

High acceptability and effectiveness of an online self-sampling intervention for HIV in gay, bisexual and other men who have sex with men and trans women in Spain



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Background

Although HIV infection is preventable through effective public health measures, significant transmission continues in Spain. In 2018, 3,244 new HIV diagnoses were reported, representing a rate of 8.65 per 100,000 inhabitants. Transmission among gay, bisexual and other men who have sex with men (GBMSM) was the most frequent (56.4%). About half of new diagnoses (47.6%) were late presenters (CD4 cell count <350 cells/mm at diagnosis) [1]. It's necessary to design innovative approaches that promote greater access to HIV testing and reach hidden populations, which have not been accessed with the current strategies. Digital technologies are increasingly utilized to deliver sexual health interventions (e-sexual health) [2], including internet-accessed STI testing (e-STI testing). It enables users to order a test kit from a website or app, collect their own samples, return samples to a laboratory, and be notified of their results by text message, phone or e-mail [3].

Objectives:

- To design and implement an online self-sampling intervention for HIV testing and online results consultation (TESTATE Intervention).
- To evaluate the acceptability of TESTATE intervention in GBMSM living in Spain, users of dating apps and websites.
- To analyze the capacity of TESTATE intervention to access subpopulations that have never been tested or that do not test at the recommended frequency.
- To evaluate the proportion of participants with reactive results that are linked to the health system for result confirmation and to initiate follow-up in an HIV unit.
- To determine the cost-effectiveness of the TESTATE intervention and the budgetary impact that would include the TESTATE intervention as a complementary strategy for HIV screening addressed to GBMSM population in Spain.

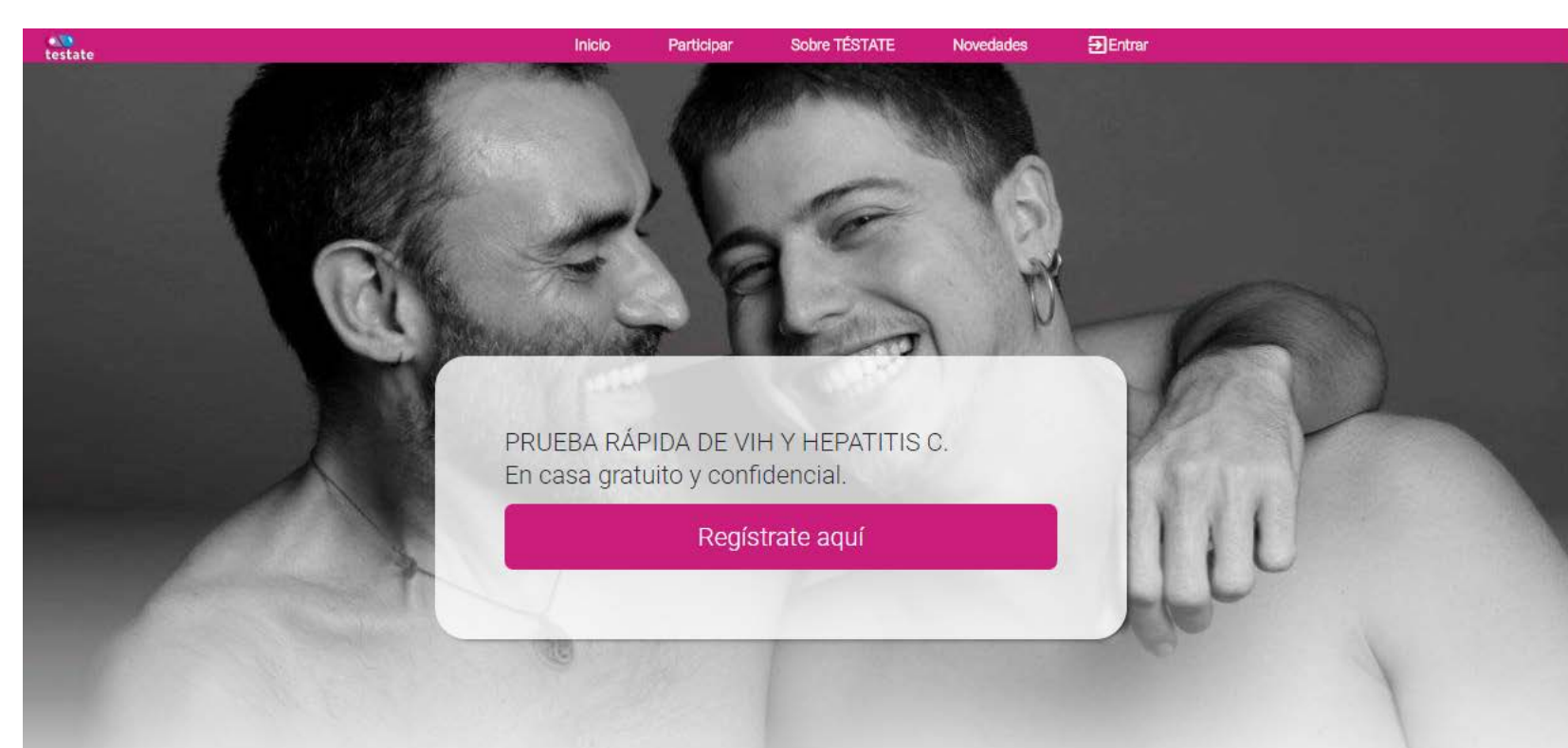


Figure 1. Screenshot of the project website www.testate.org

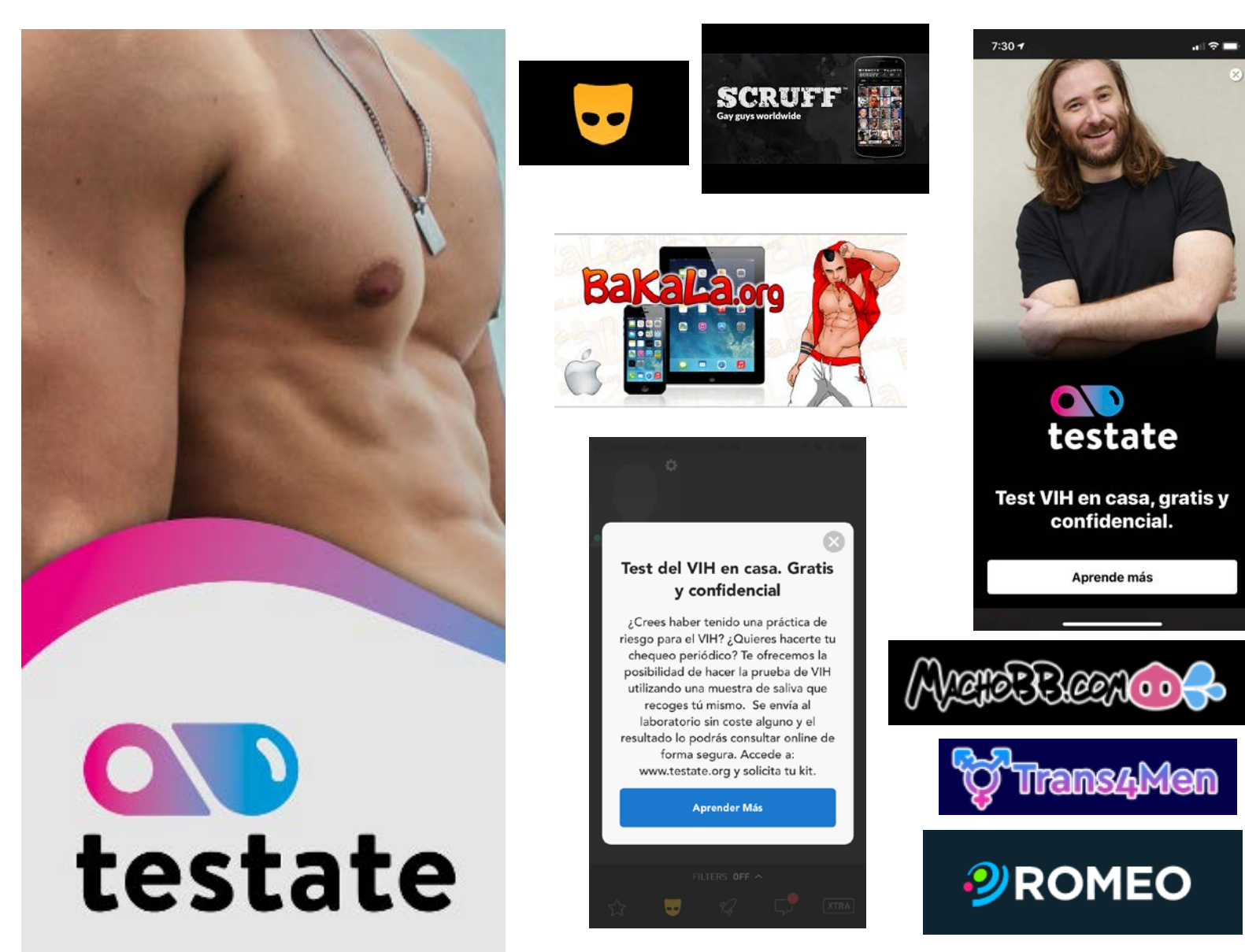


Figure 2. Banner and messages advertised in the main dating apps operating in Spain.

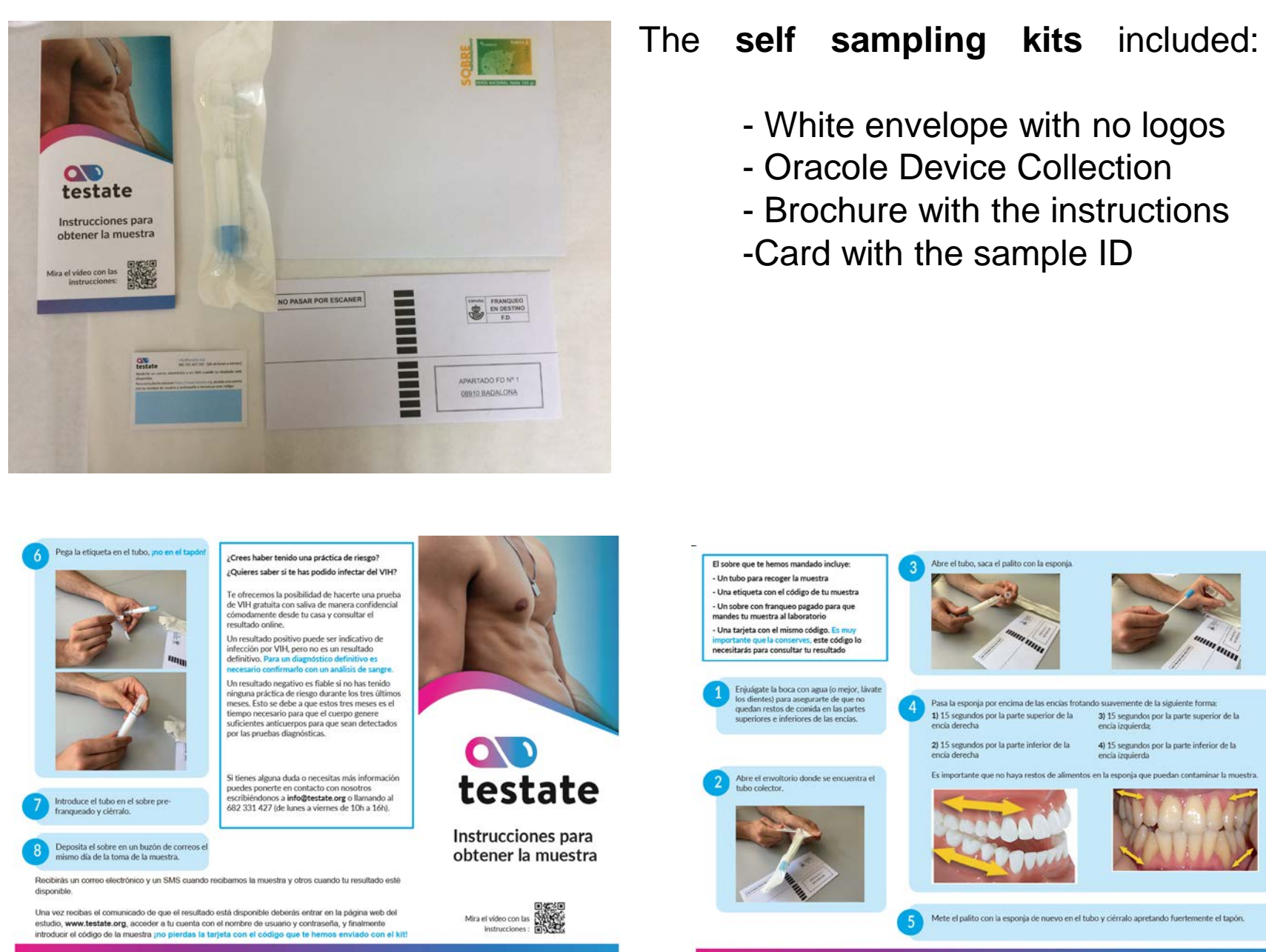
Methods

The website www.testate.org was designed to offer the self sampling kits, consult the results and collect sociodemographic and behavioral information.

The website was advertised in the most popular dating apps/websites in Spain: Grindr, Scruff, Wapo, PlanetRomeo, Bakala, MachoBB and Trans4men.

After signing the **informed consent online**, the participants requested the delivery of a saliva self-sampling kit by mail and a postage-paid envelope to send the sample to the reference laboratory.

Figure 3. Self sampling kit.



The self sampling kits included:

- White envelope with no logos
- Oracle Device Collection
- Brochure with the instructions
- Card with the sample ID



Figure 4. Brochure with the instructions to collect and send the samples.

Lab analysis: The samples were analyzed in the reference lab (Hospital Germans Trias i Pujol, Badalona, Spain) with the Genscreen HIV1 + 2 enzyme immunoassay (Biorad Laboratories) for the detection of antibodies against HIV1 + 2.

Delivery of the results and follow up: Once the results were uploaded to the project website the participants received an SMS with the link to consult them. Reminders by email and text message were sent to participants who have not consulted their results. Participants with reactive results were asked to attend clinic for treatment. There was an active follow-up of participants with a reactive result to confirm linkage to care. Participants were invited to repeat the process after 3/6/12 months based on their risk behavior.

An anonymous **acceptability survey** was conducted on all participants.

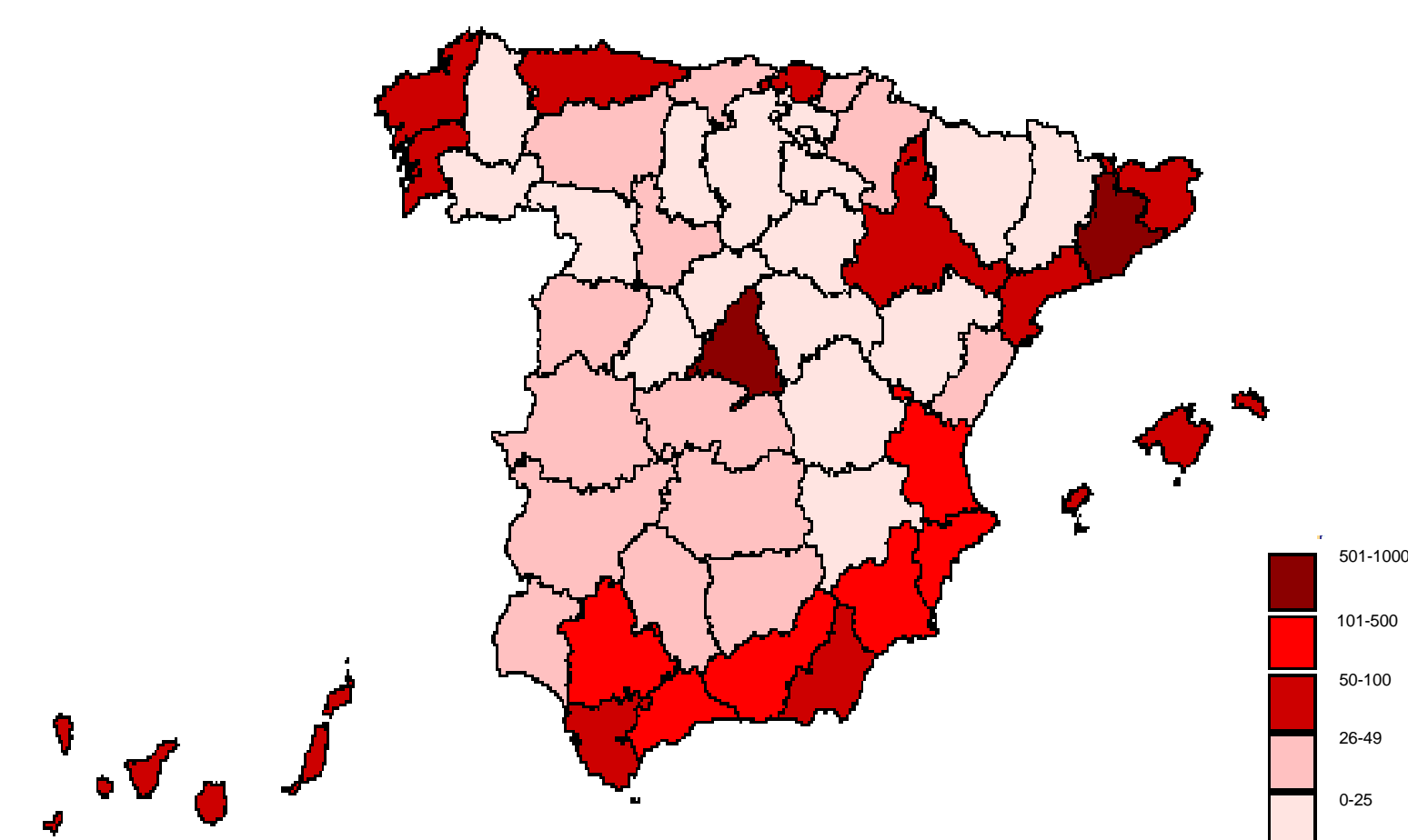


Figure 5. TESTATE project participants by provinces. N: 2,548, Spain. November 2018-November 2019.

Results

From November 2018 to November 2019 the project's website had 211,000 visits from 94,000 individual users. Device used: Mobile (94.03%), computer (3.83%) and tablet (2.14%). Self-sampling video instructions: 4,500 views.

2,548 participants (66.6% return rate).

1,979 participants (77.7%) had a single test, 412 (16.2%) had two, 137 (5.4%) had three and 43 (2.2%) took four tests.

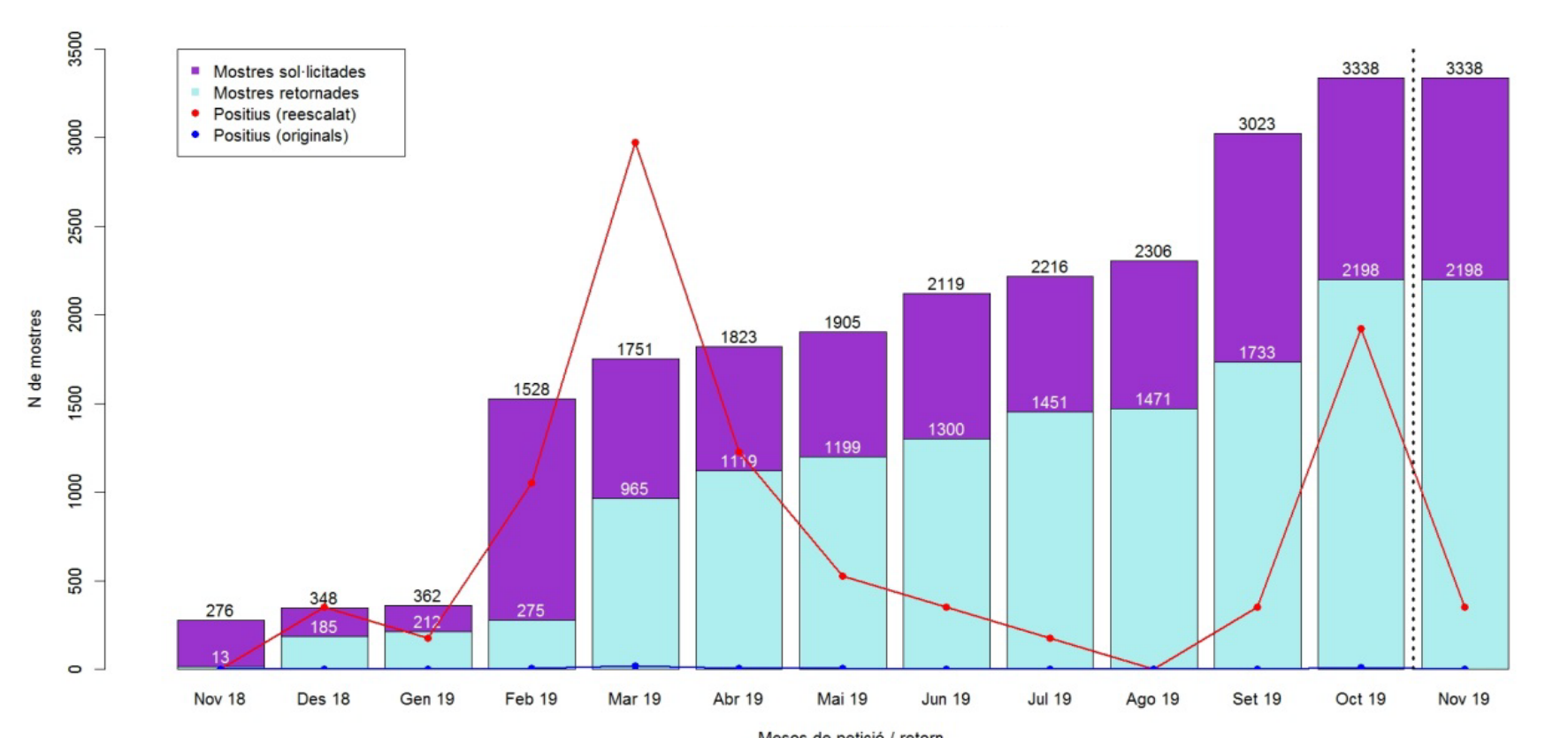


Figure 6. Kits sent, samples received and number of reactive tests. TESTATE project. Samples analyzed: 3,338, Spain. November 2018-October 2019.

19.1% resided in cities with <50,000 inhabitants. 24.1% had never been tested. 37.9% had not used condom in their last anal relationship. 28.8% had had an STI in the last 5 years.

54 reactive results were detected (3.25%). All were men. 8 were already known positive, one was a false positive, 33 confirmed their result and 31 were linked to care and started treatment.

9 incident cases were detected.

97.8% would recommend it to a friend. The most identified advantages were comfort and privacy.

Identified Advantages

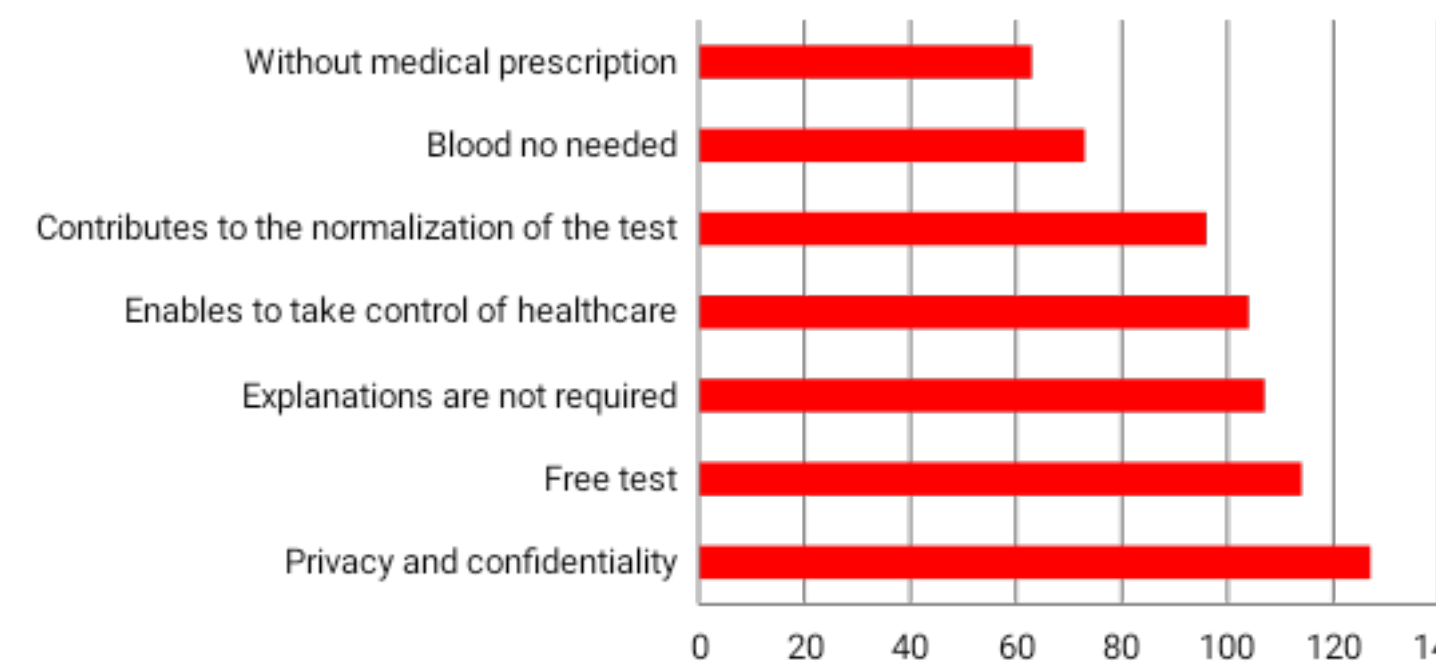


Figure 7. Identified advantages of the TESTATE intervention. N: 142, Spain. November 2018-October 2019.

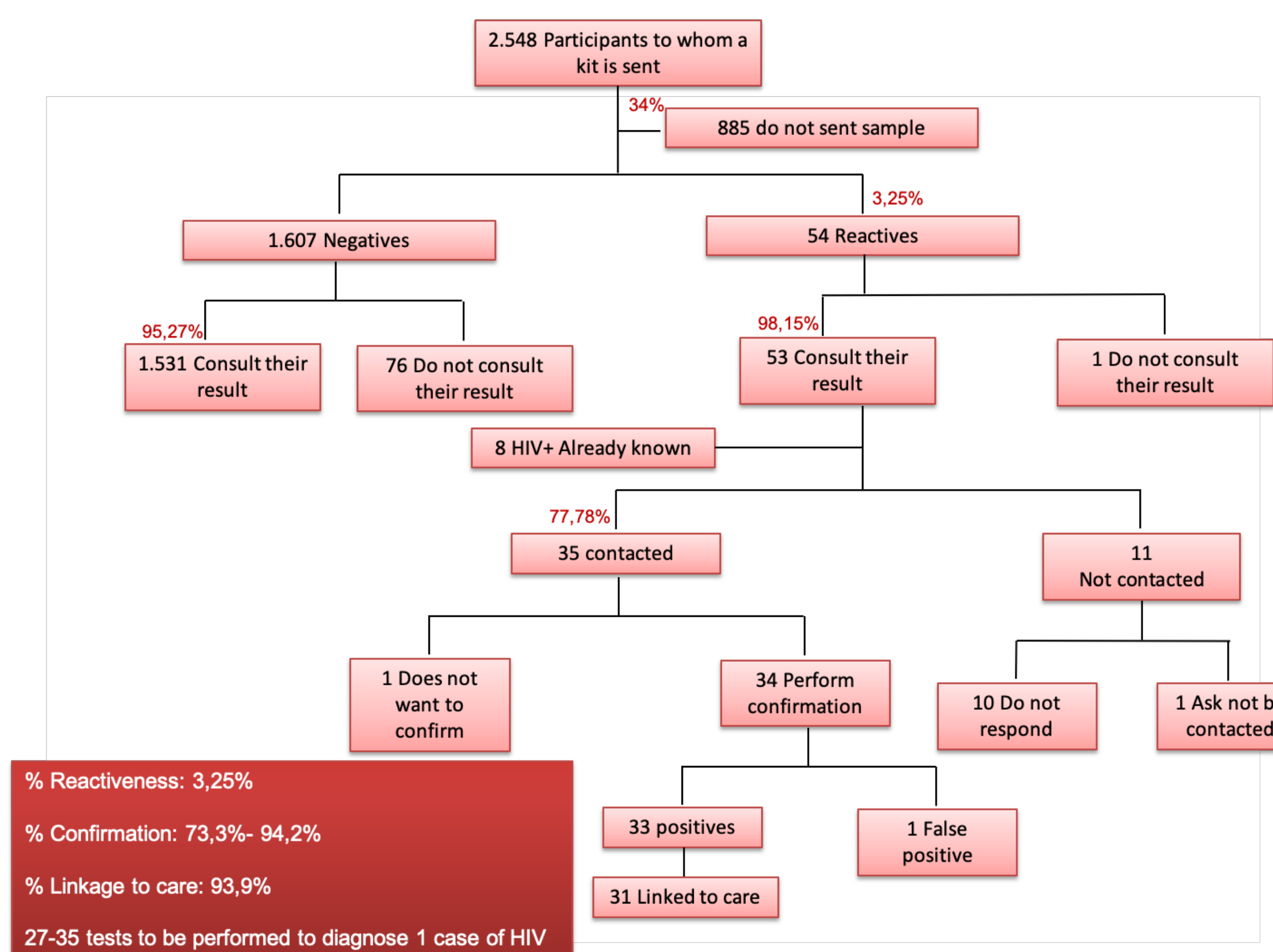
Identified disadvantages



Figure 8. Identified disadvantages of the TESTATE intervention. N: 142, Spain. November 2018-October 2019.

Conclusions

- The **online offer of self-sampling kits for HIV detection through dating Apps/websites and reporting results online is feasible.**
- The intervention counted with a **high acceptability** on the part of the GBMSM users of the dating Apps/websites and was considered **novel, appropriate and practical.**
- The intervention was considered **effective** given the **high reactivity, confirmation and linkage to care rates** obtained.
- The intervention **allowed access** to a significant number of people who had **not previously tested for HIV** (24% of the participants).
- TESTATE was showed to be an **adequate periodic screening tool** for those who consider themselves at risk of infection. 22% of the participants participated more than once in the project. 9 incident cases were detected.
- It can be **useful as a source of information** about the GBMSM users of dating Apps/websites.



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