

A new method to estimate the first step in the HIV care continuum

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Actual problems of HIV: Women and HIV

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Disclosures

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Key information for public health monitoring and planning

Burden of HIV:

- How many people are living with HIV?
- What is the corresponding need for treatment?
- How many are unaware of their infection?

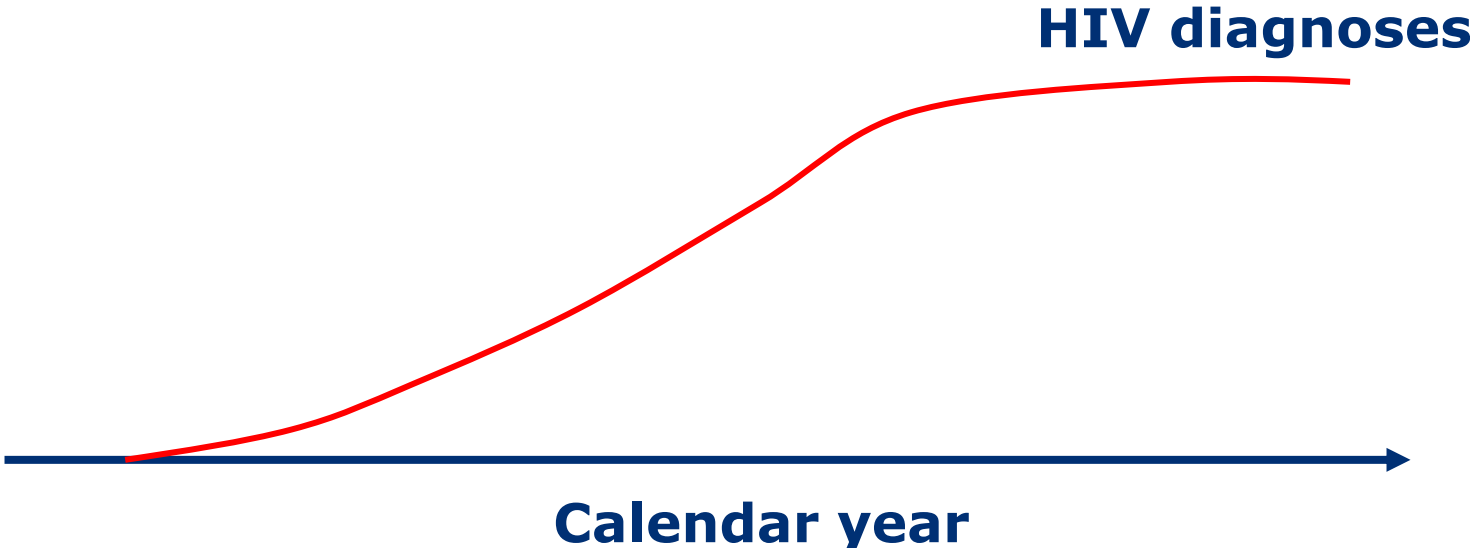
Current trends:

- How many people are newly infected each year?
- What is the time between infection and diagnosis?

Challenges

- Estimating the number living with HIV and current trends in new HIV infections remains challenging.
- Methods based on HIV prevalence surveys are less useful in Europe with mainly concentrated epidemics.
- All countries in Europe have strong surveillance systems for HIV and AIDS diagnoses:
 - HIV diagnosis is only a proxy for HIV infection.
 - HIV diagnoses do not give direct information on the undiagnosed population.

Back-calculation



Van Sighem *et al*, Epidemiology 2015

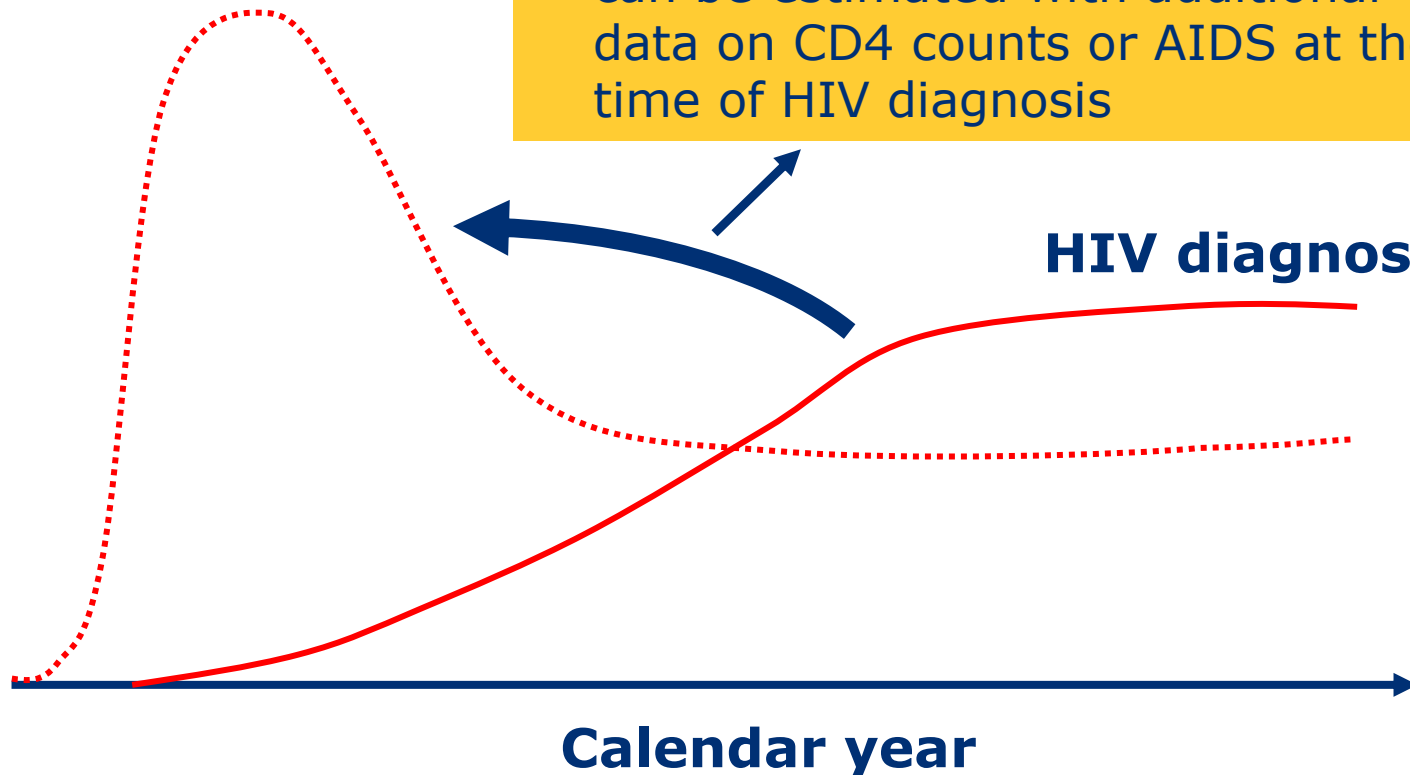
Back-calculation

HIV infections

Time between infection and diagnosis

- is *a priori* unknown
- may change over calendar time
- can be estimated with additional data on CD4 counts or AIDS at the time of HIV diagnosis

HIV diagnoses



ECDC HIV Modelling Tool

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ecdc.europa.eu/en/healthtopics/aids/Pages/hiv-modelling-tool.aspx

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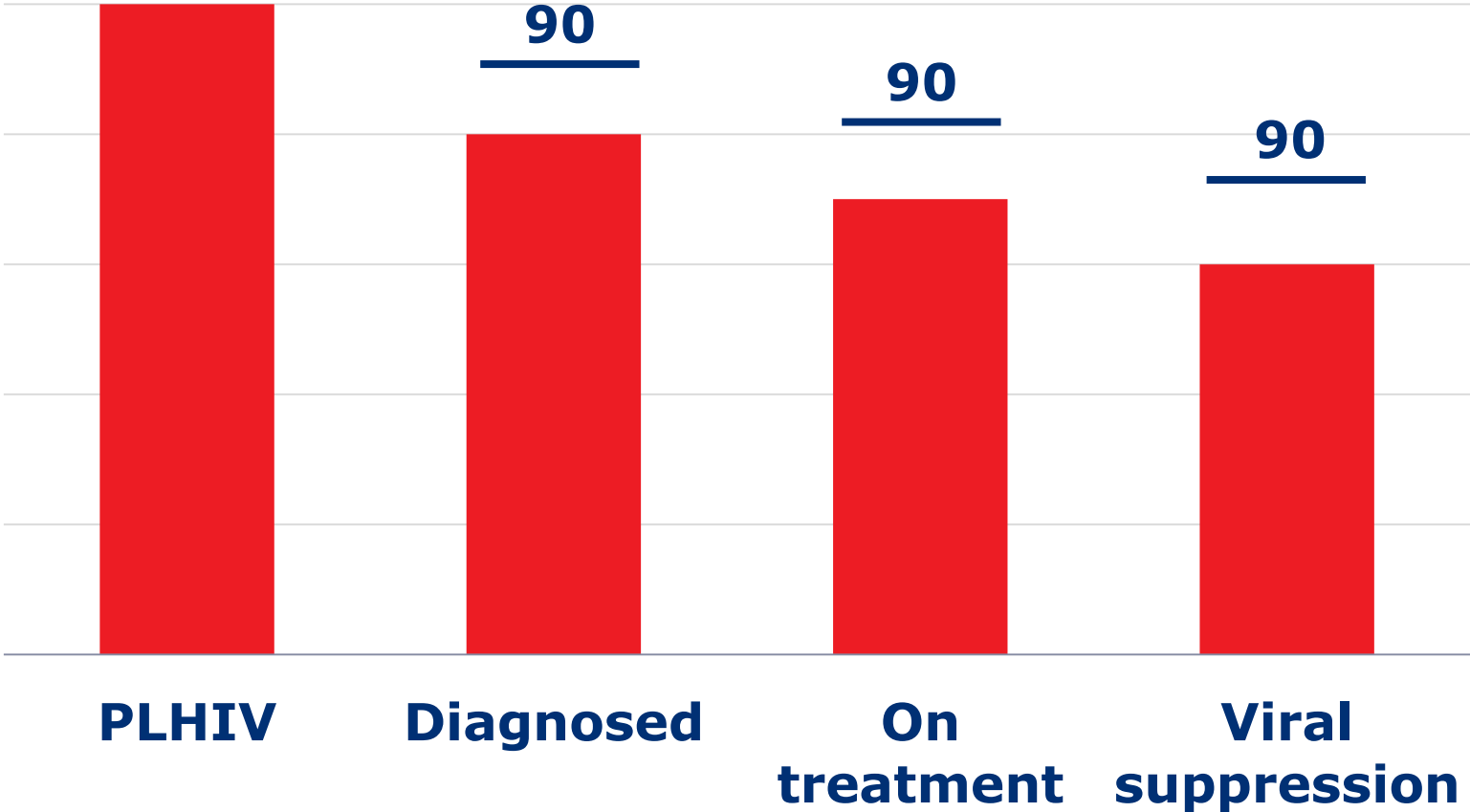
ECDC HIV Modelling Tool

- ECDC tool simultaneously estimates*:
 - annual number of newly acquired HIV infections.
 - time between HIV infection and diagnosis.
 - size of the undiagnosed population, stratified by CD4 cell count interval.
- Only need **routinely collected** data on HIV and AIDS, annually reported by many countries to The European Surveillance System (TESSy).
- Available as a user-friendly graphical interface.

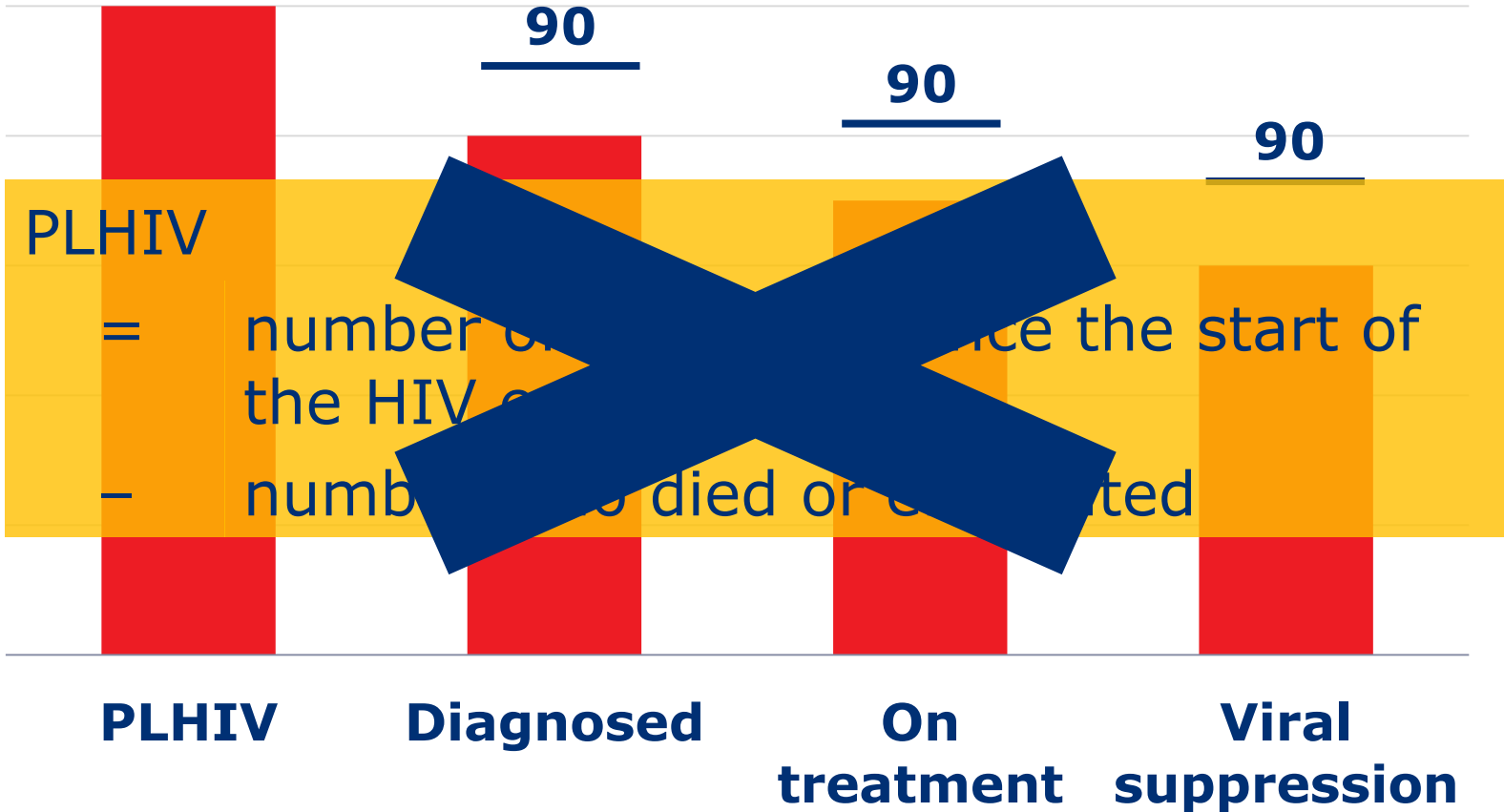


*Sweeting 2005; Birrell 2013; Supervie 2014; Lodwick & Nakagawa 2015; Van Sighem 2015

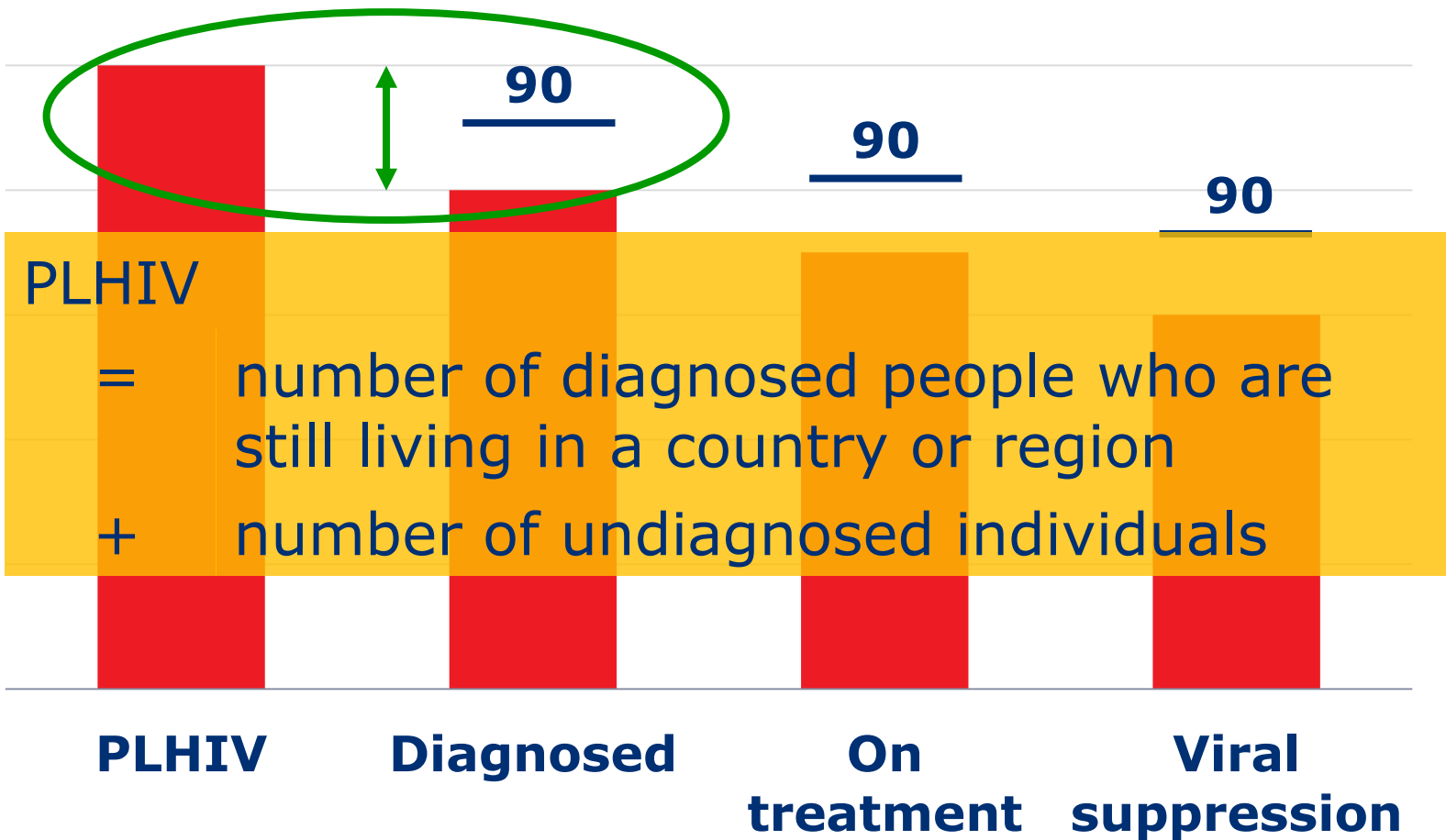
HIV care continuum



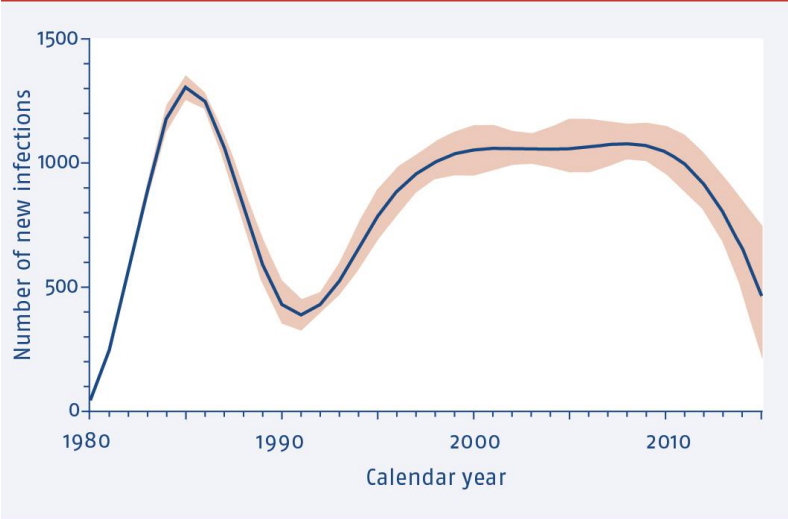
HIV care continuum



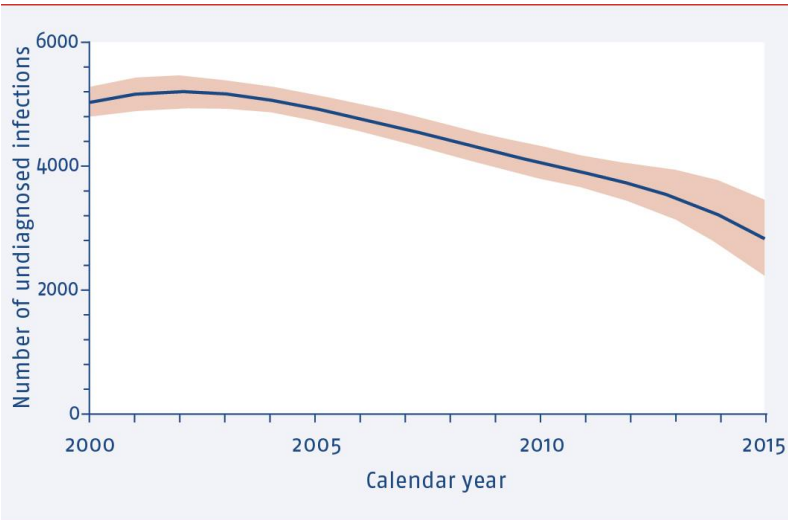
HIV care continuum



PLHIV - The Netherlands



HIV infections

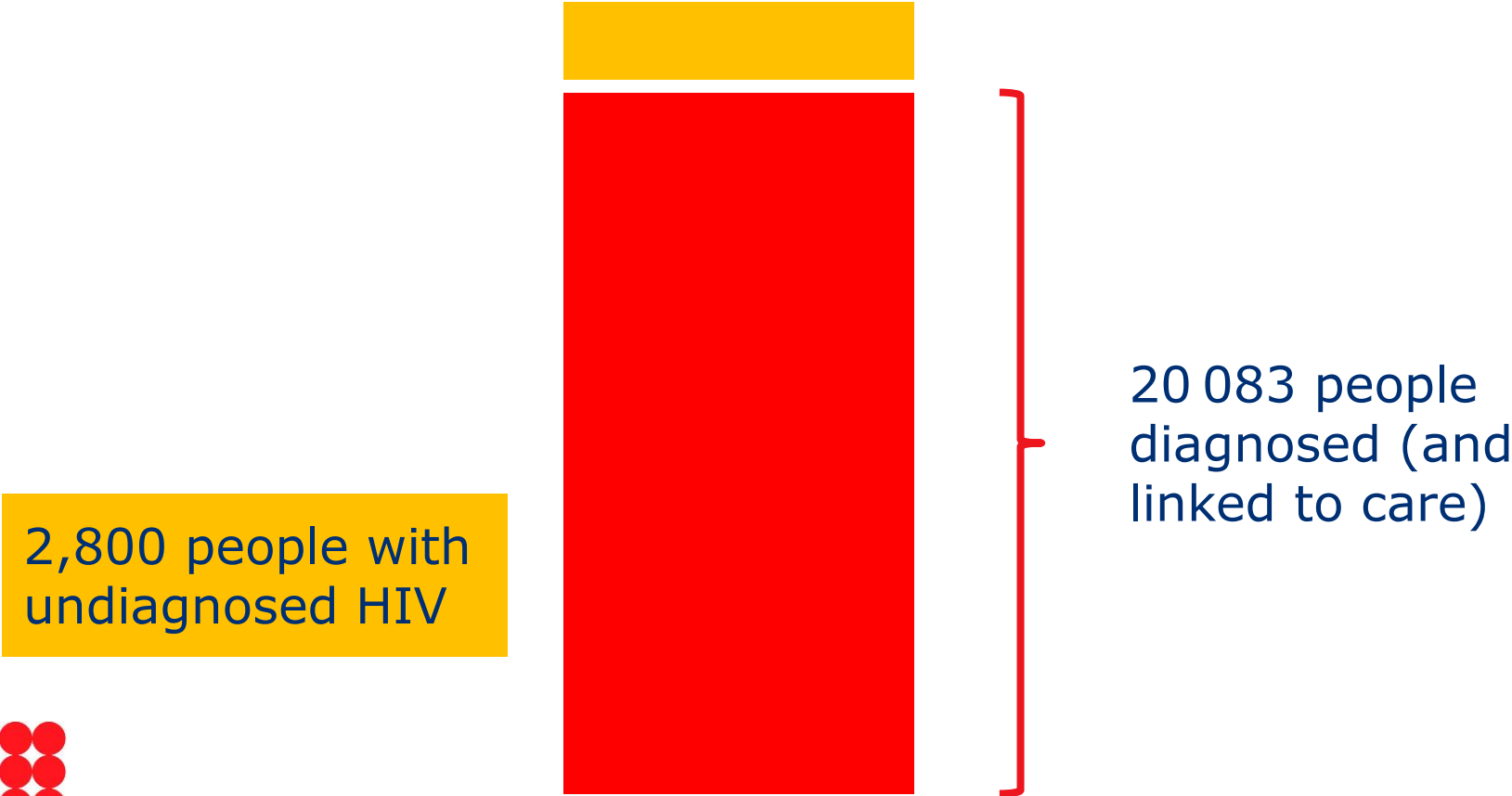


Undiagnosed



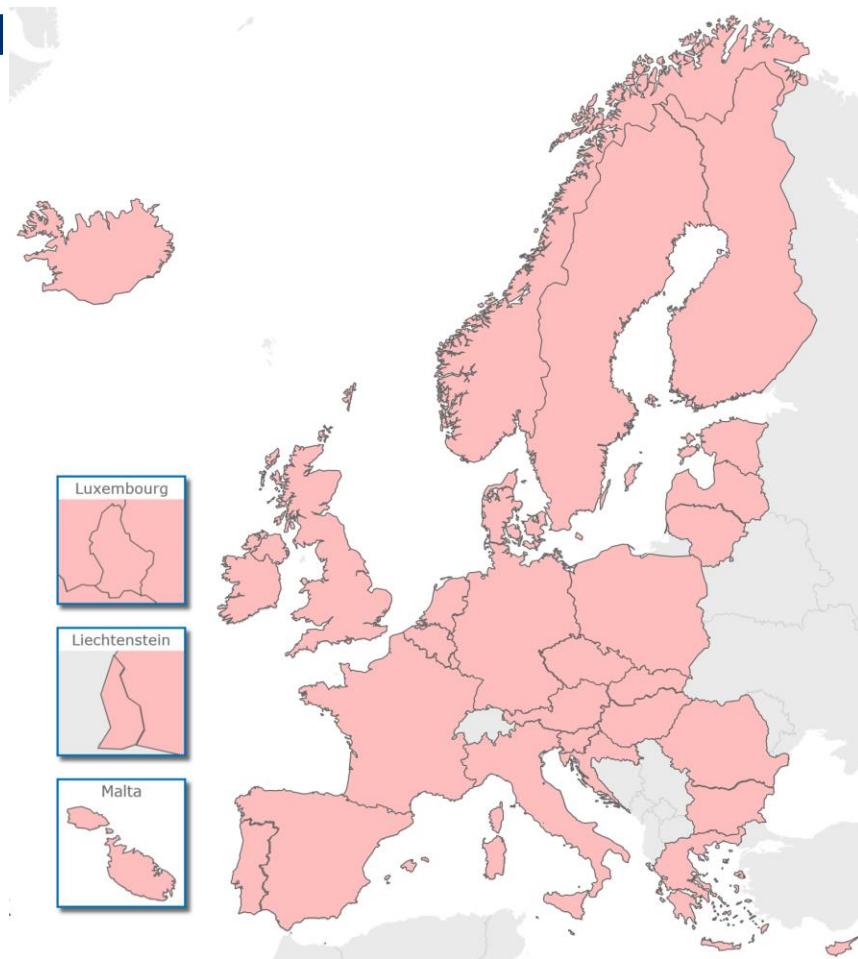
PLHIV - The Netherlands

22 900 PLHIV in 2015



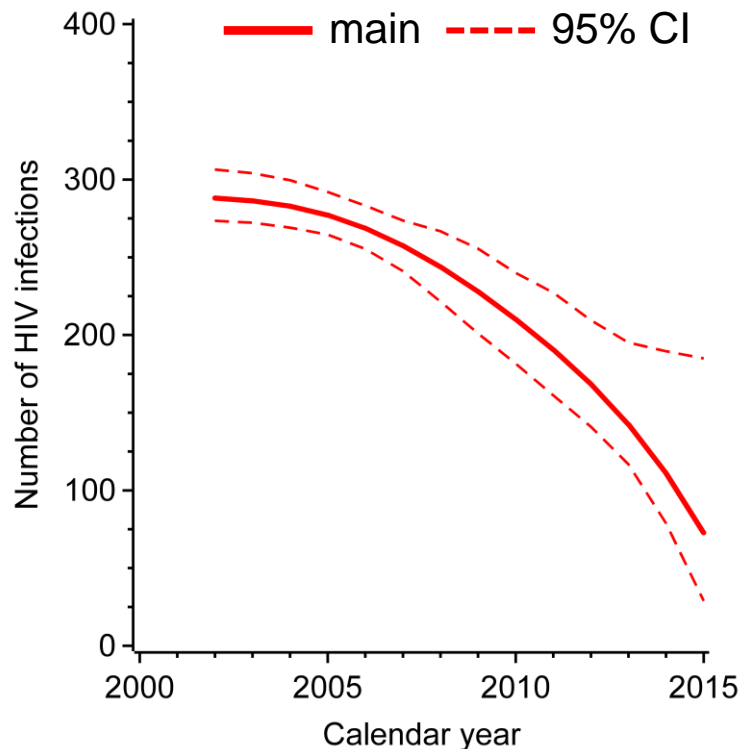
PLHIV - EU/EEA

- Each year, ca. 30 000 people are newly diagnosed with HIV in the European Union/European Economic Area (EU/EEA).
- 810 000 PLHIV in 2015.
- 122 000 undiagnosed; 15% of all PLHIV*.



PLHIV – Amsterdam

Newly acquired HIV infections



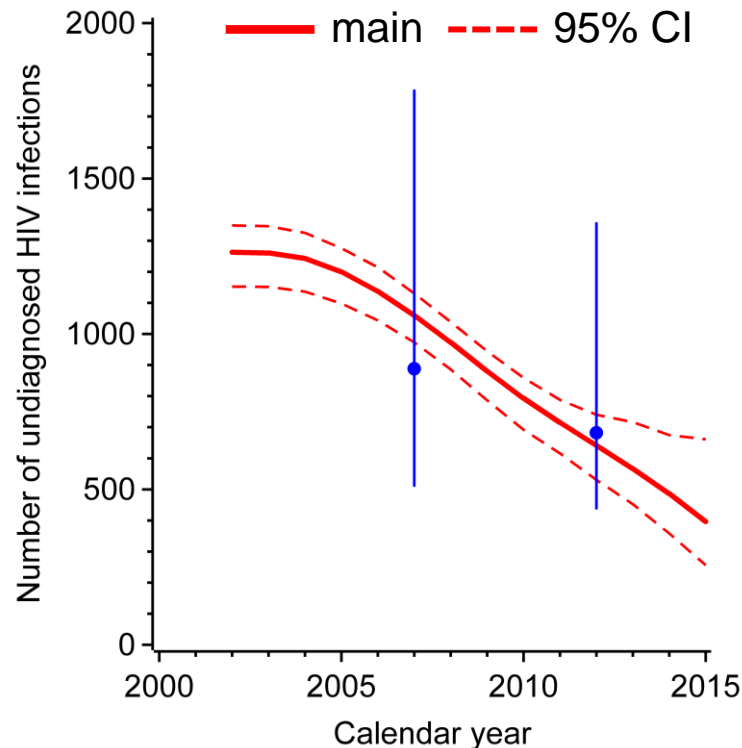
- 70 (95% CI, 30 – 180) new HIV infections in 2015.

- Average time from infection to diagnosis: 2.9 (2.3 – 3.7) years.

including corrections for reporting delay in 2014 (+3%) and 2015 (+11%)

PLHIV – Amsterdam

Undiagnosed HIV infections



- 400 (95% CI, 260 – 660) people living with HIV were still undiagnosed by the end of 2015.
- Consistent with earlier estimates*.
- 6 150 PLHIV in 2015.

*Op de Coul *et al*, PLoS One 2015



AIDS 2018



AIDS 22ND INTERNATIONAL AIDS CONFERENCE
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23-27 JULY 2018

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AIDS 2018

Цели конференции

5. Освещение ситуации с эпидемией ВИЧ и ответных мер в регионе Восточная Европа и Центральная Азия с фокусом на инвестиции, структурные особенности и сервисы

Мы приветствуем ваше участие в конференции в Амстердаме и ваши достижения в области науки, адвокации и выполнения обязательств по прекращению эпидемии СПИДа к 2030!

Conclusion

- ECDC HIV Modelling Tool can be used to estimate annual number of HIV infections and the undiagnosed population.
- Only need routine surveillance data.
- Estimates of total number of people living with HIV.
- Works on local, national, and regional level.
- Annual number of HIV infections can be imported into Spectrum to obtain additional information on the HIV epidemic.

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