Uncovering Risk for Recent HIV Infections in 9 Provinces, Thailand, 2023-2024

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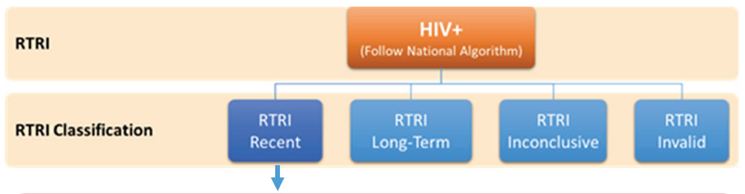
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BACKGROUND

- Thailand has introduced new surveillance model that integrates a rapid test for recent HIV infection (RTRI) with HIV case surveillance data into routine HIV testing services, aiming to support the control of the HIV epidemic.
- This innovative approach combines RTRI results with case surveillance (CS) data in a recent infection testing algorithm (RITA) to identify individuals who may have acquired HIV in the past 12 months.
- The phased approach surveillance program, implemented across 9 provinces between 2023 and 2024, represents a significant advancement in monitoring HIV epidemics.
- We assessed recent HIV infection risk to support public health strategies and improve prevention efforts.

Figure 1. RTRI Testing & Case Surveillance Algorithm



Notes:

- Utilizing the National ART registry, OI, and baseline CD4 <200 (if available) to reclassify cases that are RTRI-recent.

METHODS

- Newly HIV diagnosed individuals aged ≥15 years, either treatment-naïve or on treatment for <30 days, were offered recency testing using an HIV-1 RTRI Assay.
- RTRI-recent results with baseline CD4 >200 from CS data were classified as RITA-CS recent.
- Routine HIV testing and RITA-CS recent infection data were collected from 112 clinics in 9 provinces between October 2023 and March 2024.
- The proportion of HIV-positive individuals tested with RTRI was used to adjust the HIV-negative population, estimating the at-risk population per 10,000 individuals.
- Risk variations by age, sex, and population groups were analyzed using Chi-squared tests ($p<0.05$).

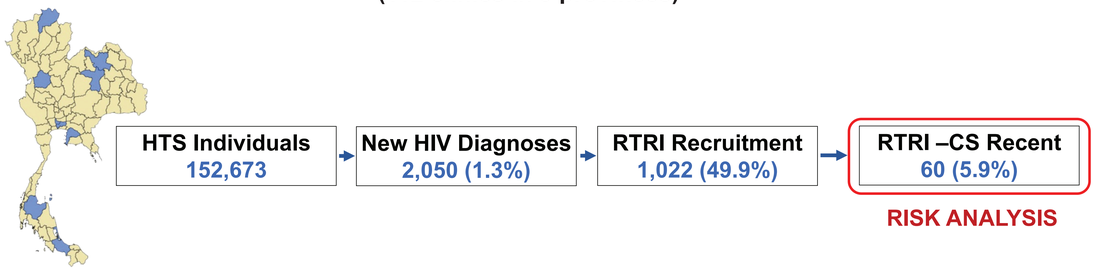
MSM and individuals aged 15-24 years had the highest risk of recent HIV infection.

Table 1. Risk Analysis for Recent HIV Infection, October 2023 through March 2024, Thailand

Variables		HIV-negative	HIV-positives (all newly dx)	HIV-positives tested by RTRI	RITA-CS[1] Recent cases	Adjusted HIV-negatives[2]	Recent as a proportion of at risk (per 10,000)[3]
Sex:	Male	85,305	1,459	820	54	47,944	11.3*
	Female	65,318	591	202	6	22,325	2.7
Age Group:	15-24 Y	32,472	494	335	31	22,020	14.1*
	25-49 Y	58,668	1,129	609	26	31,646	8.2
	50+ Y	56,052	413	80	3	10,858	2.8
Population Group:	FSW	2,205	16	7	2	965	20.7
	MSM	19,044	845	552	46	12,441	36.8
	PWID	899	10	8	1	719	13.9

[1]*RITA-CS = Recent infection testing algorithm using case surveillance* [2]*Number adjusted by proportion of positives tested by RTRI.*
[3]*At risk population = RITA-CS recent cases + adjusted HIV-negatives*
**p<0.01*

Figure 2. Routine HIV Testing and RITA-CS Recent Infection Data Collection, 2023-2024 (112 clinics in 9 provinces)



RESULTS

- RTRI testing coverage among newly diagnosed individuals was highest among MSM (86.9%), PWID (80.0%), and 15–24 year olds (67.8%).
- The highest risk of recent HIV infection (per 10,000 at-risk individuals) was observed among MSM (36.8), FSW (20.7), and 15–24 yo (14.1).
- The lowest risk of recent HIV infection (per 10,000 at-risk individuals) was observed among women (2.7) and individuals aged 50+ (2.8).
- Significant differences in proportions were found by sex ($p<0.01$) and age group ($p<0.01$).

CONCLUSIONS

- MSM and individuals aged 15–24 had the highest risk of recent HIV infection.
- Targeted prevention strategies for MSM and young men are critical to reducing HIV transmission.
- Enhanced surveillance is necessary to monitor and address disparities.
- Further investigation into behavioral and structural drivers is essential for effective interventions.

ACKNOWLEDGEMENTS

We would like to express our sincere gratitude to the Division of Epidemiology, Department of Disease Control, Thailand Ministry of Public Health (MOPH), along with the Department of Medical Services (MSD) and Department of Health (HD), Bangkok Metropolitan Administration (BMA). Our heartfelt thanks also go to the recency surveillance network for their invaluable support in making this project possible.

DISCLAIMER

This work was supported by the President's Emergency Plan for AIDS Relief (PEPFAR) through the U.S. Centers for Disease Control and Prevention under the terms of cooperative agreement # GH002154. The findings and conclusion in this presentation are those of the authors and do not necessarily represent the official position of the U.S. government.

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