

Deploying eHealth to facilitate community verbal autopsy for HIV mortality surveillance: Lessons from Nigeria

Authors: Asaolu Olugbenga¹, Alagi Matthias¹, Dalhatu Ibrahim¹, Ugbena Richard¹, Bello Mustapha¹, Jude Orjih¹, Adeola Adeyeye¹, Moyosola Bamidele¹, Chris Obanubi¹, Dennis Onotu¹, Ademola Oladipo¹, Ali Hammad², Springstubb Nora², Pamela Bachanas², Kehinde Balogun³, Scholastica Olanrewaju³, Chiamaka Onuoha³, Uchechukwu Chinedu³, Olaposi Olatoregun³, Oludare Onimode³, Jay Osi Samuels³, Prosper Okonkwo⁴, Ansa Henshaw⁴, John O. Oko⁵, Stephen Balogun⁵, Bolanle Oyeledun⁶, Abimbola Phillips⁶, Andy Eyo⁷, Ekele Ochedomi⁷, Patrick Dakum⁸, Ayoola Orisawayi⁸, Ikpeazu Akudo⁹, Gwomson Dauda⁹, Bashorun Adebobola⁹, Ashefor Gregory¹⁰, Aliyu Gambo¹⁰, Jerry Gwamna¹, Mary Boyd¹

- 1 Centers for Disease Control and Prevention-Nigeria, Abuja, Federal Capital Territory, Nigeria
- 2 Centers for Disease Control and Prevention, Atlanta, Georgia, USA.
- 3 Public Health Information, Surveillance Solutions, and Systems, APIN Public Health Initiatives, Abuja, Federal Capital Territory, Nigeria
- 4 APIN Public Health Initiatives Initiative Nigeria (APIN), Abuja, Federal Capital Territory, Nigeria
- 5 Catholic Caritas Foundation of Nigeria (CCFN), Abuja, Federal Capital Territory, Nigeria
- 6 Center for Integrated Health Program (CIHP), Abuja, Federal Capital Territory, Nigeria
- 7 Excellence Community Education Welfare Scheme, Uyo, Akwa-Ibom State, Nigeria
- 8 Institute of Human Virology, Nigeria (IHVN), Abuja, Federal Capital Territory, Nigeria
- 9 Federal Ministry of Health, Abuja, Federal Capital Territory, Nigeria.
- 10 National Agency for the Control of AIDS, Abuja, Federal Capital Territory, Nigeria
- 11 Georgetown Global Health Nigeria, Abuja, Federal Capital Territory, Nigeria

Background

Most developing countries do not have comprehensive systems to collect and report mortality events. World Health Organization in 2012 recommended verbal autopsy (VA) as a reliable alternative method for ascertaining causes of death (COD) in countries with inefficient national civil registration and vital statistics system.

We describe Nigeria's experience in deploying an integrated data management system comprising the electronic medical record (EMR), National Data Repository (NDR), Open Data Kit (ODK) suite and other communications technologies like Zoom, and electronic messaging to implement mortality surveillance (MS) of persons living with HIV. Country-level multistakeholder collaboration led by the HIV Division of Nigeria's Federal Ministry of Health integrated HIV MS into existing HIV eHealth system.

Description

HIV MS was rolled out in three phases from August 2021 -September 2022: planning, personnel training, and site assessment/activation. Clients reported dead through routine programme from participating facilities EMR on the NDR were enlisted for VA if the death occurred less than six months ago. Upon death notification, the community tracker contacted persons familiar with the deceased to administer the 2016 WHO VA tool (using ODK) physically or virtually (via Zoom, Skype, Microsoft Teams with consent forms shared, signed, and returned electronically).

The VA data are analyzed using SmartVA-Analyze to generate the COD based on the International Classification of Diseases Standards (Version 10).

Trend of Verbal Autopsy Conducted and Number of Facilities Reporting

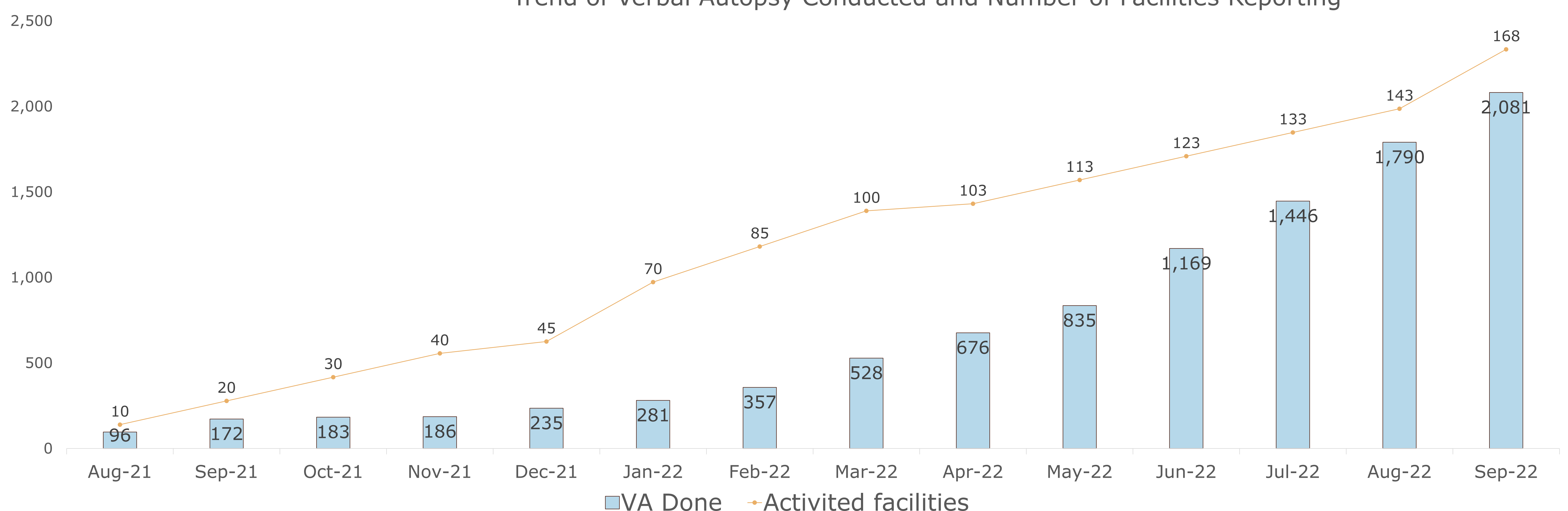


Figure 1: Trend of Verbal Autopsy conducted and number of facilities reporting

Lessons Learnt

HIV MS has been activated in 168 facilities across 18 states, and 2,081 VAs were conducted as of September 2022 (Figure 1). The roll-out of community VA was possible due to the government's leadership and use of technology. VA is easily accessible to deceased PLHIV relatives/caregivers through eHealth system overcoming physical barriers like distance and hard-to-reach areas. Although the eHealth technologies are only compatible with digitally literate interviewers who administer the tool, they are easy to use and should be tested before adoption. Data from VA is used to identify the leading COD among PLHIV, to formulate preventive interventions, and to influence policies.

Conclusions/Next step

Nigeria embraced technology to roll-out VA and the next steps include scale-up of VA data collection in all treatment facilities across 36 states of Nigeria.