Opportunities and challenges for the implementation of HIV self-testing and self-sampling in the European Region

John de Wit
Utrecht University

Optimizing HIV testing

HIV-testing is gateway to prevention and care
- Barriers to facility-based testing/counseling

Promising user-managed testing options
- Convenient, confidential, empowering
- Accuracy, usability, acceptability, feasibility
- Reponse to positive result, social harms
- Counseling, confirmatory testing, linkage to care

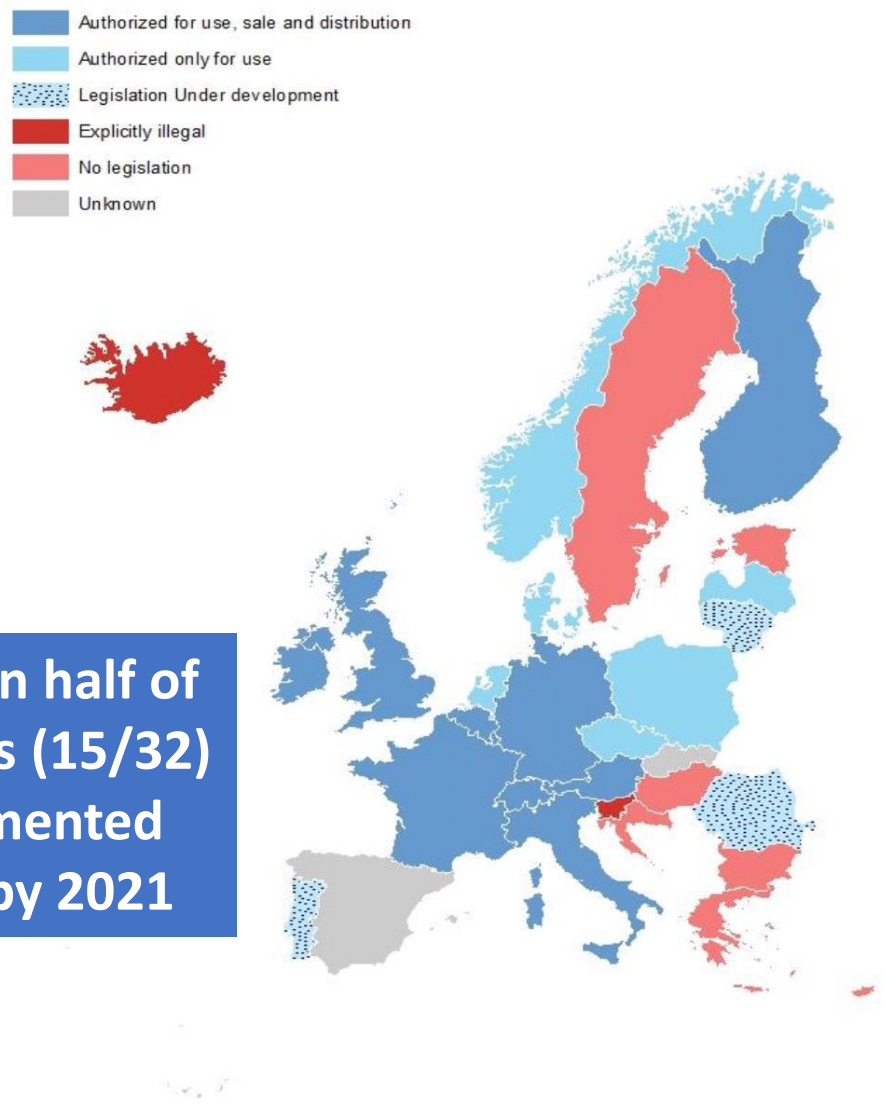


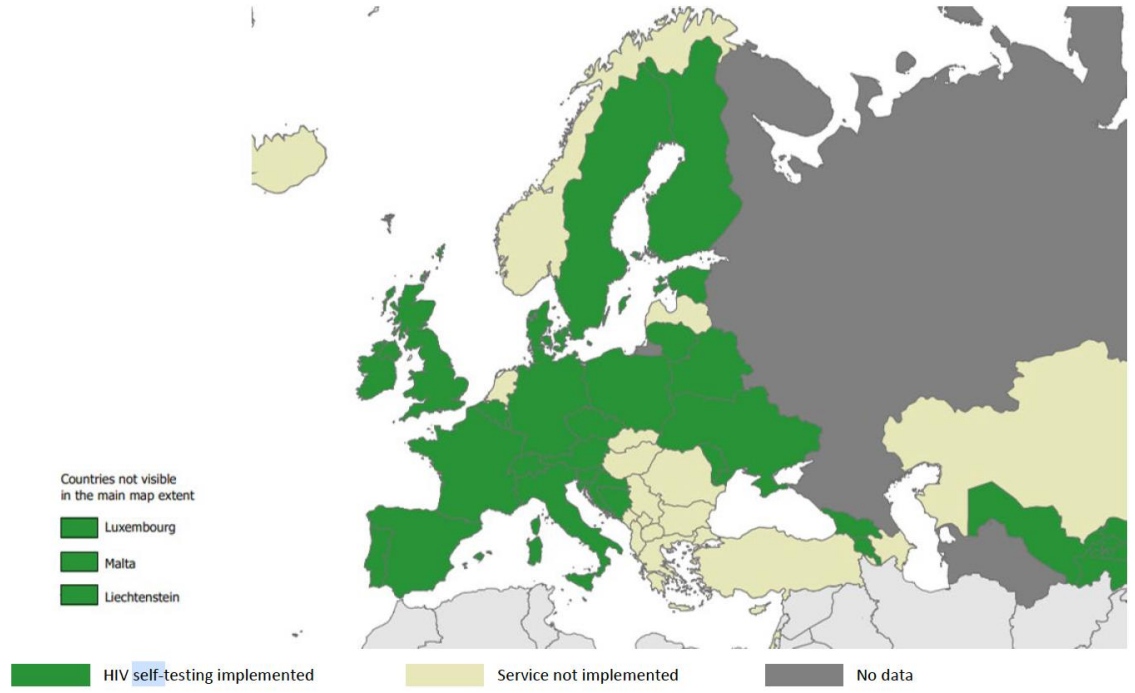
Figure 1: Map of countries classified according to their legal situation for the provision of HIV self-tests

Less than half of countries (15/32) implemented HIVST by 2021

Majority of countries (33/49) implemented HIVST by 2022

ecdc
EUROPEAN CENTRE FOR DISEASE PREVENTION AND CONTROL

Figure 4.4. Countries reporting the implementation of HIV self-testing, Europe and Central Asia, 2022



Public Health at the Kitchen Table:
Lessons from the Home HIV Test's Long Road to Approval

Hastings Center Report, *53*(1), 10-16; 2023.

by ABIGAIL ZUGER

US: Oral fluid test
FDA-approved 2012

"Many experts felt that a home test might make all the difference […]."

"[…] it failed to make a discernable impact on national rates of HIV diagnosis."

What are challenges and opportunities for realizing the potential of user-managed HIV testing in Europe?

Image sources: https://en.wikipedia.org/wiki/OraQuick; http://autotest-vih.eu/en/content/6-How-it-works; https://www.curapharm.co.za/products/biosure-hiv-self-test

Rapid global mapping review

Map out and categorize existing literature (Grant & Booth, 2009)

- Peer-reviewed publications
- PubMed 2013-2023

HIV or HCV

- self testing, self sampling, home testing
- Keywords in title/abstract

Literature search results

HIV	n = 1200
HCV	n = 41

Duplicates	n = 30
Other topic	n = 240
No abstract	n = 78
Classic testing	n = 70
Lit. reviews	n = 94
Guidelines	n = 12

Highly diverse studies

Sub-S Africa, Asia, Americas, Europe
Girls & women, FSW, MSM, partners
Self-test, self-sampling; oral fluid, blood
Qual., DCE, RCTs, demo proj., surveys

Formative research	n = 308
Impact assessment	n = 245
Distribution models	n = 225
Confirm. & linkage	n = 55

Formative research **n = 308**

Diagnostic performance
Usability & feasibility
Awareness & support needs
Attitudes & acceptability
Testing preferences
Linkage preferences
Views on counseling/support
Willingness to use & pay
Uptake if offered

Correct unassisted use
High acceptability
Self-testing preferred
Low willingness to pay
(Steehler & Siegler, 2019)

Oral fluid or blood?
Expert vs lay views?

Impact assessment

n = 245

Self-testing & experiences
Confirmatory testing & linkage
Public health impact
Effect on testing
Effect on risk & prevention
Costing estimation
Ethics & potential harms
Reaction to test results

Significantly higher testing rates in RCTs
But: offered as part of study, free & oral fluid (Kelvin & Akasreku, 2020)

Low awareness & uptake in community surveys (e.g., Guerras et al. 2022)

Increase due to COVID-19?
Longer-term effects?

Distribution models n = 225

Information/ education

Health services

Clinics, pharmacies/drug shops, people with STI

Partners

Pregn. wom., girls/wom. at risk, MSM, TGW, PHIV

Community

Door-to-door, hotspots, outreach, social networks

Technology

Vending, online, app advertising, opinion leaders

Multiple models

Few model comparisons (Kelvin & Akaresky, 2020)

North America, Asia & Pacific: web-based ordering & mail-out more effective than SoC and facility-based HIVST (Eshunu-Wilson et al., 2021)

Confirmation & linkage n = 55

Incentives, behavioral insights
Onsite support and services
Telehealth consultation
Chatbot counseling
SMS primers & reminders
Digital results sharing
Existing networking apps
Dedicated mobile apps
Innovative smart kits

Overall no differences between HIVST and SoC in linkage to ART or PrEP (Adeagbo et al., 2023)

Mixed outcomes of linkage strategies; financial incentives, use of digital technology and key opinion leaders most effective (Muwanguzi et al., 2021)

HIV self-testing with digital supports as the new paradigm: A systematic review of global evidence (2010–2021)

Madison McGuire[a,b,1], Anna de Waal[a,b,1], Angela Karellis[b,c], Ricky Janssen[d], Nora Engel[d], Rangarajan Sampath[e], Sergio Carmona[e], Alice Anne Zwerling[f], Marta Fernandez Suarez[e], Nitika Pant Pai[b,c,*]

EClinicalMedicine 39 (2021) 101059

HIV self-testing with digital support:
use of digital interventions to improve efficiency and impact of HIV self-testing.

Image source: https://themartinfisherfoundation.org/digital-vending-machines/

Evidence synthesis of 46 studies
Observational (72%) and RCTs (28%)
Web-based (54%), social media (26%, SMS (9%), apps (7%), digital VM (4%)

Feasible, acceptable & preferred
Increased uptake & linkage to care
First-time & hard-to-reach testers

Guidance for developing HIV self-testing interventions

More than a good idea for a practical distribution & linkage model

Effectively involve affected communities in development
Address critical barriers affecting testing (and linkage)
Draw on a systematic intervention planning approach

Involve communities served

Co-creation, co-design, designathon, crowdsourcing

Crowdsourcing with African American people (Mathews et al., 2020)

- Soliciting ‘solutions to tasks via open calls to large-scale communities’.
- Two contests: Ideas on promoting HIVST kits; branding HIVST pop-up booths

Highlighting kits as potential sources of knowledge, relief and empowerment.

Factors related to HIV (self-)testing

Capability	Convenience Awareness
Opportunity	Accessibility Social norms
Motivation	Confidentiality Perceived risk Fears/concerns

Most focus on novel service models
Convenience, accessibility, confidentiality

Less attention on psychosocial factors
Social norms, risk, fears/concerns; stigma

Relevant factors differ between testers
Different interventions likely needed

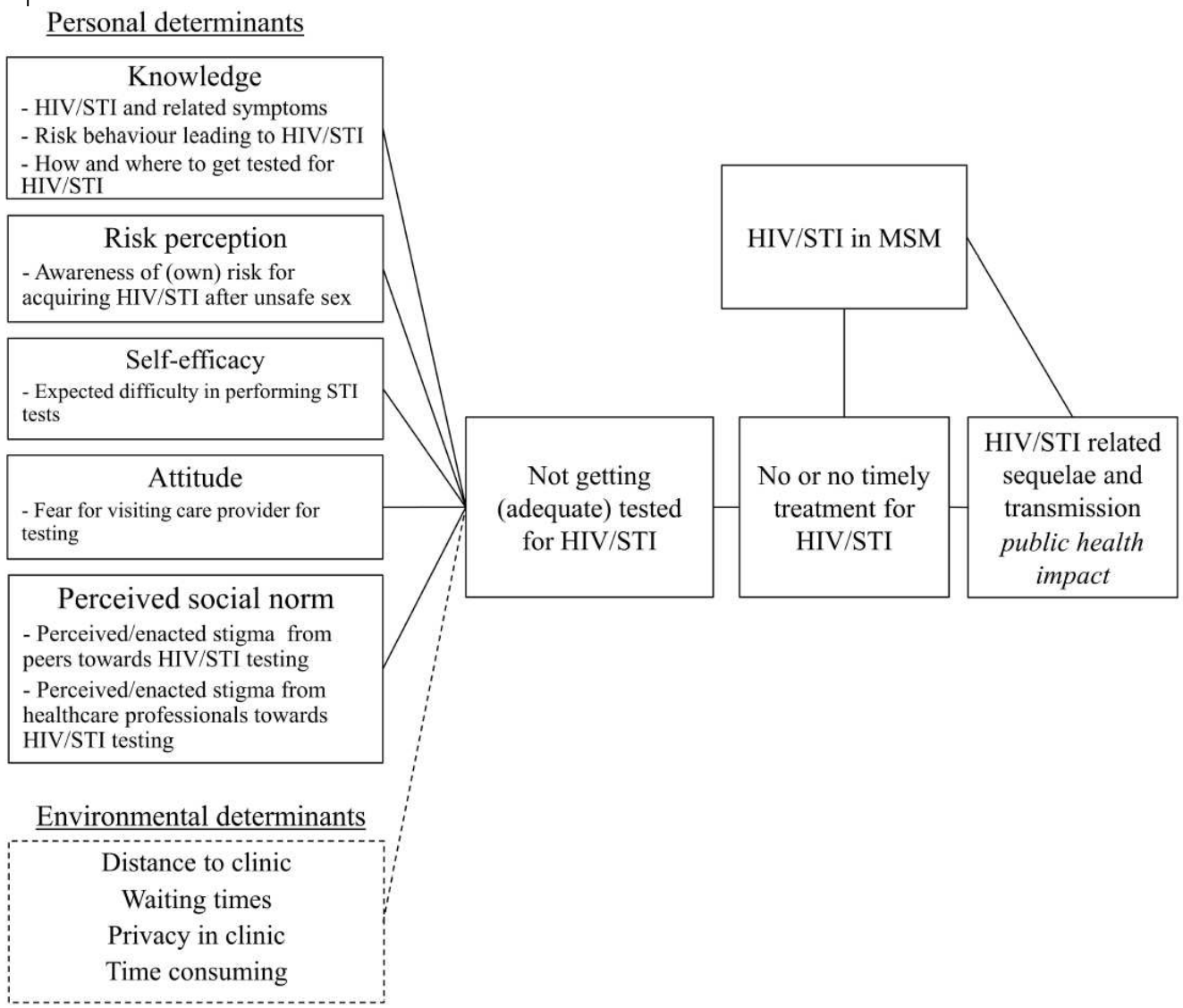
Systematic Development of an Intervention to Promote Self-Sampling for HIV and Sexually Transmitted Infections for Men Who Have Sex With Men: An Intervention Mapping Approach

Jeanine Leenen[1,2], Christian J. P. A. Hoebe[1,2,3], Arjan E. R. Bos[4], Petra F. G. Wolffs[2], Inge H. M. van Loo[2], John B. F. de Wit[5,6], Kai J. Jonas[7] and Nicole H. T. M. Dukers-Muijrers[1,8]*

End-user involvement

Information & education

Website, invitation cards, posters, flyers, narrowcasts



Optimizing HIV self-testing

Large, highly diverse and fuzzy literature

Usable, feasible, acceptable, (socially) safe
First-time testers & concerned inviduals

Regulatory framework, policy & costs
Provide choice for different preferences

Implement a variety of test distribution models
Digital technology enables linkage to health services

Importance of planning

Not so successful interventions

”It seemed like a good idea at the time”

(Martin Eccles)

More likely successful interventions

‘Good health promotion programs are […] the product of coordinated effort […].‘

(McKenzie et al., 2017; p. 41)

Thank you for your attention

j.dewit@uu.nl