



HAL
open science

Estimating the impact of HIV self-testing on HIV testing services, diagnoses, and treatment initiation at the population-level with routine data: the example of the ATLAS program in Côte d'Ivoire

Arlette Simo Fotso, Cheryl Johnson, Anthony Vautier, Konan Blaise Kouamé, Papa Moussa Diop, Romain Silhol, Mathieu Maheu-Giroux, Marie-Claude Boily, Nicolas Rouveau, Clémence Doumenc-Aïdara, et al.

► To cite this version:

Arlette Simo Fotso, Cheryl Johnson, Anthony Vautier, Konan Blaise Kouamé, Papa Moussa Diop, et al.. Estimating the impact of HIV self-testing on HIV testing services, diagnoses, and treatment initiation at the population-level with routine data: the example of the ATLAS program in Côte d'Ivoire. 24th International AIDS Conference, Jul 2022, Montréal, Canada. ird-03883102

HAL Id: ird-03883102

<https://ird.hal.science/ird-03883102>

Submitted on 2 Dec 2022

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Estimating the impact of HIV self-testing on HIV testing, diagnoses, and treatment initiation at the population-level with routine data : the example of the ATLAS program in Côte d'Ivoire

Arlette Simo Fotso ^{a,b*}, Cheryl Johnson^c, Anthony Vautier^d, Konan Blaise Kouamé^e, Papa Moussa Diop^d, Romain Silhol^f, Mathieu Maheu-Giroux^g, Marie-Claude Boily^f, Nicolas Rouveau^a, Clémence Doumenc-Aïdara^d, Rachel Baggaley^c, Eboi Ehui^e, Joseph Larmarange^a for the ATLAS team

a. Centre Population & Développement, Université de Paris cité, IRD, Inserm, Paris, France
 b. French Institute for Demographic Studies, INED, Aubervilliers, France
 c. World Health Organization, Geneva, Switzerland
 d. Solidarité Thérapeutique et Initiatives pour la Santé, Solthis, Dakar, Sénégal
 * contact: simofotsoarlette@yahoo.fr



d. Programme National de Lutte contre le Sida, Abidjan, Côte d'Ivoire
 e. Medical Research Council Centre for Global Infectious Disease Analysis, School of Public Health, Imperial College London, London, United Kingdom
 f. Department of Epidemiology and Biostatistics, School of Population and Global Health, McGill University, Montréal, QC, H3A 1G1, Canada

Background

HIV self-testing (HIVST) is recommended by the WHO.

It has the advantage of greater autonomy and flexibility, supporting discretion, convenience and confidentiality. It makes it possible to reach untested and hard-to-reach populations.

However, its confidential nature and the network distribution approach (focusing on key populations and their relatives and partners) make it difficult to estimate the impact of HIVST at the population-level.

This study aims to overcome this challenge by using routine programmatic data to estimate the impacts of the ATLAS project HIVST on 'conventional' HIV testing (i.e., non-HIVST), new HIV diagnoses, and initiation of antiretroviral therapy (ART) in Côte d'Ivoire.

Methodology

We used quarterly programmatic data (Q3-2019 to Q1-2021) from implementing partners for the N° HIVST kits distributed through ATLAS in Côte d'Ivoire.

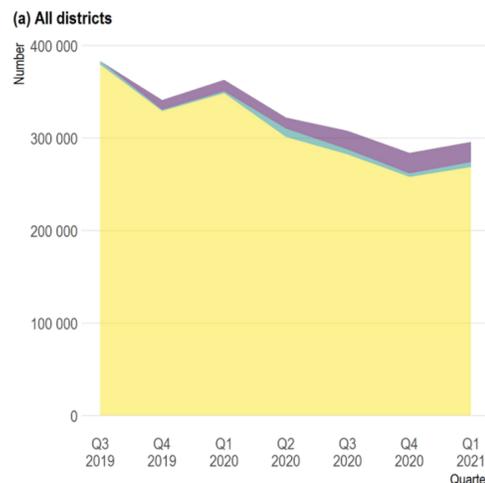
HIV testing services programme data (N° of conventional testing, diagnoses and ART) was obtained from PEPFAR, aggregated by health districts (n=78, including the 9 ATLAS districts and 69 other districts not covered by ATLAS) and quarter.

Impacts of HIVST were estimated using ecological time series regression using linear mixed-models.

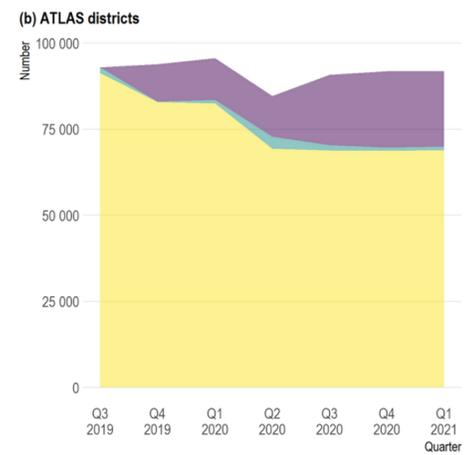
Results

Between Q3-2019 and Q1-2021, ATLAS distributed 99,353 HIVST kits in 9/78 health districts included in the analysis.

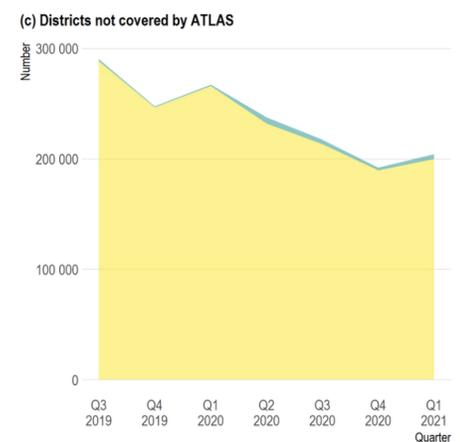
Conventional testing decreased from 379,554 in Q3 2019 to 268,807 in Q1 2021 (Figure a).



In the 9 ATLAS districts, the distribution of HIVST kits mitigated the decline in access to HIV testing (Figure b).



In the 69 districts not covered by ATLAS (Figure c), HIVST kits distributed through PEPFAR remained limited and insufficient to offset the reductions in 'conventional' testing.



There was a negative but nonsignificant signal of the effect of the number of ATLAS-distributed HIVST kits on conventional testing uptake (-190 'conventional' tests per 1,000 HIVST distributed; 95%CI: -427 to 37). However, even if only 20% of distributed kits were used, HIVST would still increase access to testing.

ATLAS HIVST kits have increased significantly the N° of HIV diagnoses (+8 diagnoses per 1,000 HIVST distributed ; 95%CI: 0 to 15).

No association with ART initiation was observed (-2 ART initiations per 1,000 HIVST distributed ; 95%CI: -8 to 5).

Table 1: Linear effect of N° of HIVST distributed via ATLAS on 'conventional' testing, HIV diagnosis and ART initiation, in 78 PEPFAR districts in Côte d'Ivoire (Q3-2019 to Q1-2021), adjusted by quarter year and region.

Outcome variables	Effect for 1000 HIVST distributed by ATLAS	95% CI	p-value
Conventional testing	-190	-427 to +38	0.10
HIV diagnosis	+8	0 to +15	0.044
ART initiations	-2	-8 to +5	0.66

More information here: <https://doi.org/10.1101/2022.02.08.22270670>

Conclusions

The methodology used in this paper offers a promising way to use routinely collected programmatic data to estimate the effects of HIVST kit distribution in real-world programmes.

Our results show that a network-based HIVST distribution strategy focused on key populations and their relatives and partners improves diagnosis. Implementers should consider using this approach to monitor and optimize programming.