

# ASSESSING THE UTILITY OF PMTCT PROGRAM DATA FOR HIV SENTINEL SURVEILLANCE AMONG PREGNANT WOMEN IN SOUTH AFRICA – 2017: POLICY BRIEF RELEASED IN JUNE 2019

**Introduction:** Antenatal HIV sentinel surveys have been used over several years to monitor the course of the HIV epidemic. They usually use unlinked anonymous testing (UAT) methods which raise ethical and methodological concerns in the current era of test and treat, as pregnant women living with HIV (PWLHIV) could not be traced and referred into care. With increasing coverage of routine HIV testing for pregnant women it becomes prudent to investigate whether routine antenatal HIV testing can be used to monitor antenatal HIV prevalence.

**Aims and Objectives:** This survey aimed to assess the utility of routine prevention of mother-to-child transmission of HIV (PMTCT) program data for HIV sentinel surveillance amongst pregnant women.

**Primary objectives:**

- (i) to assess the quality of routinely collected PMTCT related program data through:
  1. site assessments documenting procedures for PMTCT HIV testing and data recording (**Activity 1A**) and
  2. reviewing the completeness of recorded data (**Activity 1B**), and
- (ii) to assess the quality of PMTCT HIV rapid testing procedures in selected facilities that represent a range of national scenarios (**Activity 2**).

**Methods:** A national cross-sectional survey was conducted (February - May 2017), in 360 public health facilities offering antenatal care (ANC) and PMTCT services. Facilities were randomly selected from the 2014/15 District Health Information Systems (DHIS) dataset. The DHIS sampling frame had 1570 sentinel sites included in the 2015 antenatal HIV and syphilis sero-surveillance survey (ANSUR) and 3 113 facilities not included (NON-ANSUR). We aimed to perform site assessments (Activity 1A) in all 360 facilities and to review 20\*360 = 7 200 entries/records in total for the completeness of recorded data (Activity 1B). Data collectors conducted i) site assessments through interviews with one health care worker (HCW), familiar with PMTCT service delivery practices, per facility (Activity 1A) ; ii) retrospective reviews of data completeness in facility-based registers used for recording ANC/PMTCT data (Activity 1B), and iii) a cross-sectional audit of Quality Assurance (QA) practices for HIV rapid testing using the adapted WHO recommended Checklist (Tool) for the Stepwise Process for Improving the Quality of HIV Rapid Testing (SPI-RT) Version 3.0 (Activity 2). Hand-held personal digital assistants (PDAs) connected to a web-based Mobile Researcher application (Activity 1A) and paper-based tools (Activity 1B and 2) were used.

**Results:** Data were collected from 348 facilities with an oversampling of entries/records reviewed (N=14 778) from registers.

**Activity 1A:** Overall, 97.4% of participants reported that their ANC facilities offered provider-initiated HIV testing and counselling (PITC). Eighty one percent and 94.5% of facilities reported not experiencing stock-outs of HIV rapid and confirmatory test kits over the past 12 months respectively. An array of registers was used to document HIV testing and test results, the tick register being the commonest.

**Activity 1B.** We found that 66.1% of entries/records reviewed (N= 10 943) in tick registers recorded that an HIV test was performed during the first ANC visit of a client. Among these, the HIV test result was only recorded in 59.4% of entries/records. In longitudinal registers, CD4 count results were recorded in 22.1% of entries/records (N=1 228) belonging to HIV-positive clients.

**Activity 2.** Out of seven domains assessed, personnel training and certification and External QA domains obtained the lowest overall median percentage scores of 35.0% and 12.5%, respectively. Facilities obtained a median overall score of 39.8 (IQR 32.5– 46.0) out of a highest possible score of 64 which corresponded to a median overall percentage score of 62.1% (50.8-71.9%) (Table 1). There was inadequate implementation of rapid HIV testing QA practices in facilities providing ANC. The majority of facilities were at either level 1 (37.0%) or level 2 (45.5%) QA implementation (Table 2). More than two-thirds of facilities were not enrolled in the External QA program. In 56.1% of facilities, testers reported not receiving training on HIV rapid testing. Training on use of registers was reportedly received by 59.8% of facilities. A substantial percentage of facilities partially completed (31.5%) or did not complete (8.4%) key elements in the HIV registers.

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**The full report is available on the internet at:** [www.mrc.ac.za/intramural-research-units/HealthSystems-resource-materials](http://www.mrc.ac.za/intramural-research-units/HealthSystems-resource-materials)

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**Table 1: Distribution of median overall and median overall percentage scores by province**

Province	Number of facilities	Median overall scores* (IQR)	Median overall score* (IQR) as percentage of highest possible score
Eastern Cape	43	37.0 (31.0 – 45.0)	57.8% (48.4–70.3%)
Free State	17	30.0 (27.5–38.0)	46.9% (43.0 –59.4%)
Gauteng	80	42.5 (36.3 –47.3)	66.4% (56.6 –73.8%)
KwaZulu-Natal	77	38.0 (33.0–42.5)	59.4% (51.6 –66.4%)
Limpopo	43	45.5 (43.0 –50.0)	71.1% (67.2 –78.1%)
Mpumalanga	29	45.0 (40.5 –50.0)	70.3% (63.3 – 78.1%)
North West	20	39.3 (34.8 –52.3)	61.3% (54.3 –81.6%)
Northern Cape	8	27.8 (24.0 –30.75)	43.4% (37.5– 48.0%)
Western Cape	29	33.0 (29.5 –37.5)	51.6% (46.1 – 58.6%)
<b>Total</b>	<b>346 (96.1)**</b>	<b>39.8 (32.5–46.0)</b>	<b>62.1% (50.8 – 71.9%)</b>

\*includes all seven domains assessed= 64: Personnel Training and Certification=10; Physical Facility = 5; Safety=11; Pre-testing Phase=12; Testing Phase=9; Post-Testing Phase=9; and EQA= 8. IQR=Interquartile Range

**Table 2: Distribution of implementation levels for QA HIV rapid testing practices by province**

Province	Number of facilities	Level 0 (<40% QA criteria met) Number of facilities	Level 1 (40-59% QA criteria met) Number of facilities	Level 2 (60-79% QA criteria met) Number of facilities	Level 3(80-89% QA criteria met) Number of facilities	Level 4 (>=90%QA criteria met) Number of facilities
Eastern Cape	43	3 (7.0%)	19 (44.2%)	15 (34.9%)	5 (11.6%)	1 (2.3%)
Free State	17	3 (17.7%)	11 (64.7%)	3 (17.7%)	0 (0%)	0 (0%)
Gauteng	80	3 (3.8%)	23 (28.8%)	43 (53.8%)	9 (11.3%)	2 (2.5%)
KwaZulu-Natal	77	5 (6.5%)	34 (44.2%)	36 (46.8%)	1 (1.3%)	1 (1.3%)
Limpopo	43	0 (0%)	2 (4.7%)	33 (76.7%)	8 (18.6%)	0 (0%)
Mpumalanga	29	0 (0%)	7 (24.1%)	16 (55.2%)	6 (20.7%)	0 (0%)
North West	20	1 (5%)	8 (40.0%)	6 (30.0%)	5 (25.0%)	0 (0%)
Northern Cape	8	3 (37.5%)	5 (62.5%)	0 (0%)	0 (0%)	0 (0%)
Western Cape	29	4 (13.8%)	19 (65.5%)	6 (20.7%)	0 (0%)	0 (0%)
<b>All</b>	<b>346</b>	<b>22 (6.4%)</b>	<b>128 (37.0%)</b>	<b>158 (45.7%)</b>	<b>34 (9.8%)</b>	<b>4 (1.2%)</b>

**Level 0** - needs improvement in all areas and immediate remediation; **Level 1** - needs improvement in specific areas; **Level 2** - partially ready for national site certification; **Level 3** - close to national site certification; **Level 4** - eligible for national site certification (Source SPI-RT Checklist)

**Conclusions and recommendations:** The quality of HIV rapid testing procedures and routine PMTCT-related data need to be improved before routine PMTCT program-based data can be used to monitor antenatal HIV prevalence. The standardization of registers/logbooks and HCW training needs focused attention, including on-going monitoring and feedback on data quality to facilities. The low HIV rapid testing scores reflect partial implementation of QA procedures. As the survey was conducted during the roll-out of the HIV Rapid testing QA program, a repeat assessment of QA implementation is recommended when the number of facilities trained and certified in HIV rapid testing and enrolled for External QA have increased.

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