

# Lessons learnt from other screening programmes : the case of HIV screening

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# Lessons learnt from HIV screening programs

- Rationale for changing HIV screening policies
- Description of changes in HIV screening policies in resource-rich countries (USA, France, UK)



# Rationale for changing HIV screening : why do we need to improve HIV screening ?

1. Reduce HIV transmission
2. Improve disease prognosis
3. Benefit from new rapid HIV tests available
4. Cost-effectiveness studies demonstrate its worth it



# Rationale of changing HIV screening

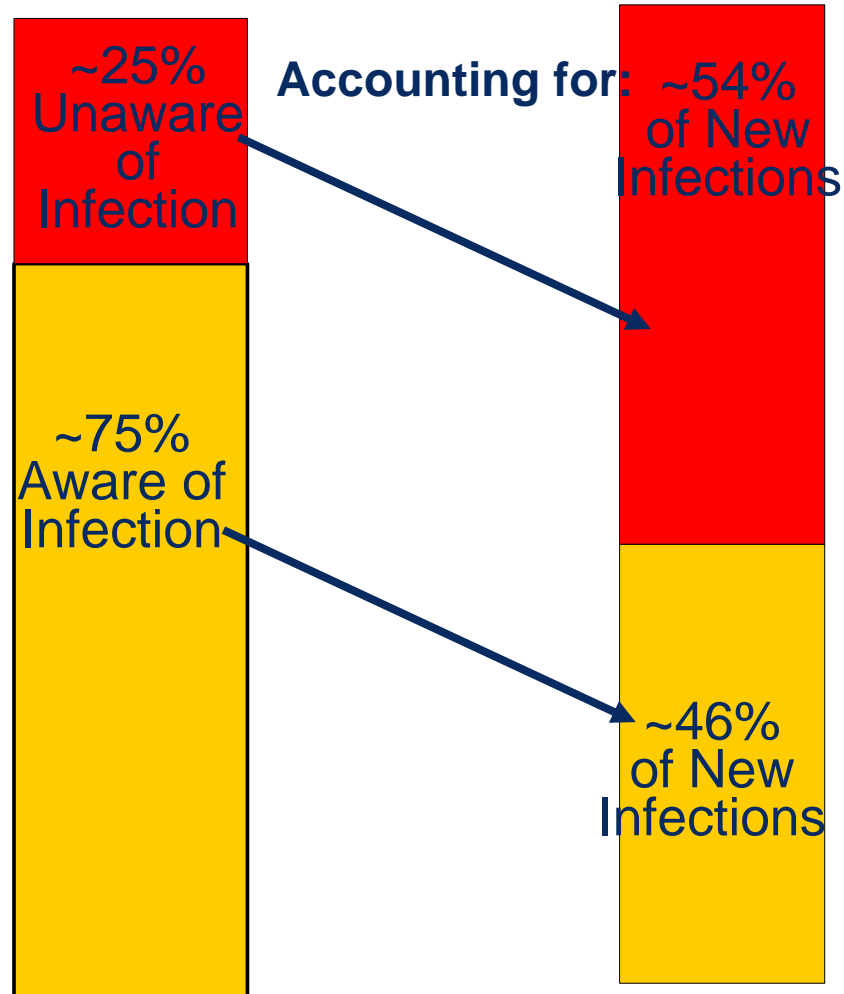
## 1. Reduce HIV transmission

- By reducing viral load, Antiretroviral (ARV) could reduce the infectiousness of treated individuals by 50-99%.
- Knowledge of HIV infection could impact behaviours: after people become aware they are HIV +, prevalence of high risk sexual behaviour is reduced
- The prevalence of undiagnosed HIV infection remains high (in USA, approx. 21 to 33%, in UK 25-30%)

# Rationale of changing HIV screening

## 1. Reduce HIV transmission

Awareness of Serostatus Among People with HIV  
and Estimates of Transmission



Source : Marks, et al AIDS 2006;20:1447-50


# Rationale for changing HIV screening

## 1. Reduce HIV transmission

- Recently, it has been suggested that instead of considering prevention as a secondary benefit of ARV, it should be considered as the primary purpose : 'Test and treat' strategy (Granich et al, 2009)

■ Articles

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➔  **Universal voluntary HIV testing with immediate antiretroviral therapy as a strategy for elimination of HIV transmission: a mathematical model**

*Reuben M Granich, Charles F Gilks, Christopher Dye, Kevin M De Cock, Brian G Williams*

**Summary**

**Lancet 2009; 373: 48-57** **Background** Roughly 3 million people worldwide were receiving antiretroviral therapy (ART) at the end of 2007, but an estimated 6-7 million were still in need of treatment and a further 2-7 million became infected with HIV in 2007. Prevention efforts might reduce HIV incidence but are unlikely to eliminate this disease. We investigated a theoretical strategy of universal voluntary HIV testing and immediate treatment with ART, and examined the conditions under which the HIV epidemic could be driven towards elimination

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- Using modelling, Granich has shown that Test & Treat strategy could theoretically eliminate HIV in a decade if the following conditions are met : almost all ind. accept ARV, ARV reduce infectiousness by 99%, drug R does not evolve, dropout rates remain <5%, risk behaviour is substantially reduced
- This model was applied on the South-Africa HIV epidemic (high HIV prevalence 15-20% and heterosexual transmission)



# Rationale for changing HIV screening

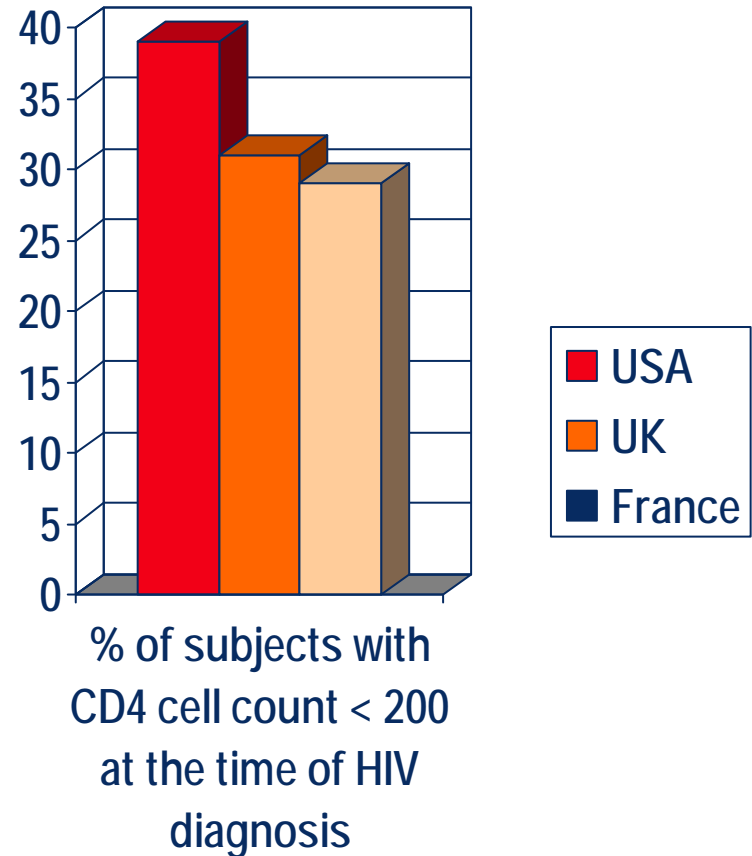
## 2. Improve Disease prognosis

- A substantial proportion of people are late diagnosed for HIV ('late testers') in USA, UK and France despite the widespread availability of the screening (among VCT, private and public labs. ..).
- The diagnosis of HIV also often occurs late despite multiple prior visits to health care settings (notably in emergency departments). These health care visits constituted numerous **missed opportunities** to diagnose HIV.
- Late testers are more likely to be heterosexuals, less educated and Africans or Africans Americans

# Rationale for changing HIV screening

## 2. Improve Disease prognosis

- 'Late testers' are presenting to care with advanced disease : approx. 30 % of individuals have a CD4 count below 200 at the time of HIV diagnoses
- Late diagnosed = worse prognosis







## Rationale for changing HIV screening

### 3. Benefit from new rapid HIV tests available

- These tests can be performed without special equipment,
- They require only saliva or a drop of blood
- Results can be obtained within 20 mn with a sensitivity of 99.6 to 100% and specificity of 99.7 to 100%.

# Rationale for changing HIV screening

## 3. Cost-effectiveness studies

- Two relevant articles analysing the cost-effectiveness of routine HIV screening in the US have been published in 2005 (Paltiel et al, NEJM and Sanders et al. NEJM)
- They have shown that the cost-effectiveness of one-time routine HIV screening in the US population range from less than \$50,000/Quality to \$60,700/Quality (according to the prevalence of undiagnosed people). When this prevalence is high ( $\geq 0.1\%$ ), HIV screening is as cost-effective as other established screening programs for chronic diseases (such as breast cancer)

The NEW ENGLAND JOURNAL of MEDICINE

SPECIAL ARTICLE

### Expanded Screening for HIV in the United States — An Analysis of Cost-Effectiveness

A. David Paltiel, Ph.D., Milton C. Weinstein, Ph.D., April D. Kimmel, M.Sc.,  
George R. Seage III, Sc.D., M.P.H., Elena Losina, Ph.D., Hong Zhang, S.M.,  
Kenneth A. Freedberg, M.D., and Rochelle P. Walensky, M.D., M.P.H.



# Rationale for changing HIV screening

## 3. Cost-effectiveness studies

- A recent collaborative study\* was conducted to assess the cost-effectiveness of routine HIV screening in France : it found that a **one-time routine HIV screening** was acceptable by French standards (cost-effectiveness ratio = Euros 95 000/Quality compared to current practices)
- To our knowledge, there is no other cost-effectiveness study that has been conducted in a European country

**Collaborative study** : Yazdanpanah (CHU Tourcoing), InVS and the Harvard Medical School that developed the computer model and Yale School of Public Health

Y Yazdanpanah, C Sloan, C Charlois-Ou, S Le Vu, C Semaille, D Costagliola, A Pouillé, O Scemama, E Losina, R Walensky, K Freedberg, D Paltiel. Routine HIV screening in France : clinical impact and cost-Effectiveness. ICAAC 2009



# Lessons learnt from HIV screening programs

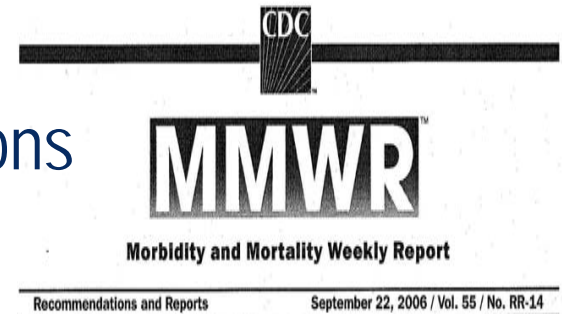
- Rationale for changing HIV screening policies
- Description of changes in HIV screening policies in resource-rich countries (USA, France, UK) \*

In 2006, WHO launched also new recommendations  
« Provider-initiated testing and counselling »

# Changes in HIV screening policies in United States

HIV testing recommendations have frequently changed since the beginning of the epidemic to improve screening among blood supply (1985) among pregnant women (1995 et 2001,2003) and among people in health care (2001,2003)

In 2006, the revised CDC recommendations proposed to expand HIV testing in Health care settings



**Revised Recommendations for HIV Testing  
of Adults, Adolescents, and Pregnant Women  
in Health-Care Settings**

# Changes in HIV screening policies in the US

- CDC recommends that **opt-out** HIV screening be a part of routine clinical care in all health-care settings for all patients aged 13-64 yrs (recommendations are intended for providers in all health-care settings)
- Opt-out screening : performing HIV screening after notifying the patient that an HIV test will be performed unless the patient declines. General informed consent for medical care should be considered sufficient to encompass informed consent for HIV testing.
- Health-care providers should subsequently test all persons likely to be at risk for HIV at least annually (MSM, DU etc)
- CDC has set up several studies in emergency departments (ED) where a rapid HIV test was offered to patients



# Changes in HIV screening policies in the US

- 5 barriers to implementation have been identified :
  - Conflict between CDC recommendations and state laws or agencies
  - Persistent stigma associated with HIV infection
  - Fears regarding discrimination
  - Perception that risk-based testing is more cost effective
  - Re-imbursement for testing
- Results in HIV screening projects regarding the implementation of rapid HIV test among patients at ED :
  - dedicated personnel is required
  - Funding is needed
  - Long-term visibility is necessary



# Changes in HIV screening policies in France

- Current French HIV screening strategies are based on :
  - Mandatory HIV screening for blood products (since 1985), for organs donors (since 1987), for assisted medical procreation, military personal outside France
  - HIV screening 'systematically' proposed for pregnant women and prisoners
  - Voluntary HIV screening



# Changes in HIV screening policies in France

- New HIV screening strategy recommended by the French national Authority for Health (HAS) : the report was published in Oct.2009



- HAS recommends notably :
  - To expand HIV screening : an HIV test should be offered to all people aged to 15 to 70 yrs at least once during life (this recommendation is based on the results from the cost-effectiveness of one-time routine HIV test)
  - To repeat screening among high-risk population : MSM, heterosexuals with multiple partners, prostitutes, people with an HIV infected partner, DU, migrants from countries with an generalised HIV epidemic, people from French Antilles
  - To encourage research using rapid HIV test among patients in emergency department in order to assess the feasibility and the interest of the use of rapid test in ED or to entice HIV testing projects among community (the use of rapid test by non-health workers such as members from NGO etc ..)
- These new recommendations are not currently applied because the French ministry of health has not yet finalise its decision



## Changes in HIV screening policies in UK in 2008/2009

- In areas where the prevalence of diagnosed HIV infections is  $> 2/1000$ , consideration should be given to offering an HIV test to all men and women aged 15 to 59 registering in general practice and to all general medical admissions
- Routine screening for high-risk population such as MSM, DU, migrants from countries with generalised HIV epidemic
- Such local HIV testing initiatives, and other community or non-NHS HIV testing projects, should be formally evaluated and sufficiently large as to inform policy and practice

# Lessons learnt from HIV screening programme

- CDC and other European countries recommend to expand HIV testing
  - But costs represent a barrier for the implementation
- Visits to health care settings (ED) represent an opportunity to offer a screening. Rapid HIV tests facilitate the screening (easy to perform, drop of blood, quick results, lab. not necessary)
  - But dedicated personnel are needed for the implementation
- 'Test and treat strategy' could reduce transmission
  - But be unlikely to eliminate HIV in hyper endemic settings
- There is a need to assess the effect of new strategies on health outcomes