

## Going new ways to end HIV: reaching men who have sex with men through a community, business, and public health partnership to increase HIV testing in Europe

### Nuevas formas de acabar con el VIH: llegar a los hombres que tienen sexo con hombres a través de una asociación entre los sectores de salud pública, empresarial y comunitario para aumentar las pruebas de VIH en Europa

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#### Abstract

**Introduction:** Sex between men is the main HIV transmission mode in the EU/EEA. Increasing HIV testing and early diagnosis among men who have sex with men is thus a public health priority to reduce new infections. This requires innovative approaches, tools and interventions to better target HIV testing services. **Objective:** Examine the impact of a public and private sector collaboration to use smartphone social networking apps for public health outreach during European Testing Weeks 2015, 2016 and 2017 regarding use of the advertised European Test Finder to search for testing sites online and reported uptake of tests following the intervention. **Method:** Descriptive statistics summarise the access to the European Test Finder during three campaign weeks. Surveys for participating organisations of European Testing Week included questions about the awareness of the campaign and whether clients tested as a result of it. **Results:** Access to the European Test Finder increased significantly during European Testing Week and the promotion efforts via the apps. A small sample of Testing Week participants responded that they knew the Test Finder and that clients had come for a test following the advertising. **Conclusion:** Smartphone apps allow targeted communication at large scale with opportunities for HIV prevention among men who have sex with men.

Keywords: HIV; targeted testing; men who have sex with men; European Testing Week; European Test Finder; smartphone apps; dating apps.

#### Resumen

**Introducción:** El aumento de los test de VIH y el diagnóstico temprano entre hombres que tienen sexo con hombres es una prioridad de salud pública para reducir las nuevas infecciones. **Objetivo:** Examinar las aplicaciones en teléfonos inteligentes para la divulgación de una campaña de salud pública durante las Semanas Europeas de Evaluación 2015, 2016 y 2017 en relación con el uso del “Buscador de Test Europeo” anunciado para buscar páginas web para realizar el test para la detección del VIH. **Método:** Se presenta el acceso al “Buscador de Test Europeo” durante tres semanas de campaña. Las encuestas dirigidas a las organizaciones participantes de la Semana Europea del Evaluación sobre VIH incluyeron preguntas sobre el nivel de conocimiento sobre la campaña y si los usuarios se hicieron las pruebas del VIH como medida del impacto. **Resultados:** El acceso al “Buscador de Test Europeo” aumentó significativamente durante la Semana Europea. Una pequeña muestra de participantes respondió que conocían el buscador y que los usuarios se habían realizado una prueba después de la campaña. **Conclusión:** las aplicaciones para teléfonos inteligentes permiten la comunicación dirigida a gran escala con oportunidades para la prevención del VIH entre hombres que tienen sexo con hombres.

Palabras clave: VIH; pruebas dirigidas; hombres que tienen sexo con hombres; Semana Europea de la prueba Hepatitis-VIH; European Test Finder; aplicaciones de teléfonos inteligentes; aplicaciones de citas.

## Introduction

The tools to end new Human Immunodeficiency Virus (HIV) infections and Acquired Immunodeficiency Syndrome (AIDS) exist. The knowledge on how to use them is agreed upon (Joint United Nations Programme on HIV/AIDS, 2017). Yet, the countries of the European Union (EU) and the European Economic Area (EEA) have experienced a persistent HIV epidemic during the last decade with only little changes in the trend of around 30 000 new notifications each year (European Centre for Disease Prevention and Control [ECDC], World Health Organization-Regional Office for Europe [WHO-Europe], 2018, pp. 23-33). One reason for this on-going transmission is that almost every second newly reported HIV diagnosis happens late which means several years after the infection when the immune system is starting to fail (49% among those reported HIV cases in 2017 for which information on the CD4 cell count was available at diagnosis).

In addition, an estimated 120 000 Europeans are living with undiagnosed HIV in the EU/EEA, i.e. about 1 in 7 (15%) of those living with HIV are not aware of their status (Pharris, Quinten, Noori, Amato-Gauci & van Sighem, 2016). In the EU/EEA overall, it takes around three years from HIV infection to diagnosis, varying across EU countries from 2.2 to 3.6 years (van Sighem, Pharris, Quinten, Noori & Amato-Gauci, 2017). Years, during which those who are infected without being aware of it do not benefit from available treatment and during which they can unknowingly transmit the virus. One other result of late diagnosis across the EU/EEA is that 9 out of 10 (89%) AIDS diagnoses in 2017 happened within only 90 days of the HIV diagnosis (ECDC/WHO Europe, 2018, p.34), indicating that the majority of AIDS cases in the EU/EEA could have been avoided if HIV had been diagnosed earlier.

These figures show that reaching those who are unaware of their HIV infection is a European public health challenge, asking for innovative approaches, tools and interventions to better target available HIV testing services in Europe. This includes defining who needs to be targeted for HIV testing.

Based on the existing epidemiological data, men who have sex with men (MSM) are one of the key populations in the attempt to tackle HIV. Sex between men is, and has been during the last decade, the main mode of HIV transmission in the European Union and European Economic Area. In 2017, sex between men accounted for 38% of all new HIV diagnoses in the EU. While a few countries have seen first signs of a decline in this population, HIV noti-

fications continue to increase among MSM in other EU/EEA countries (ECDC/WHO Europe, 2018, p. 31). Interventions that have proven to work among this population are combination-prevention programmes. Those include the promotion of (a) regular HIV tests that are easily accessible, (b) immediate linkage to care and treatment for those that are tested HIV positive, (c) condom promotion and distribution, (d) peer support and possible HIV pre-exposure prophylaxis for some at-high-risk HIV-negative men (European Centre for Disease Prevention and Control, 2015a).

Hence, increasing HIV testing efforts, and with that (early) diagnosis among men who have sex with men, is a public health priority on the way to reduce new HIV infections in Europe.

Smartphone applications designed to facilitate social interaction among MSM began to emerge around 2009 and their use has continued to increase. There is evidence that a significant proportion of men who have sex with men, especially those with higher numbers of sexual partners, use smartphone dating applications to find sexual partners (Lewnard & Berrang-Ford, 2014).

Correspondingly, in a study that explored the impact of mobile apps on HIV prevention and sexual health of MSM in the European Union, over 80% of responding stakeholders felt that smartphone apps could play an important role in the future of their organisation's HIV prevention work (European Centre for Disease Prevention and Control, 2015b, p.13).

Digital and social media are becoming increasingly important communication channels in health communication activities overall as they allow reaching audiences in a targeted and at the same time cost-effective manner. Mobile apps and other social media platforms have significant reach and offer considerable potential for public health interventions. However, results from the ECDC survey also showed that many HIV organisations lack the skills, expertise or resources to use online and social media platforms effectively for their prevention and outreach work (European Centre for Disease Prevention and Control, 2015b, p.32).

Involving new technologies like smartphone apps in outreach work could play a vital role in promoting HIV, sexually transmitted infections (STIs) and hepatitis testing. Especially as gay and bisexual men have long been early adopters of technology including location-based dating apps.

Based on the research by the European Centre of Disease Prevention and Control (ECDC) and Terrence Higgins Trust which showed that many organisations did

not have the means to use online platforms effectively in their work, ECDC and partners of European Testing Week (ETW, <http://www.testingweek.eu/>) initiated a comprehensive partnership.

Since 2015, ECDC collaborates with AIDSMAP and ETW to update and maintain the European Test Finder (<http://www.aidsmap.com/european-test-finder#en>) – an easy-to-use web-based service that provides contact details of now more than 3 000 HIV, hepatitis and STI testing centres across 55 countries in Europe and Central Asia. Among the listed HIV testing sites, 1 500 also offer testing for other sexually transmitted infections and 1 300 also offer Hepatitis C testing. Back in 2015, the European Test Finder landing page went online in six languages and is now available in 16 languages and optimised for use on mobile phones.

In the same year, HIV community organisations, three dating apps targeting gay men (Hornet, Grindr and PlanetRomeo) and health organisations have formed a unique partnership to support the efforts of ETW to increase testing rates. During three consecutive ETWs between 2015 and 2017, the smartphone app owners provided free advertising to promote the online European Test Finder to millions of MSM in Europe and Central Asia. The initiative was co-ordinated by the Terrence Higgins Trust and supported by Non-Governmental Organisations (NGOs) and public health bodies across the region. This promotion is the main mode of advertising the European Test Finder apart from some social media support from involved partners mainly during ETW.

## Objective

We looked at the available insight on the impact of a collaboration between public health organisations, NGOs and app providers to push the use of a digital public health tool (European Test Finder) and the resulting sexual health behaviour of men who have sex with men using the three apps during European Testing Weeks 2015, 2016 and 2017.

The main question is whether users of social networking apps targeting men who have sex with men respond(ed) to public health messages sent to them via the app(s): did they use the advertised European Test Finder to search online for an HIV/STI/hepatitis testing site near them? Subsequently, can we get an idea if app users decided to take a test after receiving the message during the campaign period of European Testing Week? In short: what, if any, measurable impact does this public-private collaboration have in terms of influencing sexual health behaviour in the targeted group?

## Methods

To answer the questions, an observational study of the available web statistics was conducted to get an insight on the impact of push messages and banner ads during ETW 2015, 2016 and 2017 to the users of MSM dating apps. The observation is based on web statistics provided by the webhost of the European Test Finder as indicator on the access to the website, namely visits and page views, following the promotion of the European Test Finder through the apps during ETW<sup>1</sup>.

The study examined how many people accessed and used the European Test Finder during the three European Testing Weeks following the app promotion. Looking at the web traffic during the three campaign periods, the European Test Finder Site counted a total of 142 327 visits and 282 636 page views.

In addition to the web statistics, the observations include descriptive survey results: after every European Testing Week, participating organisations are invited to complete an online evaluation survey to provide insight on their activities during the campaign week. Those who carry out testing are asked to report testing data to the Research Electronic Data Capture system (REDCap) hosted at CHIP, Rigshospitalet, University of Copenhagen. Data are then extracted in Excel format from REDCap and descriptive statistics are produced as frequencies and respective proportions in Excel. The survey includes questions about participants' knowledge about the European Test Finder and the promotion collaboration with the app providers as well as a question on whether clients indicated that they had come for a test after receiving or seeing the messages or banner in one of the apps. We looked at the ETW survey results from 2015, 2016 and 2017.

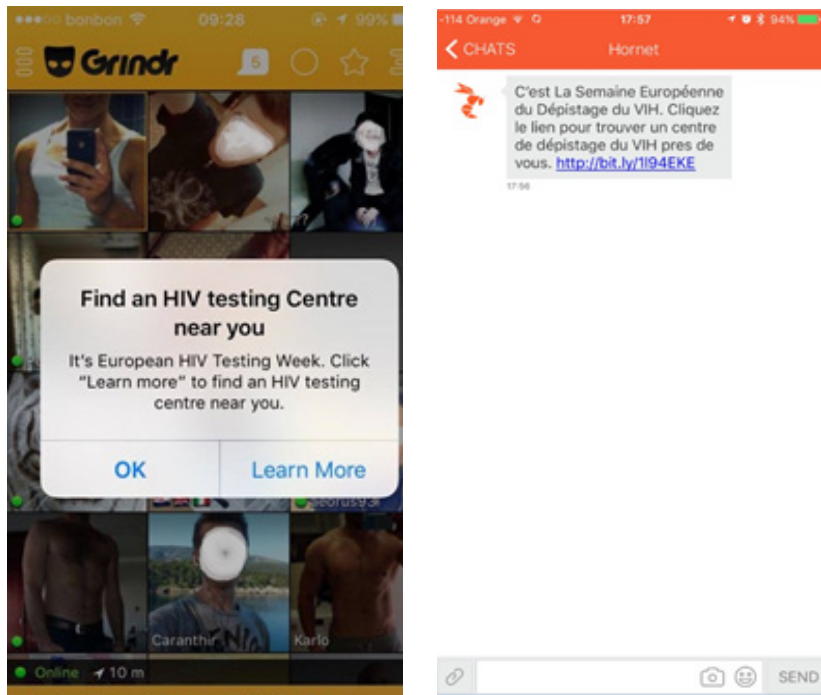
## Results

### Web statistics

In the first year of the collaboration, one app provider sent out 6 500 free push messages to their users across Europe every minute for the duration of eight hours. These messages advertised the European Test Finder to the app users during European Testing Week 2015. Another provider sent free messages targeting users in different EU countries for five days during Testing Week (figure 1). A third app operator placed banner ads advertising the European Test Finder and European Testing Week for the duration of European Testing Week (23 to 29 November 2015) in the app.

<sup>1</sup> A page view is an instance of a page being loaded (or reloaded) in a browser. Page views is a metric defined as the total number of pages viewed. See: <https://support.google.com/analytics/answer/6086080?hl=en>





**Figure 1.** Example push messages appearing on the screens of app users during European Testing Week 2016.

In 2016, two app providers sent push messages to users in 55 European and Central Asian countries in 40 languages during the duration of European Testing Week (18-25 November 2016). The third app provider displayed banner ads to users in the EU Member States creating 250 000 impressions.

During European Testing Week 2017 from 17 to 24 November 2017, one app provider sent push messages to the dating app users in 53 countries over eight days. Due to technical issues, the second provider only sent a few push notifications out in 2017, instead of a planned push to their users in six countries with the highest user numbers in Europe. The banner ads of the third app provider resulted in 500 000 website impressions during European Testing Week 2017.

In 2015, the web statistics for access to the European Test Finder showed that on the day with 6500 push messages per minute (23 November 2015), the page recorded the most visits (15 698) and page views (26 138) (table 1). In total, 40 238 visits and 74 585 page views were recorded during ETW 2015 (Thompson, 2015).

In 2016, the European Test Finder site generated 65 614 page visits during ETW, equivalent to an increase of 63% compared with 2015. The 134 672 page views of the ETF website during European Testing Week 2016 translated into an 81% increase in comparison with the views

generated during the promotion in 2015 (Table 2). During the app promotion in 2016, the Test Finder page achieved a very good conversion rate of 94% during the promotion period, meaning that 94% of the visitors accessing the page in fact performed a search for a testing site in Europe. Of those, 83% searched for HIV testing sites, 57% included HCV sites in their search and 57% were looking for sites offering tests for sexually transmitted infections in general.

Users came from all 55 countries that had been targeted in the app outreach with the highest proportion of users accessing the European Test Finder from Italy (18%), France (14%), Spain (12%), Germany (9%) and the UK (8%).

The Test Finder page saw a distinct drop in visits and page views during European Testing Week 2017, when direct visits to use the European Test Finder went down overall to levels from 2015 with 36 475 visits and 73 379 page views during ETW. Technical problems and as a result fewer push messages sent out by one of the app providers during Testing Week 2017 could be a possible reason for the drop in visits during this campaign period. Nevertheless, ETF recorded visitors from 897 different towns/cities/states in 2017. The top 3 visitor countries in 2017 were Russia, accounting for 17% of visitors, Spain (13%) and Germany (8%).

**Table 1.** Web statistics for the European Test Finder during European Testing Week 2015 (20 – 27 November).

European Testing Week November 2015		
	Visits	Page views
Monday 23 Nov	15 698	26 138
Tuesday 24 Nov	6 168	10 084
Wednesday 25 Nov	4 197	7 042
Thursday 26 Nov	3 263	5 278
Friday 27 Nov	9 782	24 388
Saturday 28 Nov	655	965
Sunday 29 Nov	475	690
Week total	40 238	74 585

source: aidsmap.

**Table 2.** Web statistics for the European Test Finder during European Testing Week 2016 (18 – 25 November).

European Testing Week November 2016		
	Visits	Page views
Friday 18 Nov	4 958	10 821
Saturday 19 Nov	20 640	9 600
Sunday 20 Nov	4 918	9 348
Monday 21 Nov	1 885	3 244
Tuesday 22 Nov	8 300	17 152
Wednesday 23 Nov	9 992	23 414
Thursday 24 Nov	6 463	12 875
Friday 25 Nov	8 458	18 218
Total:	65 614	134 672

### Survey results

The 417 organisations that participated in European Testing Week 2015 were invited to complete an online evaluation survey answering questions about the activities carried out during the campaign week. In total, 194 organisations from 39 countries responded to the evaluation survey (46.5%).

Among those organisations, 56 (28.9%) responded that they had heard about the European Test Finder. Roughly a third of the respondents (n=58) mentioned that they were aware of the collaboration with the app owners to advertise Testing Week and out of this group, some 30% (n=12) reported that people had come forward for a test after receiving or seeing the advertising for the app.

The ETW survey evaluation among the 519 participa-

ting partners in 2016 showed that almost 44% (n=55) of the 134 survey respondents had heard about the European Test Finder, and around 39% (n=49) about the app collaboration advertising to promote the European Test Finder. Out of those 49 respondents, 11 (22%) reported that people had come forward for testing after seeing the advertising on one of the dating apps.

The 2017 ETW online survey distributed to the 640 participating organisations indicated a decline among the survey respondents (n=155) regarding the knowledge of the European Test Finder. Among the respondents, some 33% had heard about the European Test Finder, 32% knew about the app collaboration and 21% of those mentioned that people had come for a test following the promotion in the dating app.

## Discussion/conclusions

On the whole, both the metrics provided by web statistics and survey results following the ETW app outreach campaign seem to indicate that the Test Finder is a useful tool to promote ETW and testing efforts overall as it prompts to search for a testing site close by or any town of interest in Europe. However, statistics on page visits, unique visits, impressions, conversion and click-through rates have its limitations as they only provide an insight about the first step in this real-life example: accessing an advertised website and conducting a search for a testing site. The currently available web statistics do not allow any conclusions on the next step and more crucial behavioural indicator, i.e. if the advert or web search resulted in an actual visit of a testing site by those receiving the message through the dating app.

The ETW survey tries to cover this particular question albeit with some limitations for example due to language barriers. The survey response rate is not overly high (down from 46.5% in 2015 to 25.8% in 2016 and 24.2% in 2017), and the particular questions on knowledge about the campaign and those coming forward for testing following the app messages during ETW is usually only answered by a small fraction of the participants.

Nevertheless, each year, some organisations report that some people acted on the promotional messages by coming forward for a test. Those who might test outside of ETW or test at a site that does not participate in ETW or does not respond to the survey are out of scope of this description.

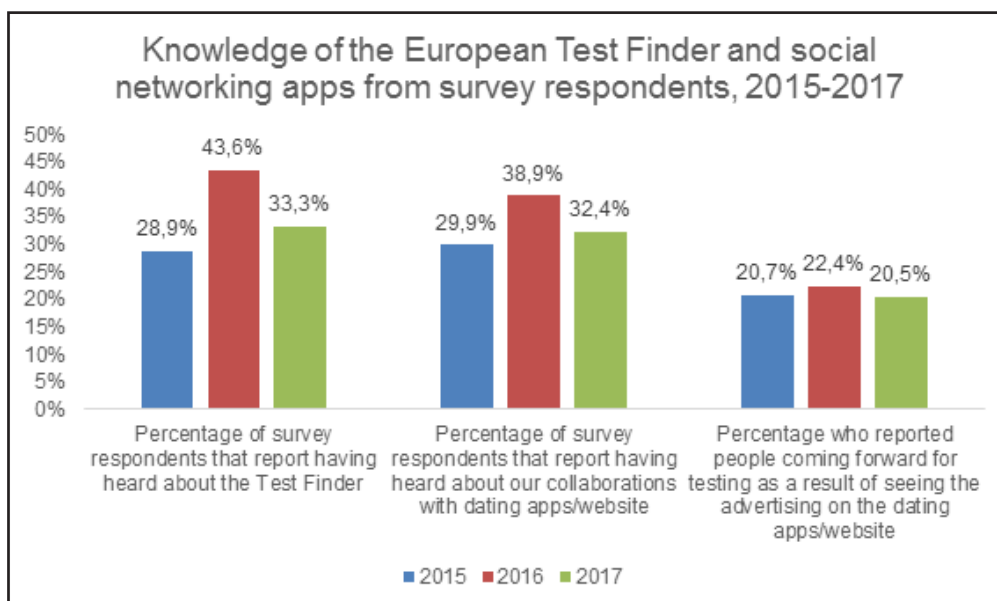
While it has been a success to establish this cross-sectoral collaboration in the first place, the measurable parameters of success for this outreach partnership have

to be defined more clearly to tap the full potential of this targeted intervention. At first sight, reaching more than 142 000 page visits over three consecutive Testing Week campaign periods shows that there is a genuine interest in an online search tool like the Test Finder and an activity like European Testing Week among the targeted population. And the European Test Finder appears to be a useful tool to link those men who have sex with men who receive the notifications about European Testing Week with testing services in their vicinity. The push messages and banner ads seem to work as an incentive to, at minimum, search for a testing site.

While the results from the first two years of the collaboration could not be repeated in 2017, still a significant number of those reached did perform a search on the Test Finder.

Pending the results of the 2018 and the lessons learnt from the technical difficulties in 2017, improvements could include more targeted outreach in specific countries with low testing uptake, using data on the towns, cities and states that generated the most searches in the Test Finder. Moreover, communication to the ETW network about the European Test Finder and campaign timings could be enhanced to improve engagement with the ETW network to promote ETW. In short, the available data from previous ETW needs to inform more precisely the forthcoming actions with more clearly defined performance indicators.

Thus far, only a few participants were able to respond to the question if people did come for a test during ETW following the app campaign in the ETW surveys between 2015 and 2017. But among those survey respondents holding such information, a small but consistent number of ETW partner organisations reported that people who tested during Testing Week came as a result of the app advertisements (Figure 2).



**Figure 2.** Knowledge of the European Test Finder and the dating app collaboration among visitors of testing services during European Testing Week (ETW survey).

Now the challenge will be to foster and develop this collaboration, define clear expectations and outcomes of future activities in order to make an impact in reaching those who need to be reached. And also establish the Test Finder as tool that is used outside promotion periods like European Testing Week.

This initiative is still in its infancy including the experience of technical and logistical issues and has created a constant learning curve among the involved partner since 2015. But it demonstrates the potential of partnerships between the private sector, NGOs and public health bodies to promote HIV/STI/hepatitis testing services. Simple technological solutions can provide efficient platforms and extend the reach of national responses regarding targeted health interventions.

Regional actions can help bridge the skills gap and bring the benefits of these platforms to areas which do not currently have the skills or resources to access them. The experience and relationships created by this initiative is forming the basis of an on-going collaboration to increase HIV testing among MSM in Europe.

What is needed in this context is the expertise on who needs to be targeted and how this can be achieved. Terrence Higgins Trust currently co-ordinates messaging and translation across the targeted 55 countries. For future Testing Week activities, there might be opportunities to try and tailor messaging even more to local requirements – which needs the input e.g. from local (non-governmental) organisations regarding the key populations that need to be targeted. Health communication in the field of communicable diseases and testing for HIV and other STI in particular need nuanced messaging to achieve the result we need in Europe: more people (regularly) presenting for an HIV (or hepatitis) test (ECDC, 2016).

New approaches are needed to increase uptake of STI/HIV testing & prevention in key populations like men who have sex with men – and smartphone apps and social media offer new opportunities to reach men who have sex with men and other groups at risk of HIV or viral hepatitis infection. They allow targeted communication at large scale and comparatively low cost overall, with a potentially high impact.

Smartphone apps present important opportunities for MSM in terms of HIV prevention and wider sexual health activities, but are currently under-utilised. Realising their potential requires support, engagement and co-ordination from various (EU) stakeholders and continuous engagement with the private sector.

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