



## Indicator condition, risk-based and universal offer in Primary Care in Madrid

### ESTVIH Project

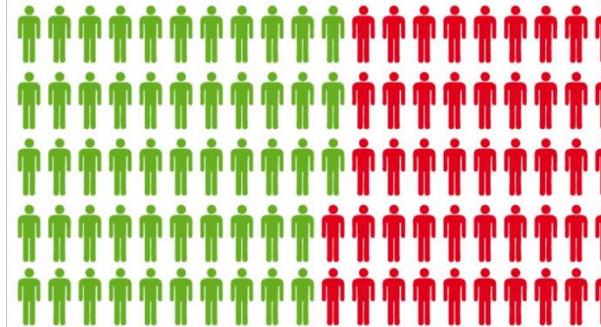
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**Madrid Regional Health Authority**  
**Madrid-Spain**

This project was partially supported by Gilead Sciences S.L. Funder played no role in the final project design, data collection and analysis, the decision to publish the results. The content of this manuscript is solely the responsibility of the authors and does not necessarily represent the official view of Gilead Sciences S.L.

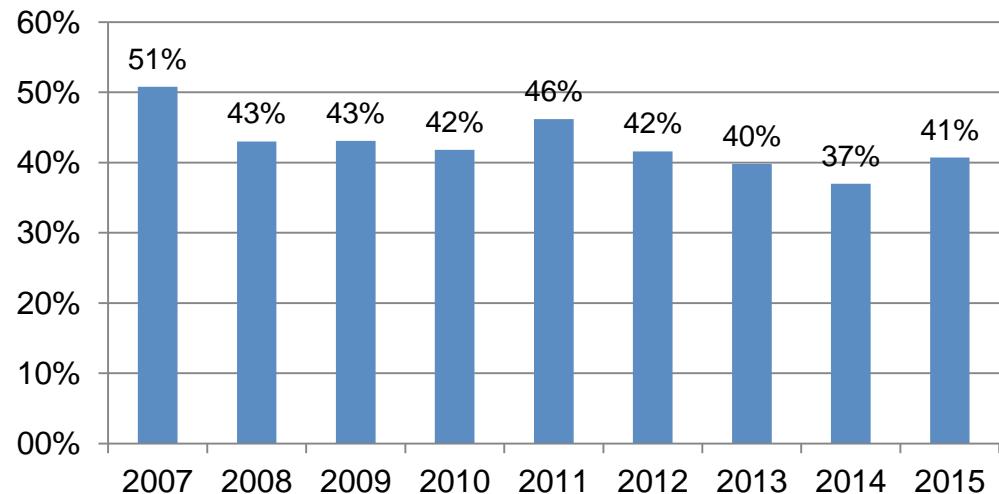
## Late diagnosis of HIV

**CD4<350 cell/ $\mu$ l**

### Late diagnosis of HIV is still common



Source: ECDC/WHO (2016) HIV/AIDS Surveillance in Europe, 2015



Source: Vigilancia Epidemiológica de VIH/sida en Madrid. I enero 2007 a 31 diciembre de 2015

## Prevalence of undiagnosed HIV infection in Madrid

**Table 1** Prevalence of HIV infection according to sample characteristics

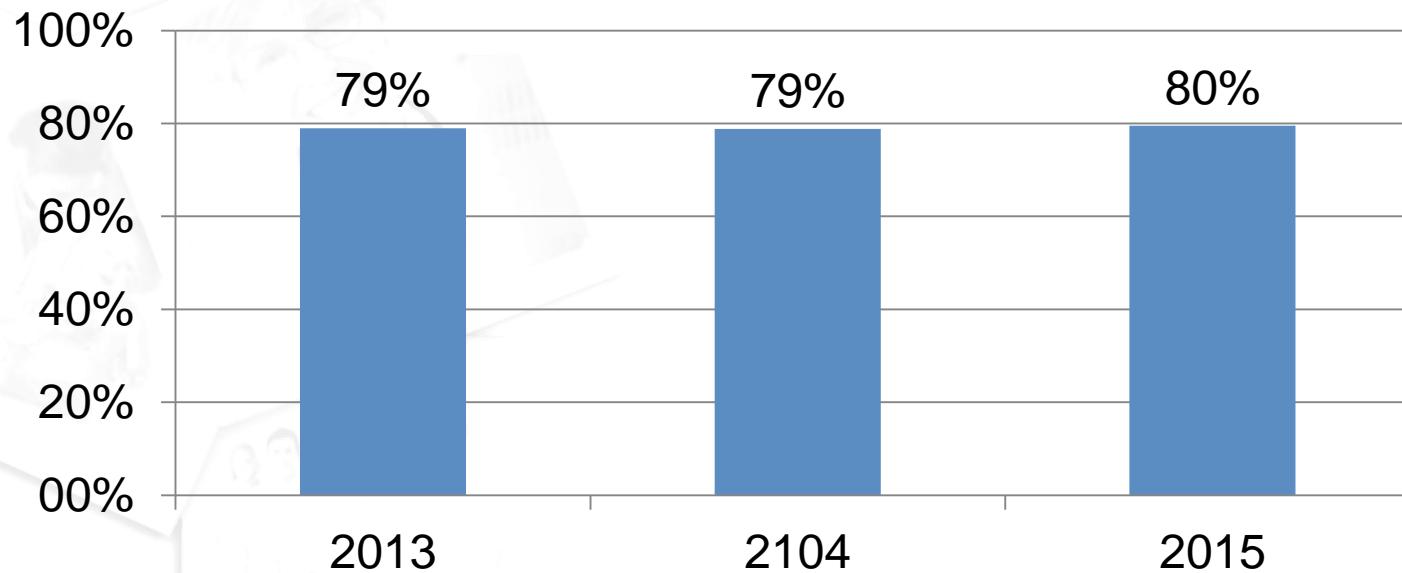
| Variable          | n (%)      | HIV infections | HIV prevalence % (95% CI) |
|-------------------|------------|----------------|---------------------------|
| Total             | 3687 (100) | 12             | 0.35 (0.13 to 0.57)       |
| Sex               |            |                |                           |
| Male              | 1718 (47)  | 8              | 0.51 (0.12 to 0.89)       |
| Female            | 1969 (53)  | 4              | 0.20 (0.00 to 0.44)       |
| Country of origin |            |                |                           |
| Spain             | 2749 (75)  | 8              | 0.30 (0.06 to 0.53)       |
| Other             | 938 (25)   | 4              | 0.61 (0.03 to 1.18)       |
| Age               |            |                |                           |
| 16–20             | 744 (20)   | 0              | —                         |
| 21–30             | 827 (22)   | 5              | 0.65 (0.01 to 1.29)       |
| 31–40             | 765 (21)   | 5              | 0.71 (0.02 to 1.41)       |
| 41–60             | 743 (20)   | 1              | 0.11 (0.00 to 0.40)       |
| ≥60               | 608 (17)   | 1              | 0.15 (0.00 to 0.51)       |

Source: Moreno S, Ordobás M, Sanz JC, Ramos B, Astray J, Ortiz M, García J, del Amo J. Prevalence of undiagnosed HIV infection in the general population having blood tests within primary care in Madrid, Spain. Sex Transm Infect. 2012;88(7):522-4.



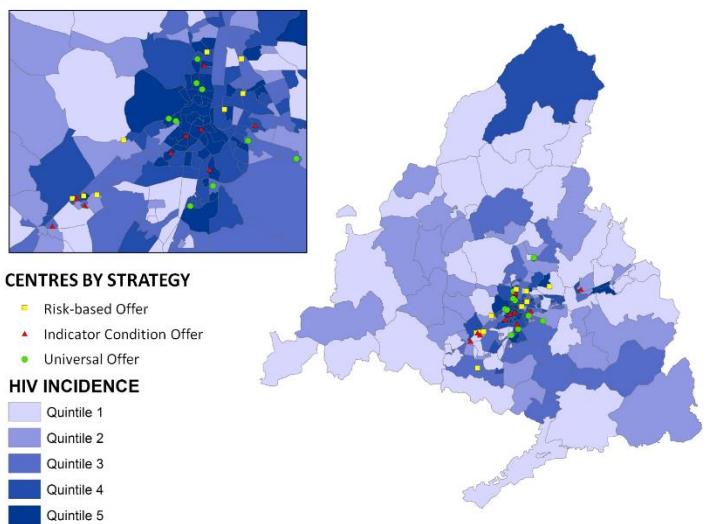
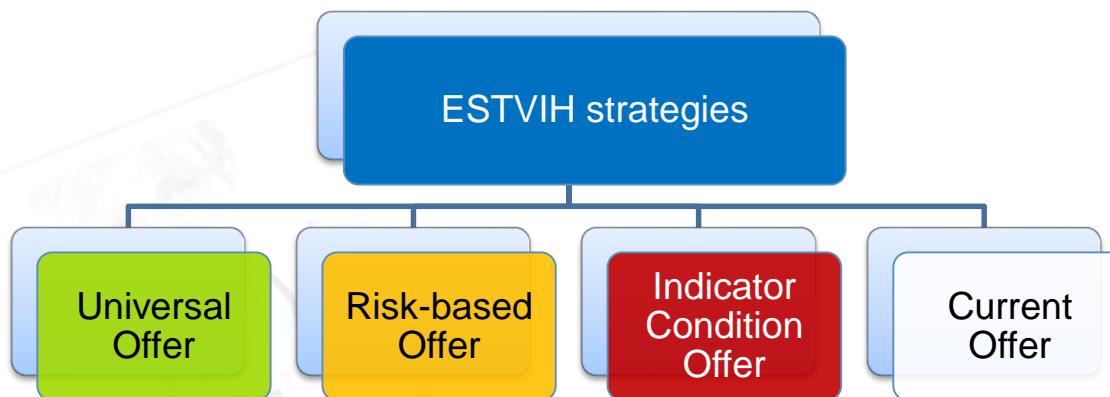
Primary care is the entrance to the health system

**Porcentaje of the population attended in primary health care centers in the last 12 months**



\*Source: Observatorio de Resultados del Servicio Madrileño de Salud 2016

To assess the implementation in primary care of different strategies to promote early diagnosis of HIV infection



- Selected centres using a multi-stage cluster sampling from HIV high incidence areas
- Randomly assigned one strategy by centre
- General practitioners and nursing participated voluntarily

## Study design

- Quasi-experimental multicentre study in primary care in the Community of Madrid (Spain)

## Study population

- 18-64 years old patients

## Intervention time

- 12 months + pilot period

## Inclusion criteria

- Patients attending health care centres selected

## Exclusion criteria

- Patients already diagnosed with HIV infection
- HIV test in the last 12 months

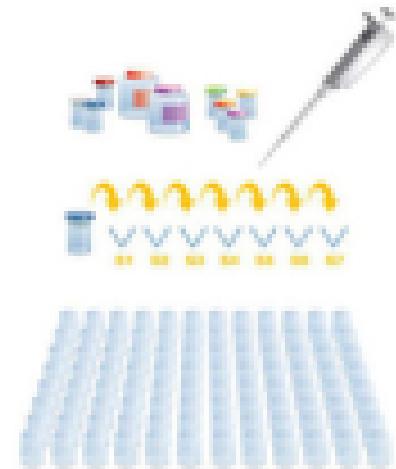
## ESTVIH strategies

**Universal  
Offer**

**Risk-based  
Offer**

**Indicator  
Condition  
Offer**

For every 18-64 years old patients for whom a blood analysis is requested



Data were provided for the VIHAP study 'Pilot study of the implementation of the Routine Offer in Spain'

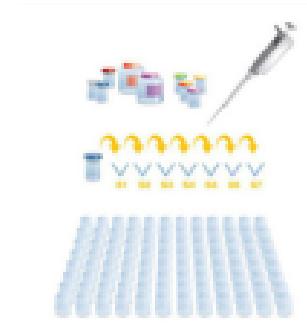
## ESTVIH strategies

**Universal  
Offer**

**Risk-based  
Offer**

**Indicator  
Condition  
Offer**

18-64 years old patients with HIV risk practices or  
belonging to vulnerable groups



## Risk practices and vulnerable groups for HIV

ESTVIH strategies

Universal Offer

Risk-based Offer

Indicator Condition Offer

- To all those who request the test for HIV risk
- Sexual partners of persons infected with HIV
- Injecting drug users (IDUs) currently or with a history of having been, and their sexual partners
- Men who have sex with men (MSM) and their sexual partners (men and women)
- Persons engaged in prostitution (PEP): women, men and transsexuals, their sexual partners and their clients
- Heterosexual people with more than one sexual partner and / or risk practices in the last 12 months
- People who want to stop using condoms with their stable partners
- People who have been sexually assaulted
- People who have had exposure to HIV, occupational or accidental
- People from countries with high prevalence (> 1%) \* and their sexual partners

## Patient identification

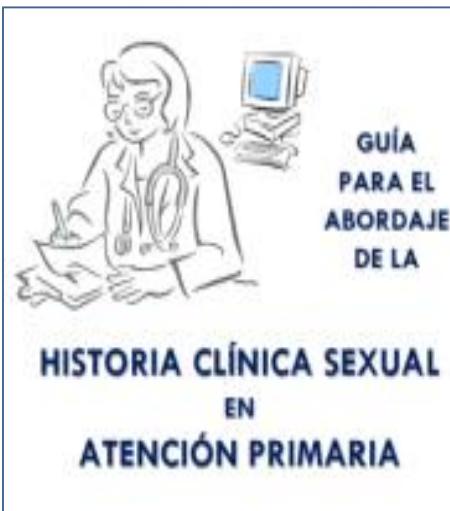
ESTVIH strategies

Universal Offer

Risk-based Offer

Indicator Condition Offer

Make the guide available to professionals



Reminders in the clinical electronic records

- “This patient comes from a country of high HIV prevalence, assess the need for HIV test”

Flash Informativo paciente

→ Paciente con Vacunas Pendientes

Flash Añadido por el usuario

| Fecha Inicio | Fecha Fin | Tipo                     | Mensaje  |
|--------------|-----------|--------------------------|--|
| 21/04/2015   |           | <input type="checkbox"/> | País de nacimiento con alta prevalencia de VIH, valorar solicitud de la prueba |

Añadir Flash Informativo

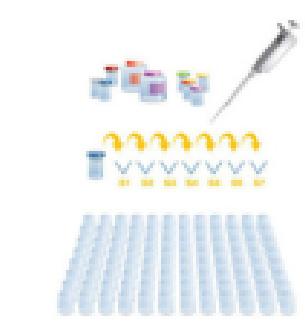
## ESTVIH strategies

**Universal  
Offer**

**Risk-based  
Offer**

**Indicator  
Condition  
Offer**

18-64 years old patients with diagnosis or history  
of HIV Indicator Condition



## HIV Indicator Condition

ESTVIH strategies

Universal Offer

Risk-based Offer

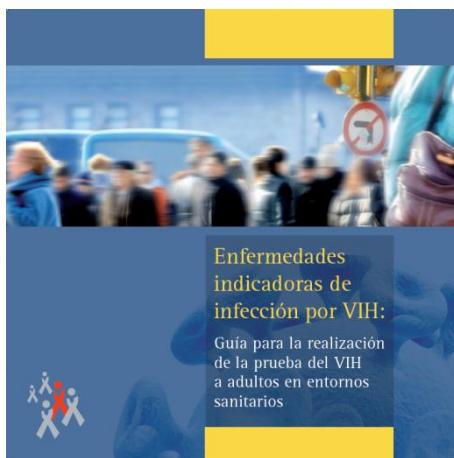
Indicator Condition Offer

| A. Enfermedades definitorias de SIDA |                                    | B. Enfermedades asociadas a una prevalencia de VIH no diagnosticada >0,1% | C. Otras enfermedades en las que se considera que es probable que tengan una prevalencia de VIH no diagnosticada >0,1%  |
|--------------------------------------|------------------------------------|---|---|
| <b>1. Neoplasias</b>                 | <b>4. Infecciones parasitarias</b> | <b>5. Infecciones micóticas</b>   | <ul style="list-style-type: none"> <li>Cáncer de cuello uterino</li> <li>Linfoma no-Hodgkin</li> <li>Sarcoma de Kaposi</li> </ul> <ul style="list-style-type: none"> <li><i>Mycobacterium tuberculosis</i>, pulmonar o extrapulmonar</li> <li>Complejo <i>Mycobacterium avium</i> (MAC) o <i>Mycobacterium kansasii</i>, diseminado o extrapulmonar</li> <li><i>Mycobacterium</i>, otras especies o especies no identificadas, diseminado ó extrapulmonar</li> <li>Neumonía, recurrente (2 o más episodios en 12 meses)</li> <li>Septicemia por salmonella, recurrente</li> </ul> <ul style="list-style-type: none"> <li>Retinitis por citomegalovirus</li> <li>Citomegalovirus, otras (excepto hígado, bazo, ganglios linfáticos)</li> <li>Herpes simple: úlcera(s) crónicas (&gt; 1 mes de duración) o bronquitis, neumonía o esofagitis</li> <li>Leucoencefalopatía multifocal progresiva</li> </ul> |
| <b>2. Infecciones bacterianas</b>    |                                    |   | <ul style="list-style-type: none"> <li>Toxoplasmosis cerebral</li> <li>Cryptosporidiosis diarreica, &gt; 1 mes</li> <li>Isosporiasis, &gt; 1 mes</li> <li>Leishmaniasis diseminada atípica</li> <li>Reactivación de tripanosomiasis americana (meningoencefalitis o miocarditis)</li> </ul>   |
| <b>3. Infecciones víricas</b>        |                                    |   | <ul style="list-style-type: none"> <li>Neumonía por <i>Pneumocystis carinii</i></li> <li>Candidiasis, esofágica</li> <li>Candidiasis, bronquial/traqueal/pulmonar</li> <li>Cryptococcosis, extrapulmonar</li> <li>Histoplasmosis, diseminada/extrapulmonar</li> <li>Coccidioidomicosis, diseminada/extrapulmonar</li> <li>Penicilliosis, diseminada</li> </ul>  |
|                                      |                                    |   | <p>D. Enfermedades en las que no identificar la presencia de infección por VIH puede tener implicaciones adversas importantes para el tratamiento clínico de la persona</p> <ul style="list-style-type: none"> <li>Enfermedades que requieren una terapia inmunosupresora agresiva:           <ul style="list-style-type: none"> <li>-Cáncer</li> <li>-Trasplante</li> <li>-Enfermedad autoinmune tratada con terapia inmunosupresora</li> </ul> </li> <li>Lesión cerebral primaria ocupando espacio</li> <li>Púrpura trombocitopénica idiopática/trombocítica</li> </ul>   |

Source: 'Recomendaciones para el diagnóstico precoz del VIH en el ámbito sanitario'

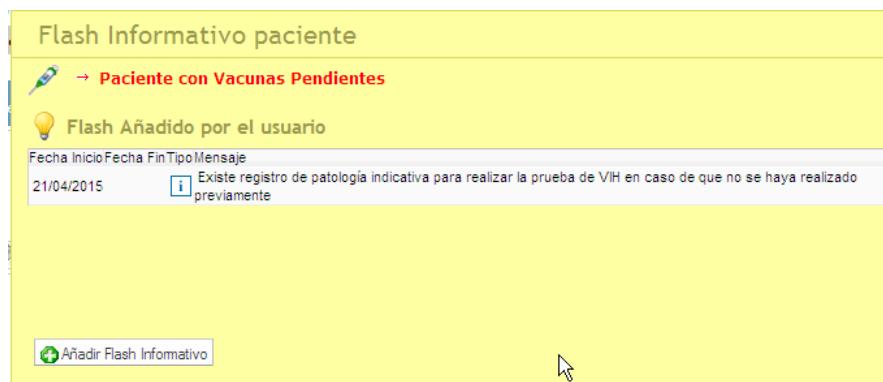
## Patient identification

Make the guide available to professionals



## Reminders in the clinical electronic records

- "There is an indicator condition to perform HIV test if it has not been done previously"



## Indicator condition selection process

ESTVIH strategies

Universal Offer

Risk-based Offer

Indicator Condition Offer



We selected 46 codes of the International Classification of Primary Care (ICPC) with some text limits



Codes were selected from the episodes of the last 24 months in Primary Care

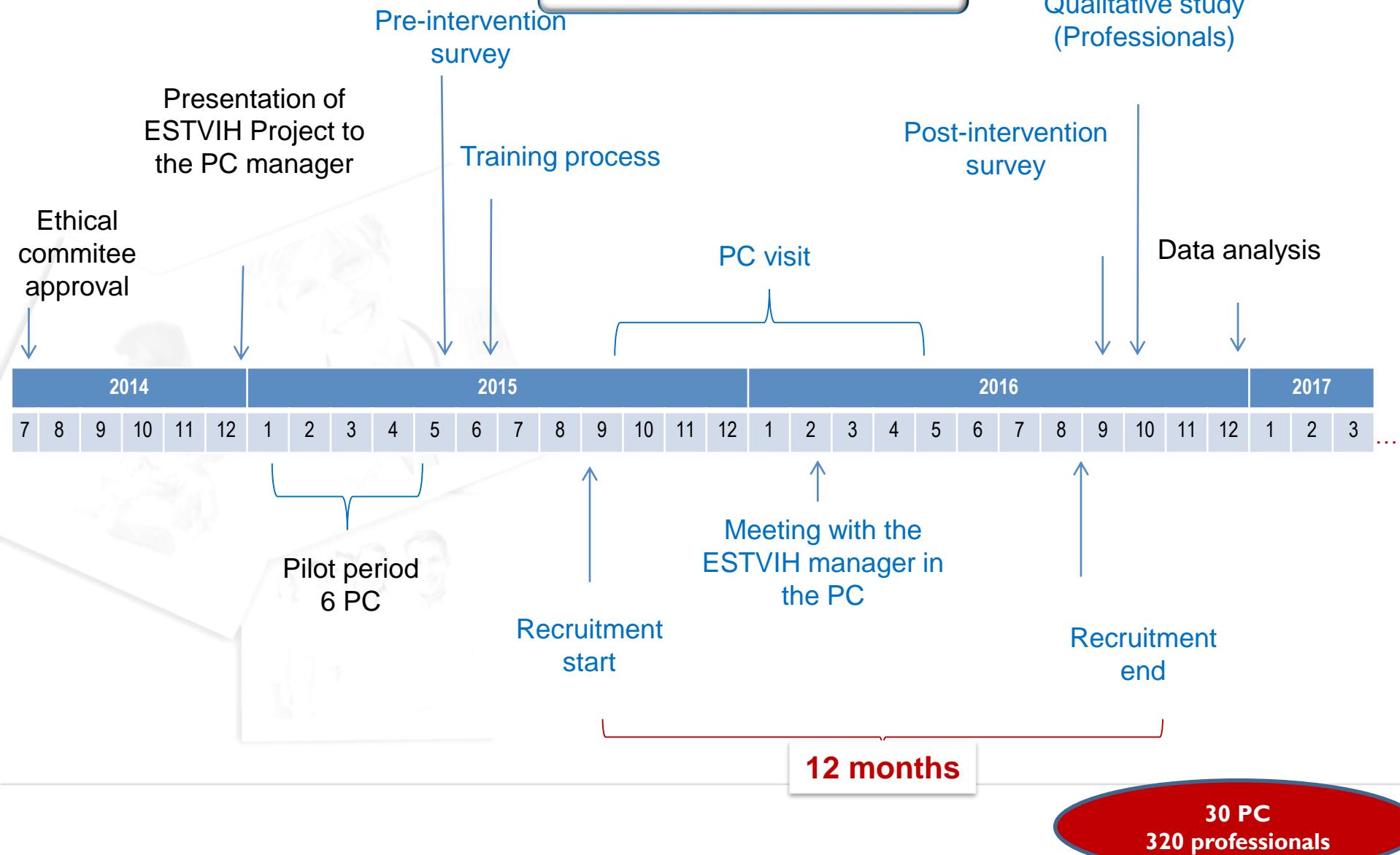


Reminders updates were made every three months during the intervention period

### Example:

| ICPC | ICPC DESCRIPTOR | CONTROL TEXT   |
|------|-----------------|--|
| S70  | HERPES ZOSTER   | ZOSTER Ó CULEBRI   |
| A03  | FIEBRE          | FIEBRE SIN FOC,FEBRIL PROLONG,<br>((FIEBRE Ó PIREXIA)& ORIG&DESC)) |

## Time line ESTVIH



## Sources of information



**Professionals**

Pre-intervention survey

Post-intervention survey

Qualitative study



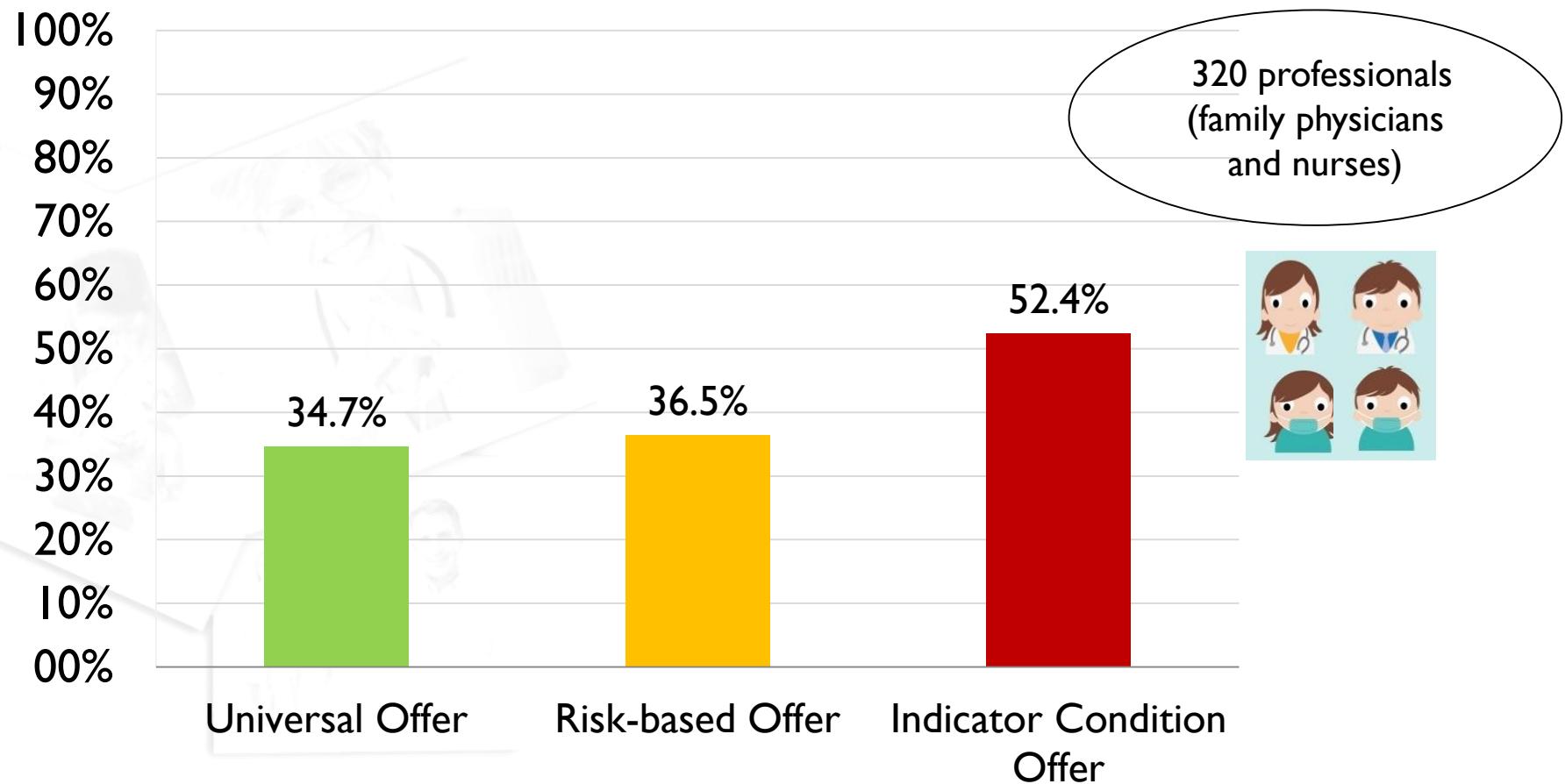
**Patients**

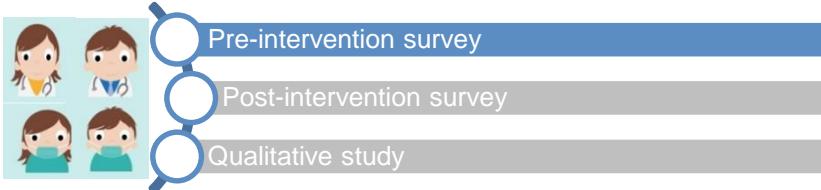
Electronic clinical records: HIV protocol implemented

Specific questionnaire ESTVIH

HIV / AIDS Register of the Community of Madrid

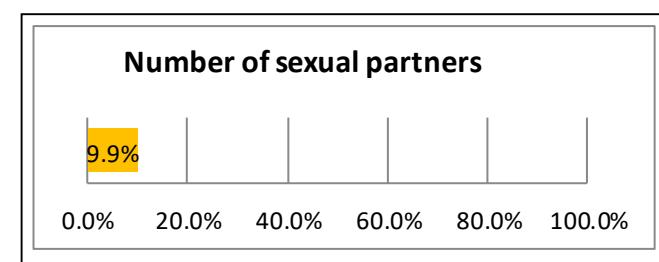
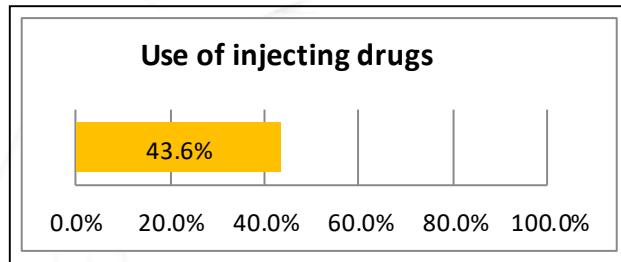
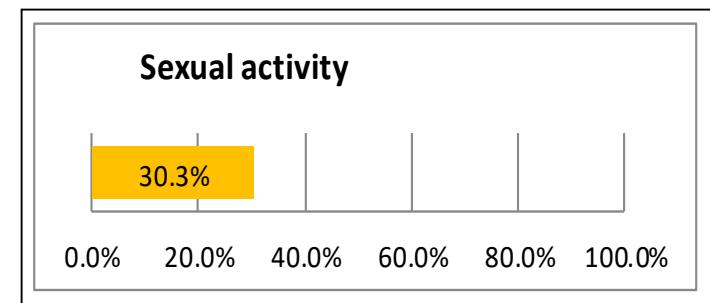
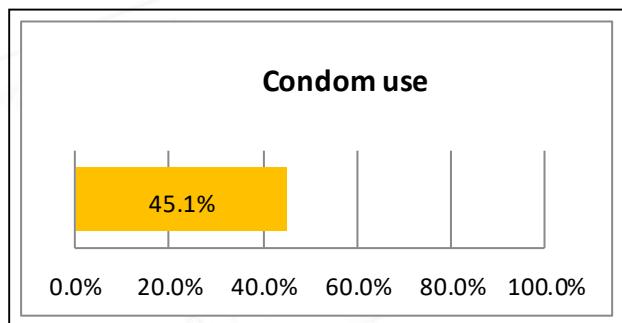
## Percentage of professionals from centres that participated in ESTVIH project according to strategies

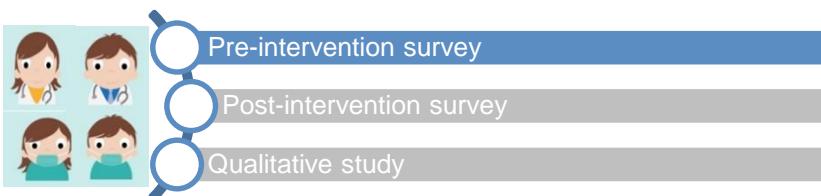




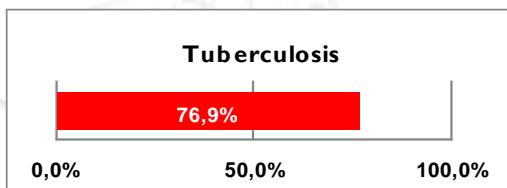
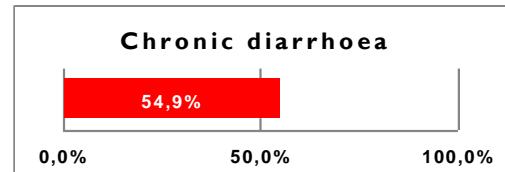
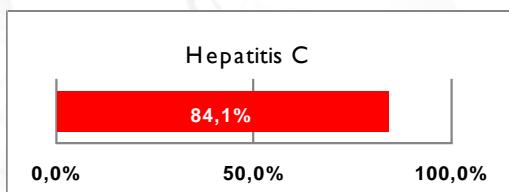
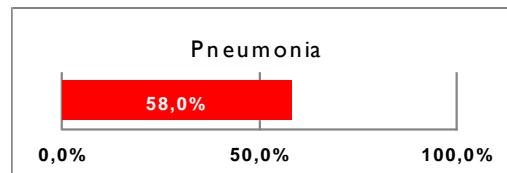
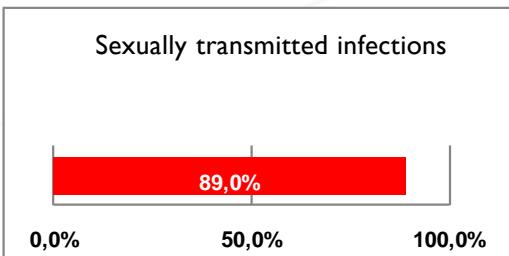
## Professionals do not ask frequently for HIV risk practices

**Primary Care professionals frequently ask for...**





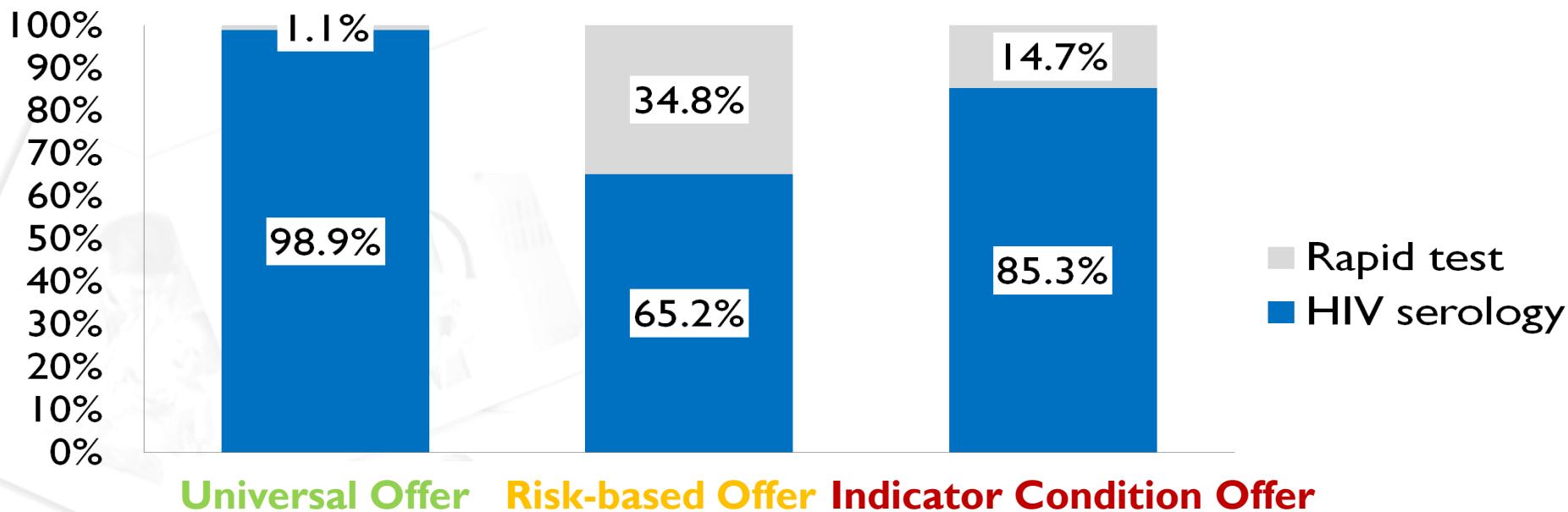
**Consider it is appropriate to indicate HIV testing ...**



**Primary care professionals know a limited number of Indicator Conditions**

## Percentage of HIV serology and rapid test performed according to strategies

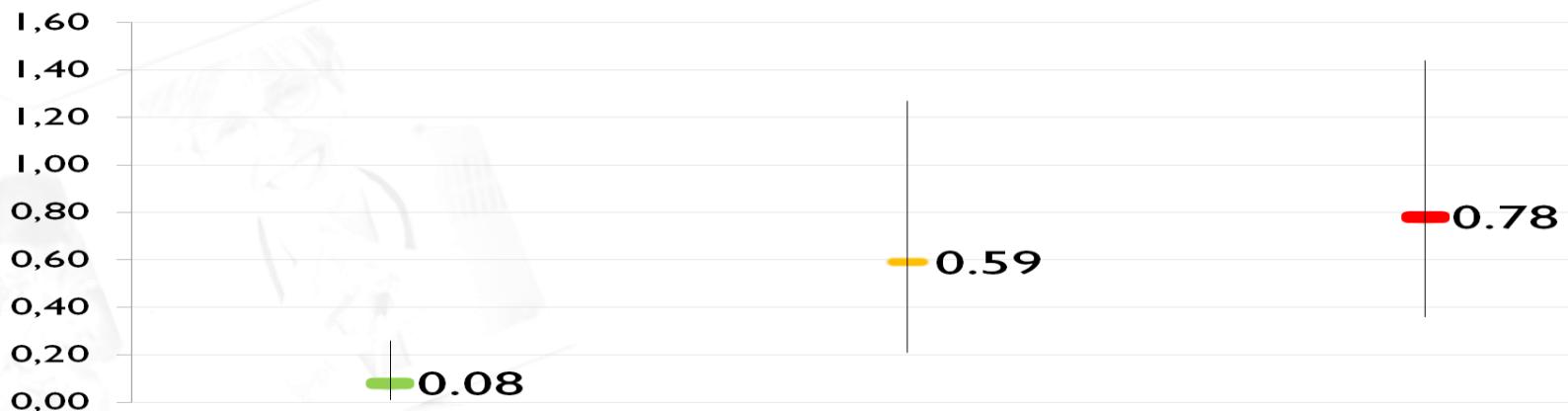
4,287 patients with HIV test



Universal Offer   Risk-based Offer   Indicator Condition Offer

## Diagnostic effectiveness according to strategies

15 HIV new diagnosis



**Universal Offer   Risk-based Offer   Indicator Condition Offer**

## Characteristics of the new HIV patients



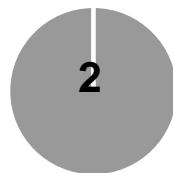
Universal Offer  
2 patients

Median age

36 years

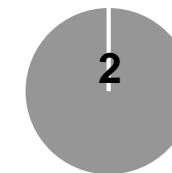
Sex

2



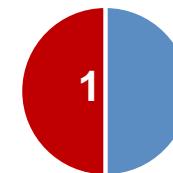
Country of birth

2



Sexual orientation

1



Late diagnosis

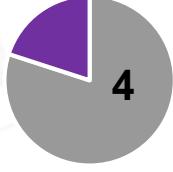
2



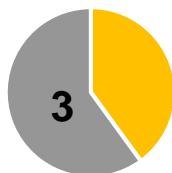
Risk based Offer  
5 patients

40 years

■ Male ■ Female

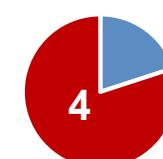


■ Spain ■ Foreign

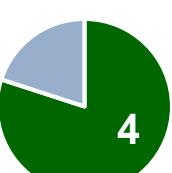


■ Heterosexual F ■ MSM

4



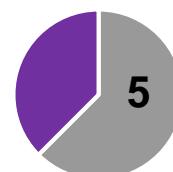
■ No ■ Yes



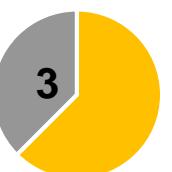
Indicator Condition Offer  
8 patients

35,5 years

■ Male ■ Female

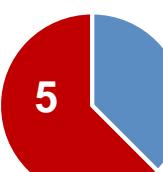


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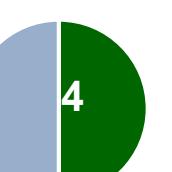


■ Heterosexual F ■ MSM

5



■ No ■ Yes



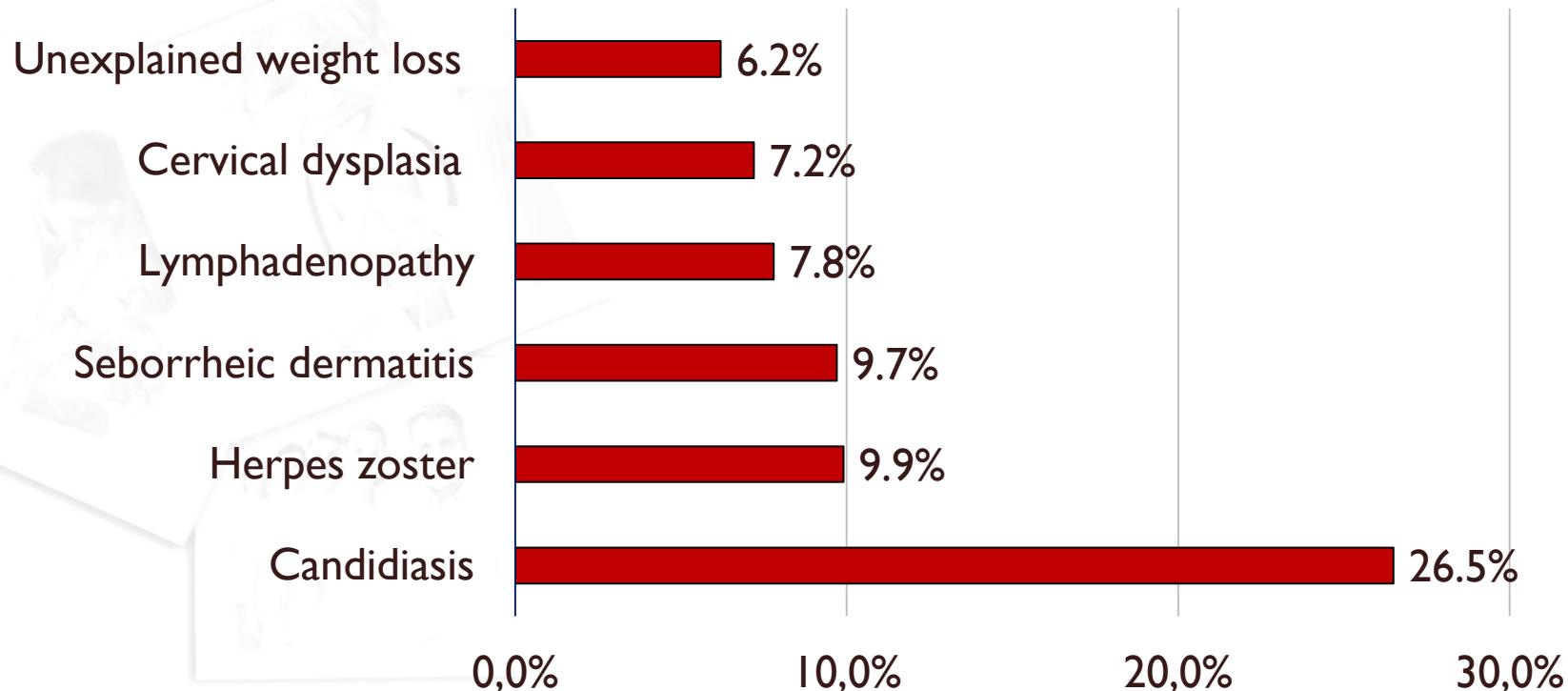
10 centres

Assigned population: 479,827

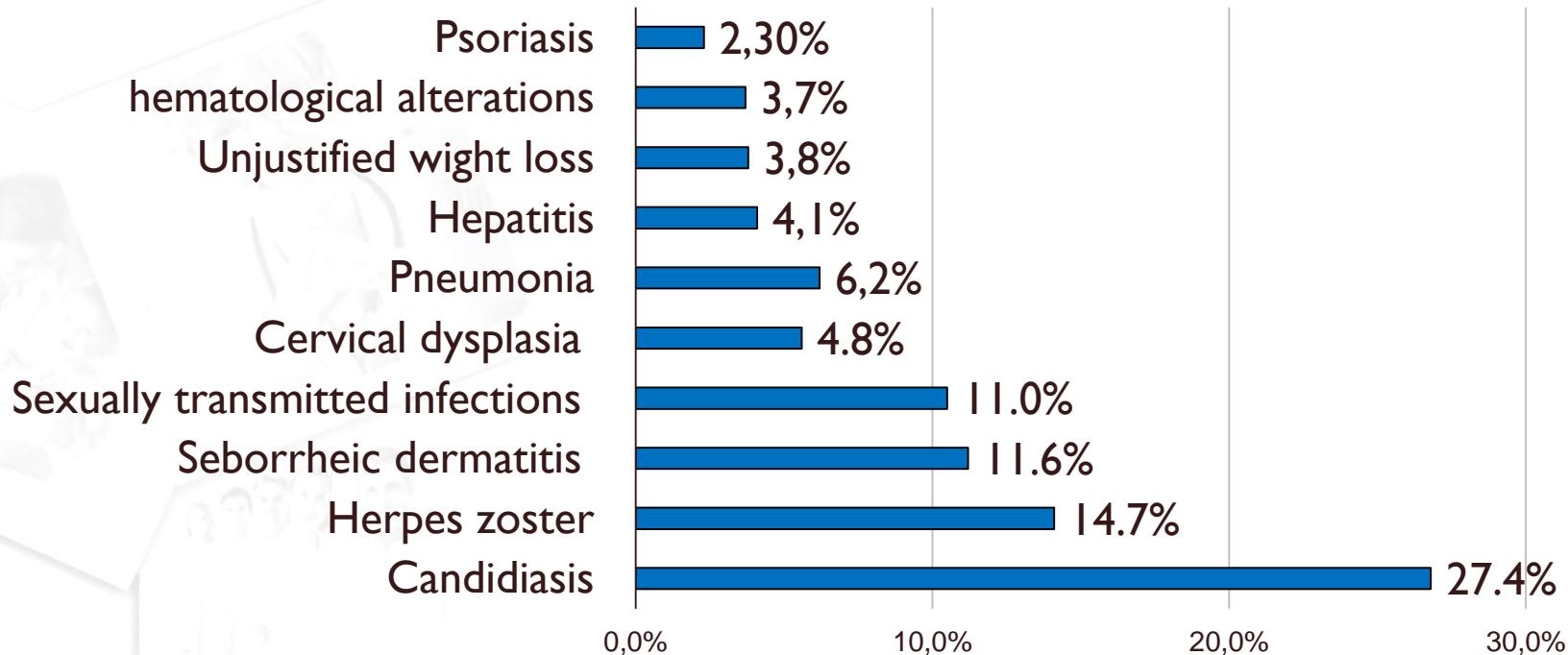
Population with selected indicator disease: 5,496

Analyzed episodes :22,840

## Most frequent HIV indicator disease episodes



## Most frequent indicator condition for which HIV test was requested



## Agreement with some statements: “after the intervention.....” (205 ESTVIH professionals)

The increase of interest in risk practices identification

p=0,017

The improvement of skills to give advise about HIV risky practices

p=0,258

The improve of skills to communicate HIV positive results

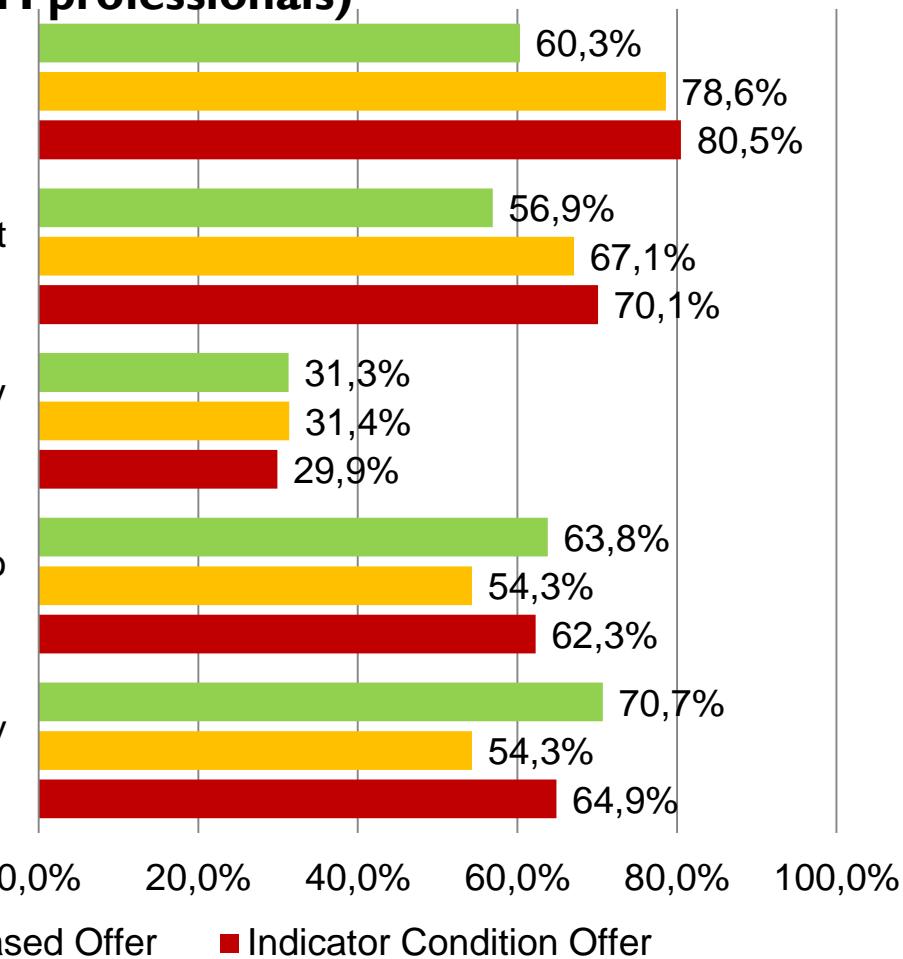
p=0,978

The possibility to incorporate the strategy into usual practice

p=0,478

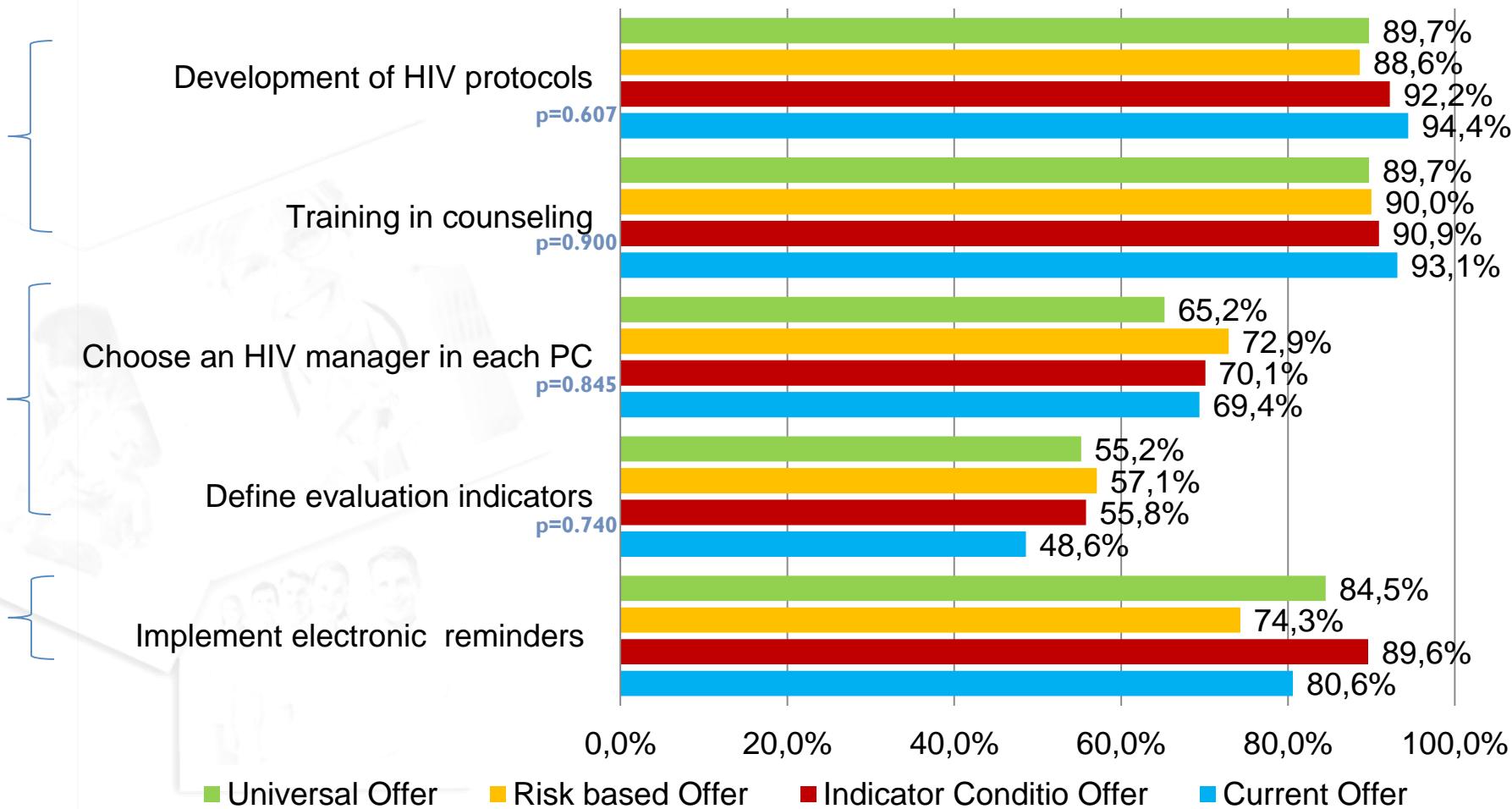
The feasibility of implementing the strategy development in all PC

p=0,144



\*Agreement: agree/ totally agree

## Usefulness of some resources in the future new HIV diagnosis strategy implementation (277 professionals)

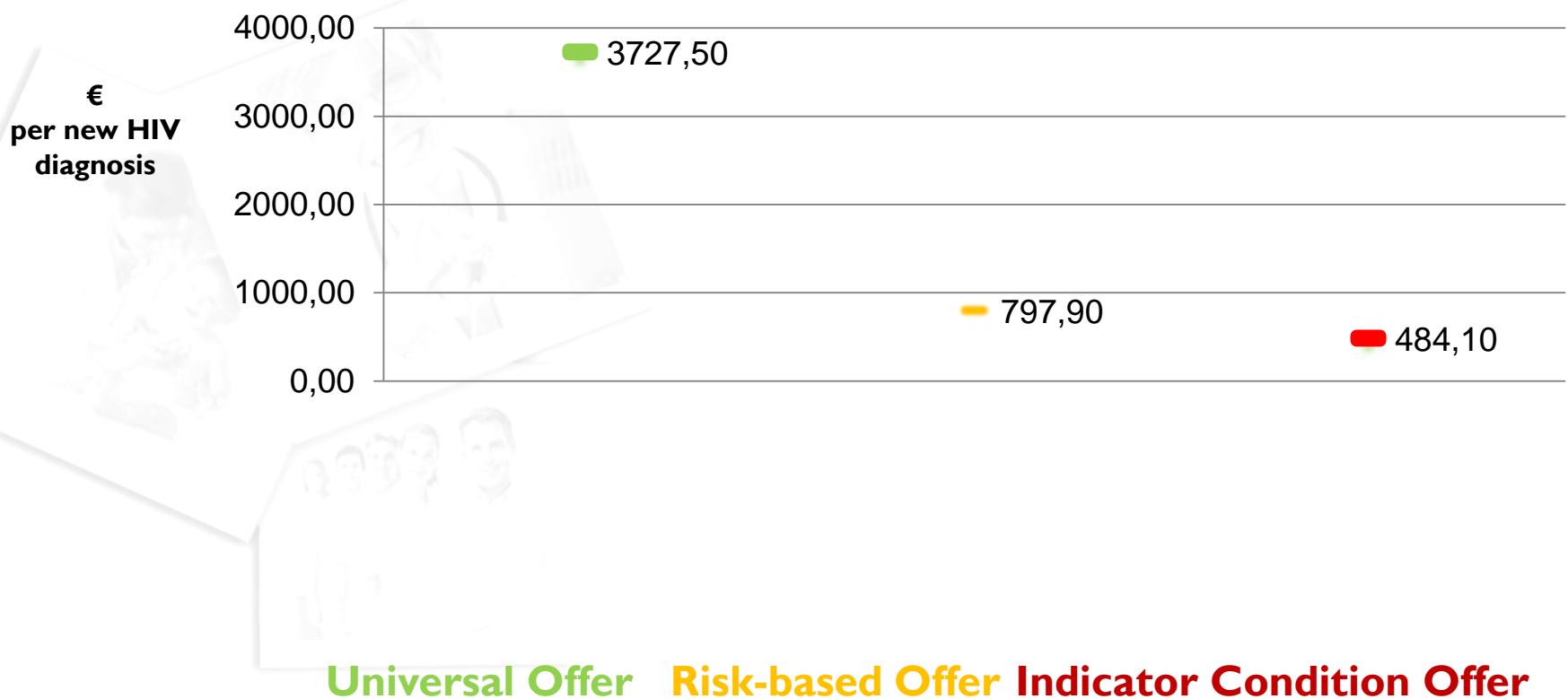


\*Usefulness: enough/very useful

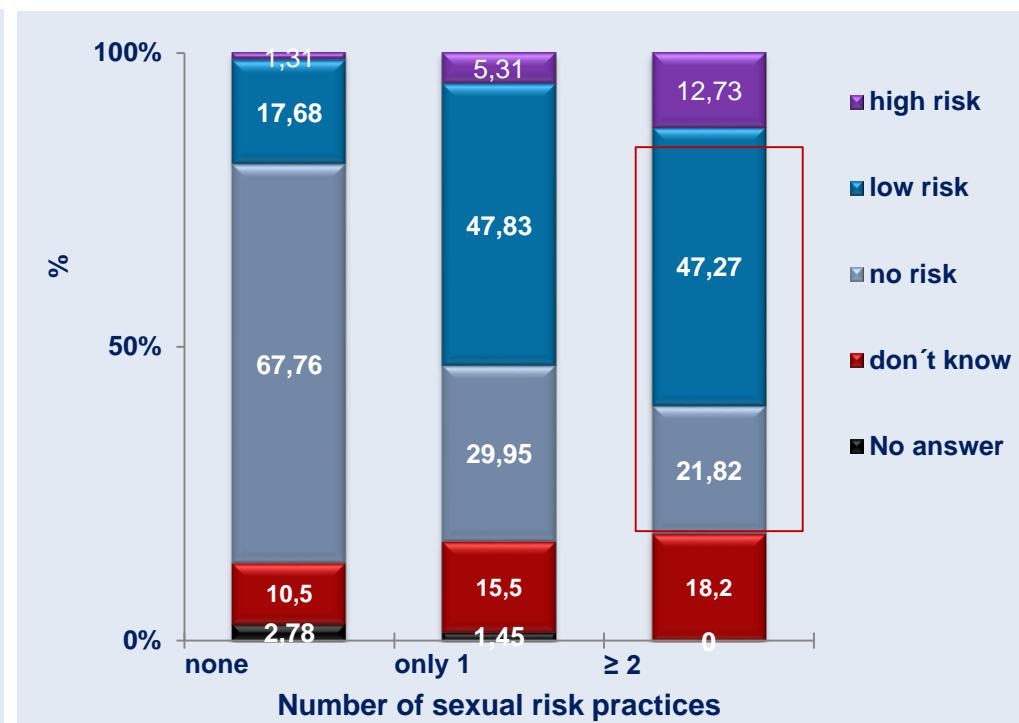
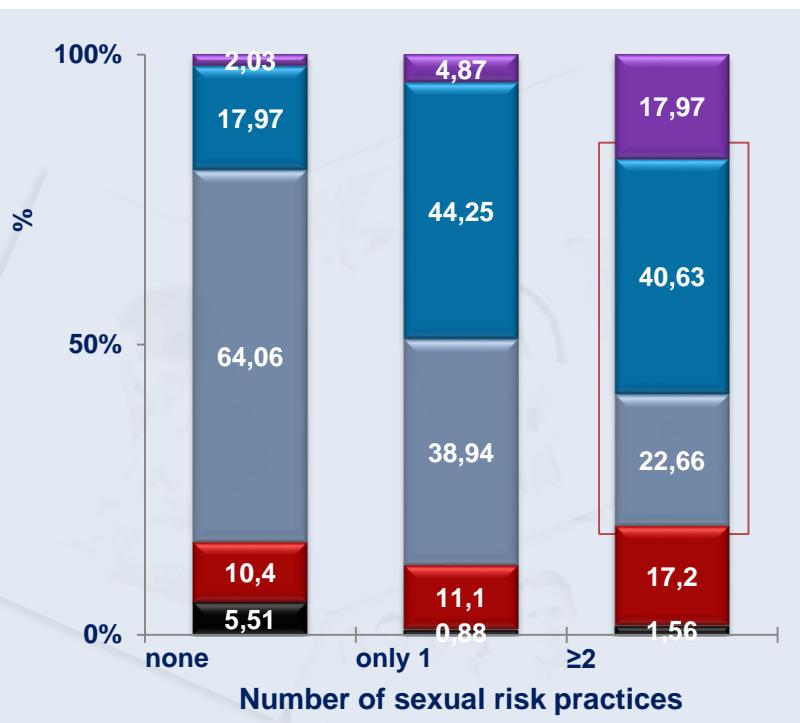
## Percentage of patients to whom HIV testing would be recommended according to strategies



## Direct cost of every new HIV diagnosis



## Number of declared risk sexual practices and HIV risk perception by sex





Indicator Condition Offer has the greatest diagnostic effectiveness, followed by Risk based Offer.

Universal Offer was the strategy with the highest number of HIV tests.

Population have low risk perception of HIV infection despite there are risky practices for HIV

The results of the ESTVIH study will help to develop recommendations for improving HIV diagnosis in Primary Care.

- ✓ Servicios de Microbiología y Enfermedades Infecciosas de los hospitales de referencia.
- ✓ Personal administrativo de los Centros de Salud y de Servicios Centrales.
- ✓ Gerencia Asistencial de Atención Primaria: Dirección Técnica de Sistemas de Información. Unidad de Apoyo a la Investigación.
- ✓ Dirección General de Salud Pública: Subdirección de Promoción, Prevención y Educación para la Salud (Sº Promoción de la Salud, Unidad de Formación y Docencia). Subdirección de Epidemiología (Sº Informes de Salud y Estudios, Sº Epidemiología).
- ✓ Gilead.

## Primary health care centres ESTVIH

CS Barajas, CS Barcelona, CS Buenos Aires, CS Campamento,  
CS Caramuel, CS Cea Bermúdez, CS Cerro Almodóvar, CS  
Daroca, CS Dr. Trueta, CS El Espinillo, CS Eloy Gonzalo, CS  
Gregorio Marañón, CS Humanes, CS Ibiza, CS Infanta  
Mercedes, CS José Marvá, CS Las Veredillas, CS Los Castillos,  
CS Martín de Vargas, CS Miguel Servet, CS Miraflores, CS  
Puerta Bonita, CS Puerta del Ángel, CS Quince de Mayo, CS  
Ramón y Cajal, CS San Andrés, CS San Fermín, CS Torito, CS  
Vicente Muñoz, CS Villaamil

## **ESTVIH coordinator group**

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# ¡ Thank you!

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