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## BCN Checkpoint: Same-day confirmation of reactive HIV rapid test with Point Of Care PCR test accelerates linkage to care and reduces anxiety

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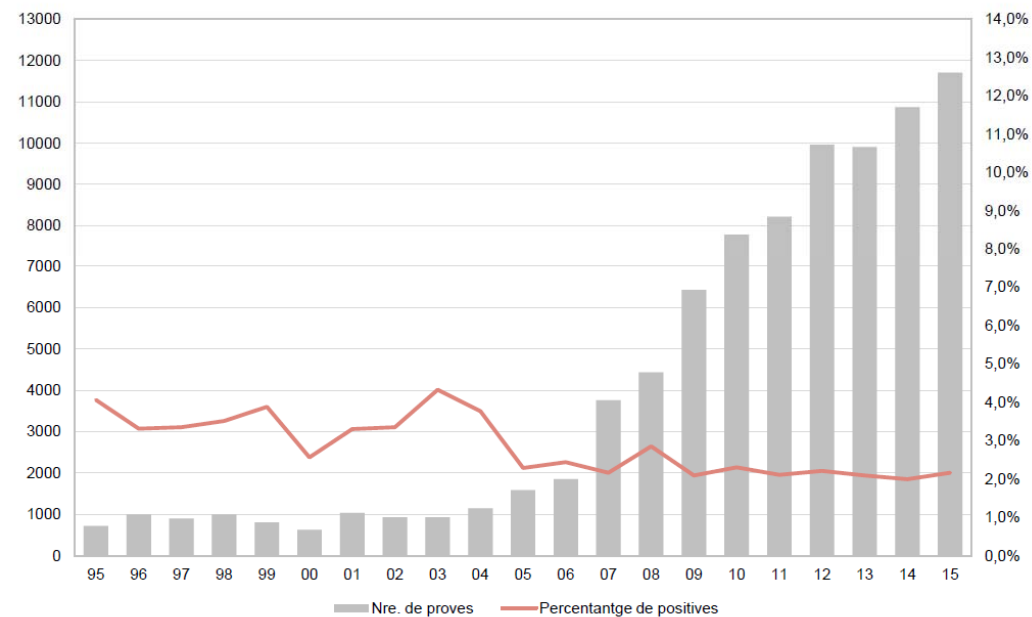
# Introduction

- BCN Checkpoint introduced the use of **HIV rapid tests** in community-based centers in Europe in January 2006
- The **model of community intervention for early HIV detection** developed by BCN Checkpoint is recommended by WHO and ECDC, and over the years has inspired the creation of similar centers throughout Europe



# Introduction

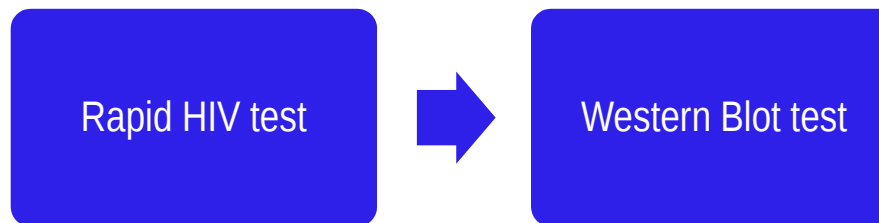
## Nombre de proves realitzades i percentatge de positives, 1995-2015.



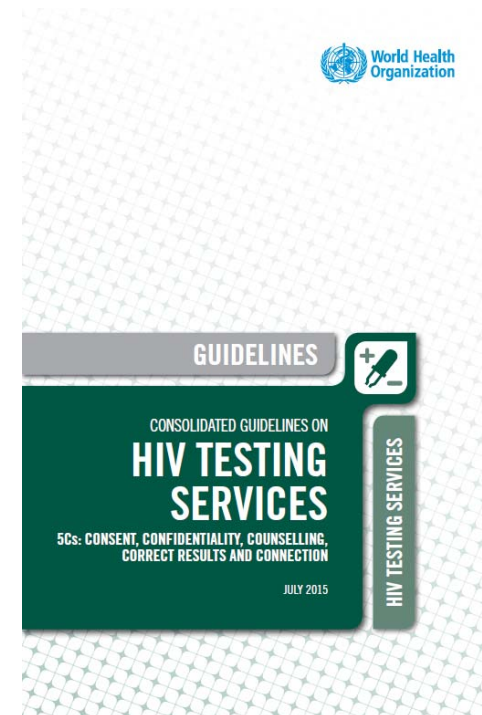
# Background

“Any specimens that are reactive on the first assay (A1+) should be tested again using a different assay (i.e. different antigen preparation, different manufacturer of key components) (A2).”

“For specimens that are reactive on the first-line assay and the second-line assay (A1+; A2+), HIV serostatus should be reported as HIV positive.”



**Confirmation takes  $\pm$  7 days**

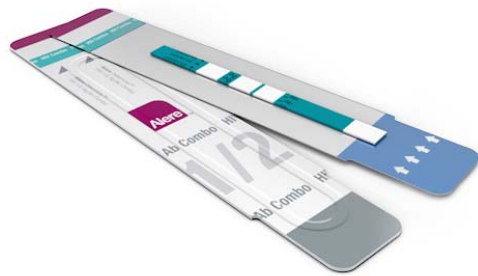


# Objective

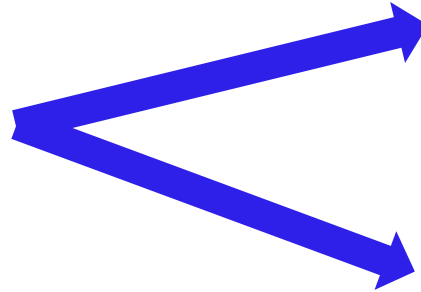
To assess the use of Point of Care PCR testing  
for a same-day confirmation

# Methods

Period of evaluation:  
March 2015 – September 2016



Alere Determine™ HIV-1/2 Ag/Ab Combo  
Alere™ HIV Combo (as from March 2016)



GeneXpert: Xpert® HIV-1 Qual test

(Lower limit of detection: 278cp/ml, 95%IC: 253-304 cp/ml)

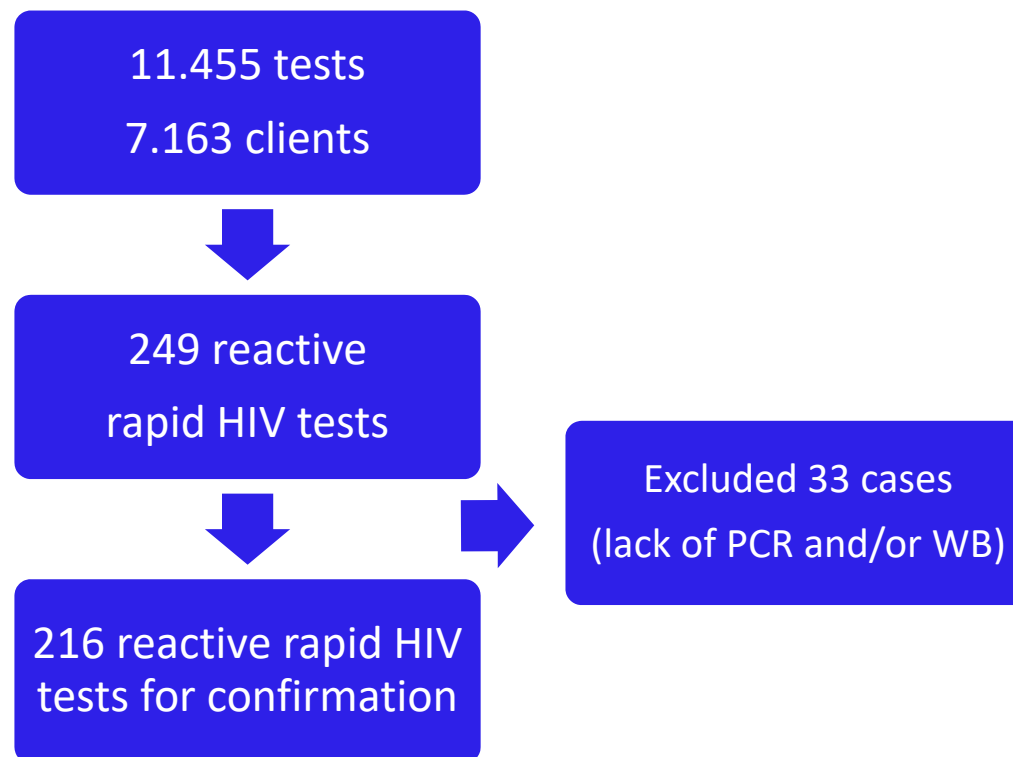


|                                                            |          |
|------------------------------------------------------------|----------|
| NEG(+) = No band detected<br>(1+ to 4+) = Band intensity   |          |
| RESULT                                                     | POSITIVE |
| ULT                                                        | NEGATIVE |
| 18 kDa.                                                    | -        |
| **23-25 kDa.                                               | -        |
| 28 kDa.                                                    | -        |
| 30 kDa.                                                    | -        |
| **31 kDa.                                                  | ++       |
| **34 kDa.                                                  | ++       |
| **39 kDa.                                                  | +++      |
| **41 kDa.                                                  | IND      |
| 45 kDa.                                                    | -        |
| 58 kDa.                                                    | -        |
| 66 kDa.                                                    | -        |
| **83-93 kDa.                                               | IND      |
| do not be based on laboratory<br>conjunction with clinical |          |

Standard Western Blot test

# Results

Period of evaluation: March 2015 – September 2016



# Results

| Results                                      | n   | %     | Serostatus HIV | Interpretation                                 |
|----------------------------------------------|-----|-------|----------------|------------------------------------------------|
| PCR positive<br>WB positive                  | 194 | 89.8% | +              | Confirmed positive results                     |
| PCR negative<br>WB negative or indeterminate | 14  | 6.5%  | -              | Confirmed false positive results               |
| PCR positive<br>WB negative or indeterminate | 3   | 1.4%  | +              | Recent infections                              |
| PCR negative<br>WB positive                  | 5   | 2.3%  | +              | Confirmed positive results:<br>HIV controllers |
| Total                                        | 216 | 100%  |                |                                                |

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96,3% concordant results

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Reducing time for confirmation to 90 minutes  
has been possible in 91.2% of cases (197/216)

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PCR negative results needed an additional test to distinguish false positive results from Viral Load results below level of detection

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| Total                                        | 216 | 100%  |                |                                                |

**3 cases confirmed where standard testing would have missed these infections, which has special importance in concentrated epidemics**

# Summary

- The POC PCR assay is easy to use and feasible in a community-based center
- Reducing time for confirmation to 90 minutes has been possible in 91.2% (197/216) of cases with positive PCR result
- In cases of a negative PCR result an additional test is needed (WB, Elisa or PCR quantitative)
- PCR assays permitted to confirm very recent HIV infections
- Clients expressed satisfaction with same-day confirmation and less anxiety

# Acknowledgements

HepHIV **2017**  
31 JANUARY-2 FEBRUARY · MALTA  
HIV and Viral Hepatitis: Challenges of Timely Testing and Care

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