PO2/11

Ten-Year Trends in Community-Based HIV, HBV, HCV, and Syphilis Testing and Reactivity in Portugal, 2016-2025

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Testing is a crucial step for the public health response to HIV, hepatitis B and C and syphilis, as early diagnosis and immediate treatment are linked to significant benefits for individuals and communities. Community-based testing (CBT) services play a key role in reaching vulnerable and key populations by offering rapid, accessible testing to sexually transmitted infections, prevention, testing and linkage to care.

Objective: We aimed to assess the trends of testing provision (number of testing sessions and tests for each infection) and reactivity (proportion of reactive results) at community-based testing centres in Portugal from 2016 to 2025.

METHODS AND PARTICIPANTS

The Portuguese Community-based Screening Network Implemented in 2015

Community-based integrated rapid testing for HIV, HBV, HCV, and syphilis targeting key populations in urban settings, provided by trained community health workers (lay providers).

Key populations targeted:

» Gay, bisexual, and other men who have sex with men (GBMSM)
» Migrants
» People Who Use Drugs (PWUD)
» Sex Workers (SW)
» Trans People

Procedures:

At each testing session *(single appointment for one individual during which one or more tests are administered)*

» **Face-to-face interviews**
using an online structured sociodemographic and behavioural questionnaire.

» **Point-of-care rapid testing for:**
> HIV 1/2 antibodies
> HCV antibodies
> HBV surface antigen
> Syphilis antibodies

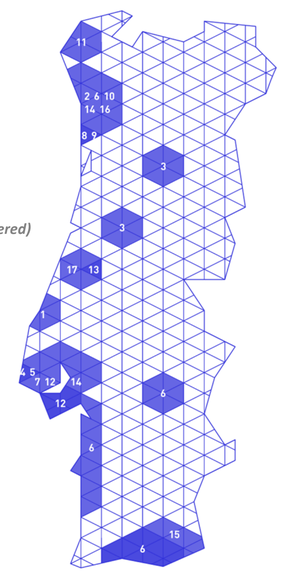

Figure 1. Distribution of participating organizations in Portugal

Inclusion criteria for this study:

» Visits where people tested for at least one infection

Exclusion:

Testing sessions where people tested were less than 15 years old (n=337) and no age information (n=3372)

Total sample: 329,505 testing sessions from 60 community-based centres from 24 organisations from 2016-2025

Temporal trends:

» Number of testing sessions
» Number of tests performed per infectious agent
» % Reactive results per test per infectious agent

Additive seasonal decomposition analysis

Decomposition of additive time series into:

» Observed
» Trend: simple decomposition using the 30-day moving average
» Seasonal effects (Seasonal): average value for each month across the entire data span
» Random errors (Random): removing the trend and seasonal components from the observed

RESULTS

Testing Sessions: *Temporal trends*

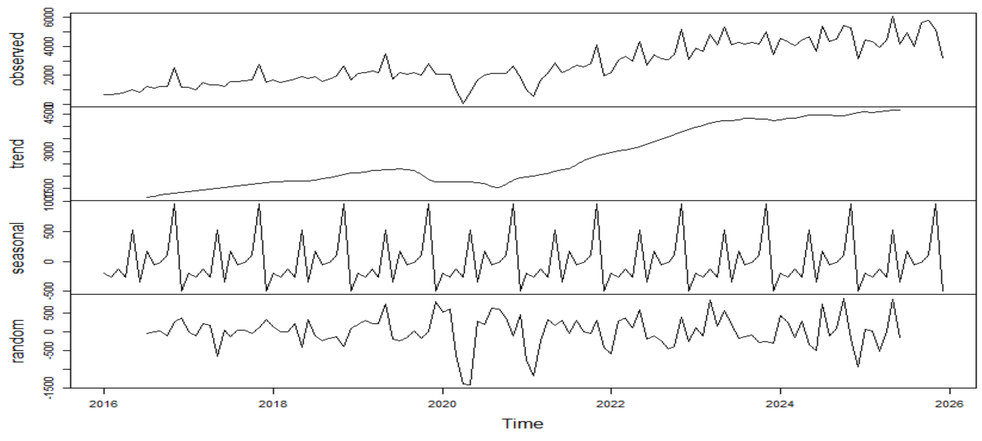

Figure 2: Decomposition of the observed number of testing sessions (observed) into 3 components: trend, seasonal effects (seasonal), and random errors (random).

HIV: *Temporal trends in tests performed and % reactive results*

Tests performed | *% Reactive results*

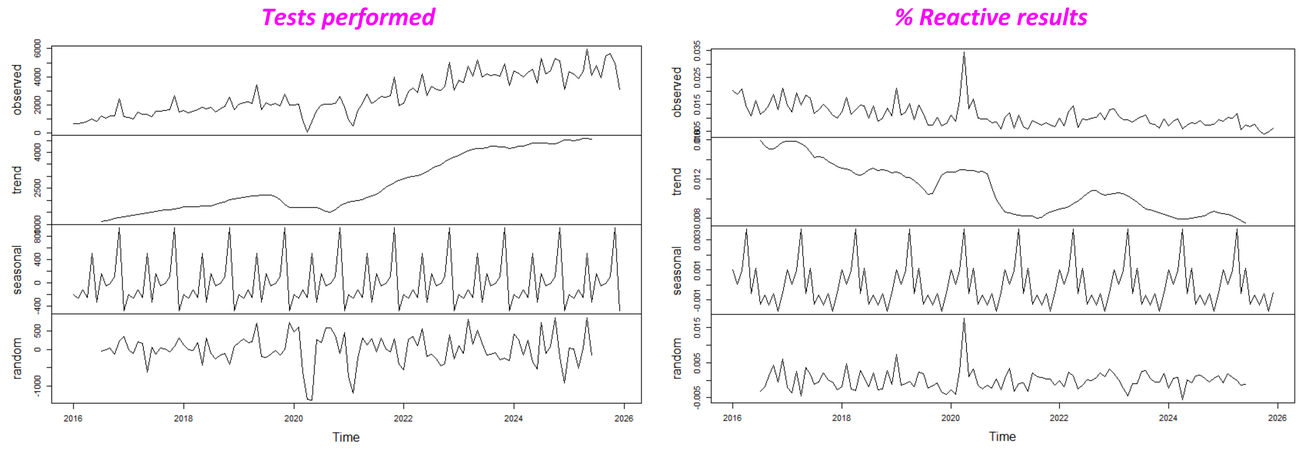

Figure 3: Decomposition of the number of HIV tests' (observed) and of the proportion of HIV reactive tests' (observed) into 3 components: trend, seasonal effects (seasonal), and random errors (random).

HCV: *Temporal trends of tests performed and % reactive results*

Tests performed | *% Reactive results*

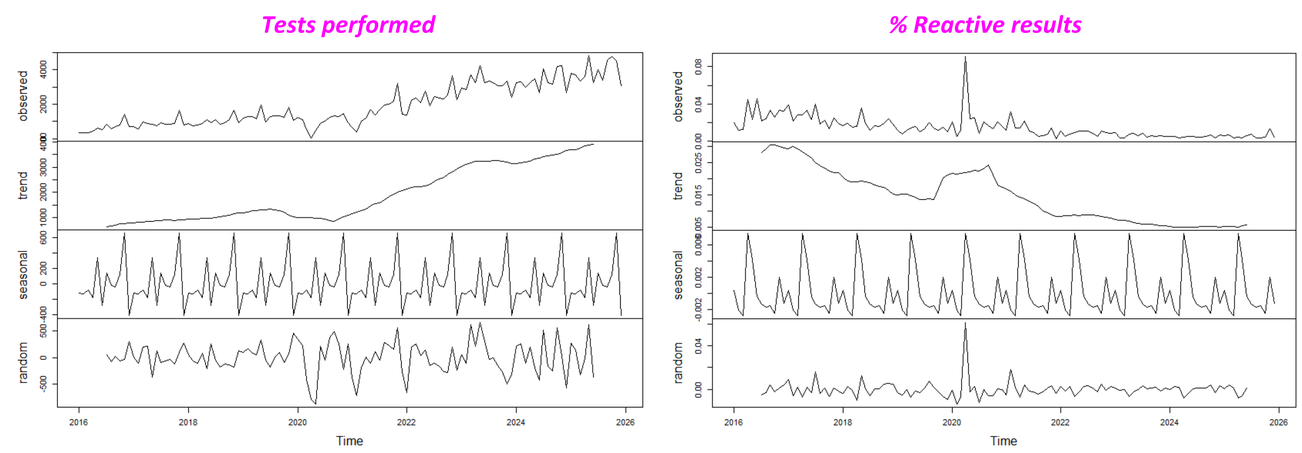

Figure 4: Decomposition of the number of HCV tests' (observed) and of the proportion of HIV reactive tests' (observed) into 3 components: trend, seasonal effects (seasonal), and random errors (random).

HBV: *Temporal trends of tests performed and % reactive results*

Tests performed | *% Reactive results*

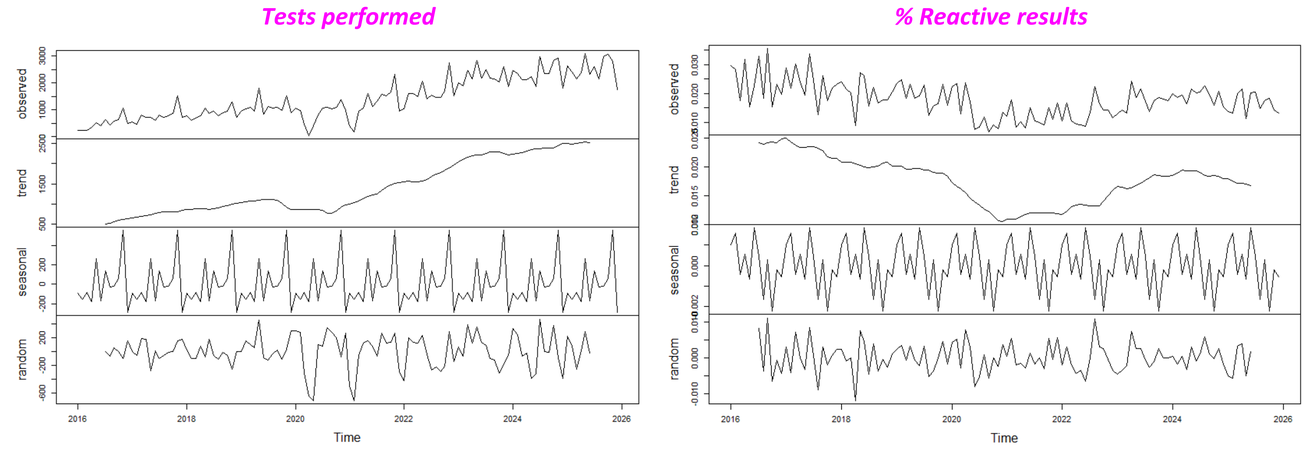

Figure 5: Decomposition of the number of HBV tests' (observed) and of the proportion of HIV reactive tests' (observed) into 3 components: trend, seasonal effects (seasonal), and random errors (random).

Syphilis: *Temporal trends of tests performed and % reactive results*

Tests performed | *% Reactive results*

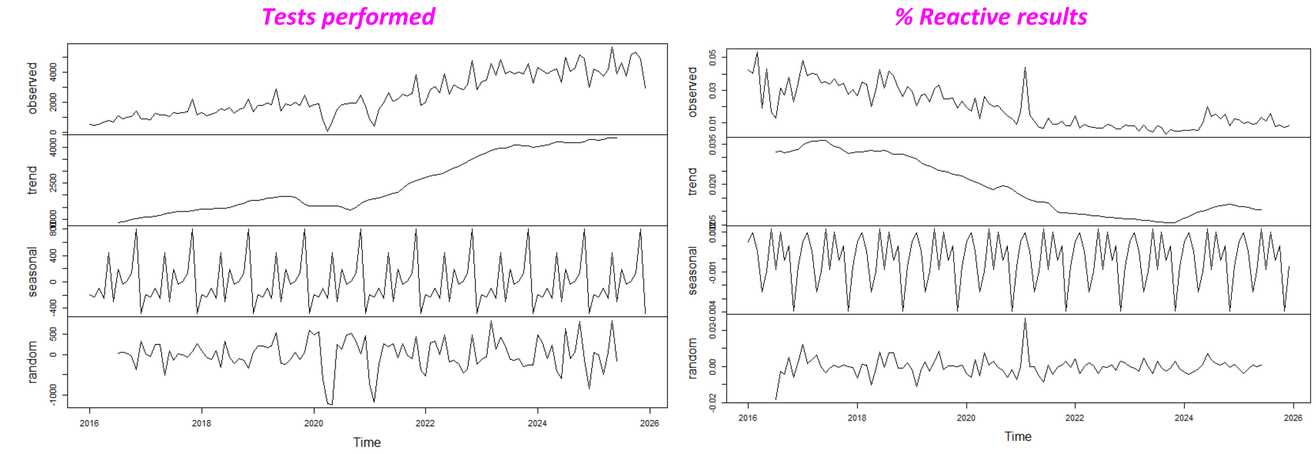

Figure 6: Decomposition of the number of Syphilis tests' (observed) and of the proportion of HIV reactive tests' (observed) into 3 components: trend, seasonal effects (seasonal), and random errors (random).

CONCLUSIONS

» Community-based testing increased steadily from 2016 to 2025, **except during the COVID-19 lockdown periods of 2020 and 2021**.

» During the **first lockdown (March–May 2020)**, the **proportion of reactive tests for HIV and HCV increased**, likely due to targeted testing of symptomatic individuals or those with known exposure.

» The overall **proportion of reactive HCV results has decreased from 2016 to 2025.**

» The **proportion of reactive HIV test results increased in early 2022,** then declined from 2023 onwards.

» The **proportion of reactive HBV test results increased from 2022**, before declining in 2024.

» The **proportion of reactive syphilis test results increased from 2024**, followed by a slight decrease in 2025.

» **Community-based testing remains a key component of infectious disease surveillance in Portugal**, providing **integrated testing** services for HIV, viral hepatitis, and sexually transmitted infections.

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