

HIVResNet and its five working groups support the Global Action Plan on HIV drug resistance (https://www.who.int/hiv/pub/drugresistance/hivdr-action-plan-2017-2021/en). The goal of the Global Action Plan is to articulate synergistic actions required to prevent HIV drug resistance from undermining global targets on health and HIV and to provide the most effective treatment to all people living with HIV. The Global Action Plan has five strategic objectives:

1. prevention and response;
2. monitoring and surveillance;
3. research and innovation;
4. laboratory capacity; and
5. governance and enabling mechanisms.

This meeting took place immediately before the 27th International Workshop on HIV Drug Resistance and Treatment Strategies in Johannesburg, South Africa, capitalizing on the presence of HIVResNet members, key opinion leaders and other WHO advisers. Annexes 1 and 2 present the meeting agenda and list of participants.

The meeting began with a review of recent changes in the antiretroviral therapy landscape in low- and middle-income countries from the WHO perspective. This includes the addition of dolutegravir (DTG)-based regimens as a preferred option for first-line therapy and observations regarding the safety of DTG for women of childbearing potential. These developments, in the context of increasing rates of pretreatment HIV drug resistance in many countries and especially among women, raise important issues that could affect WHO treatment guidelines. The five pillars of the Global Action Plan and the HIVResNet governance structure were also reviewed. This introduction was then followed by 10 thematically divided sessions of public health relevance.

EXECUTIVE SUMMARY

WHO convened the HIVResNet meeting in Johannesburg, South Africa, on 21 October 2018. The meeting was attended by 60 HIV drug resistance experts from all over the world. The most important points discussed and conclusions from each session are summarized below.

Session 1: Sanger versus next-generation sequencing: optimal reporting thresholds for comparability and reproducibility

- ✔ Maximum identity to the Sanger consensus sequence was achieved at a threshold of 20%.

Session 2: Could a more affordable genotyping test affect its use in clinical practice in low- and middle-income countries and how?

- ✔ At least nine African countries among those who responded to the survey reported having national policies recommending the use of HIV drug resistance genotyping for people for whom second-line antiretroviral therapy regimens are failing. In some cases, reagent costs for sequencing of protease (PR), reverse-transcriptase (RT) and integrase (IN) may be as low as US$ 30 to US$ 50. HIV drug resistance testing was considered cost-effective for this group of people, since the cost of third-line antiretroviral therapy is high and levels of resistance to protease inhibitors (PIs) among second-line failures is relatively low (typically <40%).

Session 3: What is the risk of HIV drug resistance emerging among pre-exposure prophylaxis (PrEP) users in low- and middle-income countries?

- ✔ Data from clinical trials show that resistance is infrequent (3%) from oral tenofovir (TDF) + emtricitabine (FTC) PrEP if HIV-1 infection is not present when PrEP is started but is more common (41%) if TDF + FTC PrEP is started during undiagnosed acute HIV-1 infection. More data from programmes scaling up PrEP are needed.

Session 4: Dolutegravir roll-out in the context of non-nucleoside reverse-transcriptase inhibitor (NNRTI) pretreatment HIV drug resistance

- ✔ DTG roll-out has been slowed because of safety concerns for women of childbearing potential. This has complicated the recommended selection of optimal first-line antiretroviral therapy regimens in populations with elevated prevalence of pretreatment HIV drug resistance. In countries with NNRTI pretreatment HIV drug resistance prevalence >10%, WHO guidelines recommend urgently considering non-NNRTI (DTG or ritonavir-boosted atazanavir, ATV/r)-based first-line regimens for everyone initiating antiretroviral therapy.
- ✔ Informal poll among participants: in a country with NNRTI pretreatment HIV drug resistance >10%, no consistent access to contraception, for women starting first-line therapy: what regimen should be recommended?
  - Tenofovir, lamivudine/emtricitabine, dolutegravir (TLD): ~60%