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Marseille - FRANCE

INTERNATIONAL SYMPOSIUM HIV & EMERGING INFECTIOUS DISEASES

Epidemiology and Social Sciences

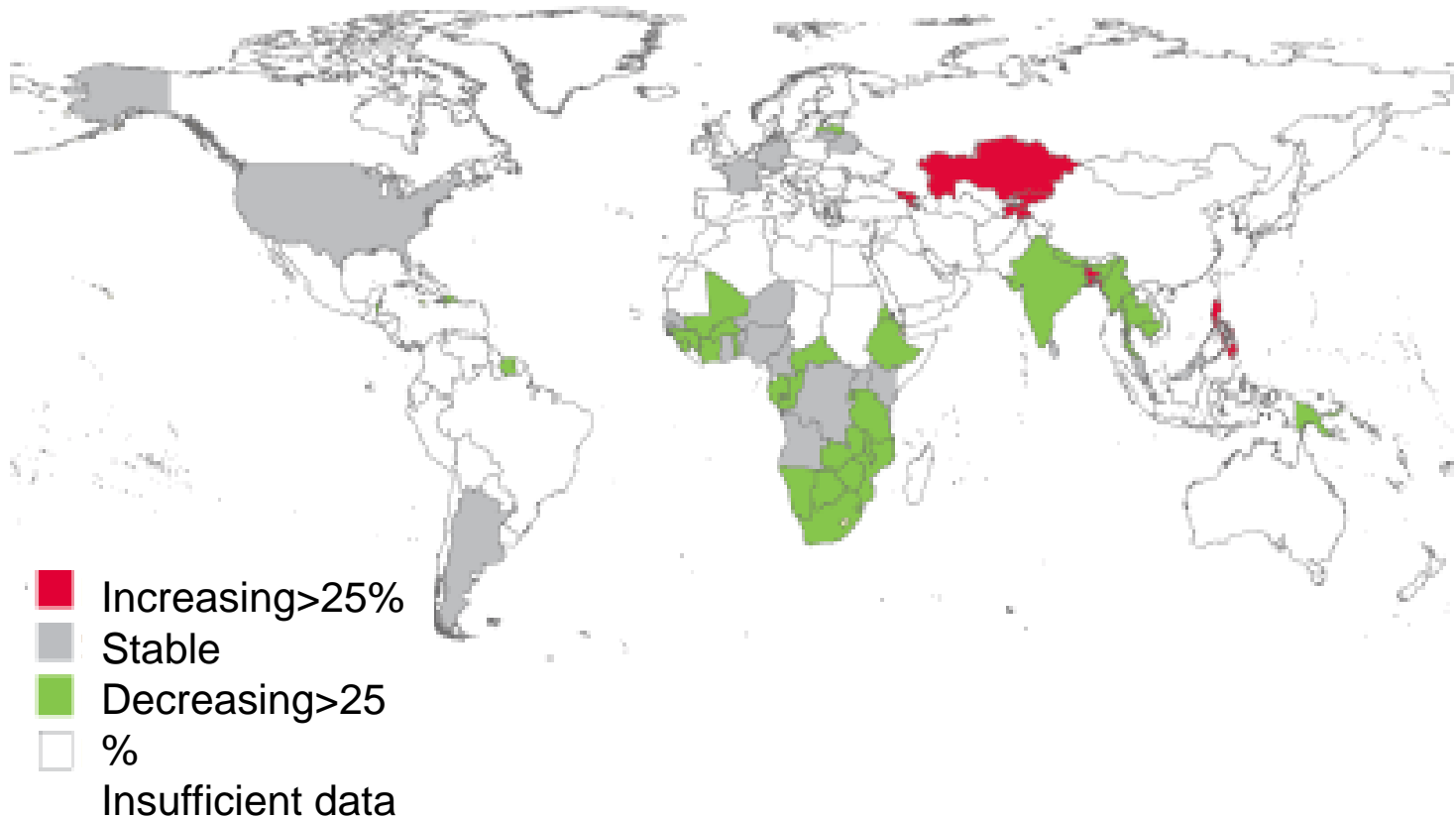
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Overview

- **Plenary session « Prevention of HIV transmission »**
 - Epidemiology
 - Anna Mia Ekström, Karolinska Institutet, Stockholm
 - Prevention by treatment
 - Mark Wainberg, McGill University, Montreal
 - Joep Lange, Academic Medical Center, University of Amsterdam
- **Plenary session « Human rights and access to HIV care »**
 - Universal access to ART
 - Yves Souteyrand, WHO, Geneva
 - Cost-effectiveness of HIV care
 - Yazdan Yazdanpanah, Hôpital Bichat, Paris
- **Four discussed posters** : Calderon (P001); Lebouché (P002); Kousiappa (P003); Lin (P023)

State of the epidemics (A.-M. Ekstrom)

Changes in the incidence of HIV infection (2001-2009)



State of the epidemics (A.-M. Ekstrom)

- ✓ Prevalence is a poor estimate of incidence
- ✓ Varying and rapid changes in access to ART according to countries or regions in countries
 - ✓ www.gapminder.org
- ✓ Retention in ART programs affects survival and incidence

AN INCIDENCE MEASURE IS URGENTLY NEEDED TO GUIDE BETTER HIV RESPONSES

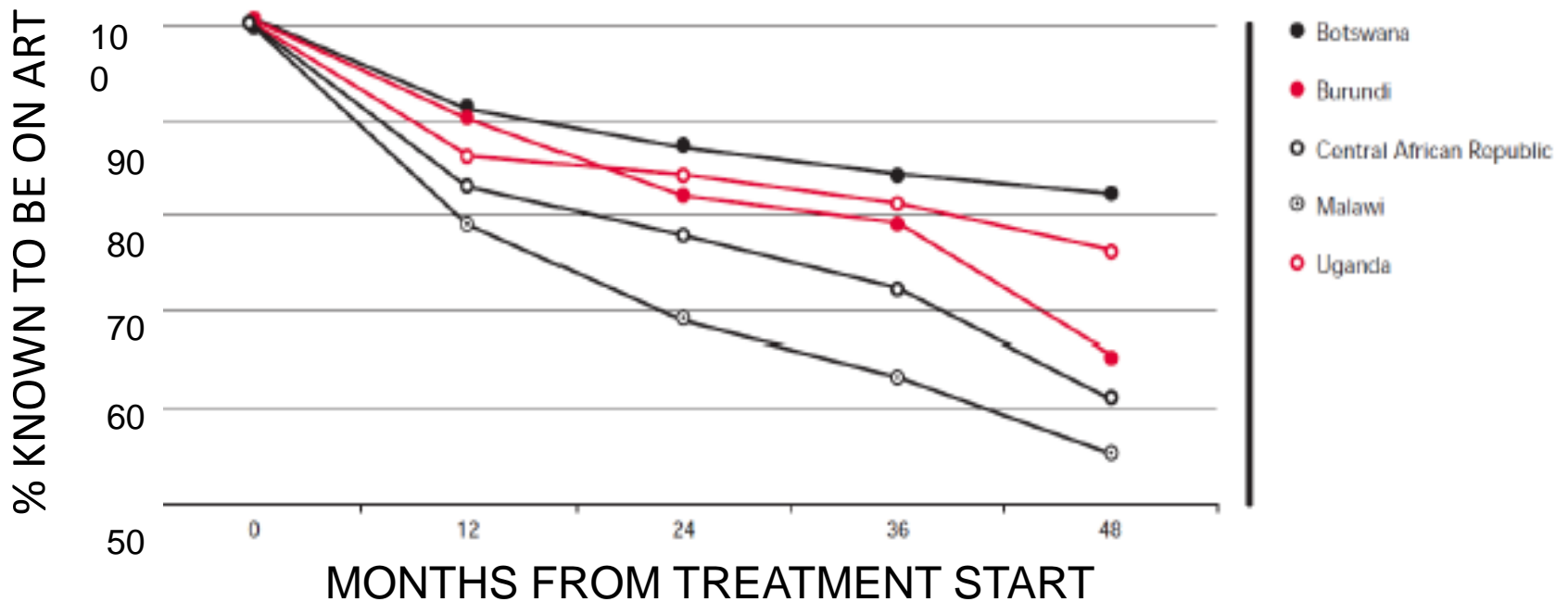
Prevalence gives little insight into the contemporary dynamics of HIV transmission or the outcomes of prevention programmes. Indeed, prevalence measures the cumulative toll of an epidemic including the number of people who have been infected in past years and the effect that antiretroviral therapy has by keeping people living with HIV alive for longer. Instead, incidence reflects changes in HIV transmission and the effects of prevention programmes including the effect of antiretroviral treatment programmes. Currently, most population-wide incidence data are derived from mathematical models.

As the UNAIDS High Level Commission on HIV Prevention argued in 2010, "Countries, donors, researchers and multilateral institutions should shift from prevalence data to assessing incidence for policy decisions and assessing the effectiveness of programmes." Indeed, investments to reduce new infections could be better targeted to the most effective programmes if a quick, easy, valid, and precise method of estimating incidence in populations was available.

However, despite more than a decade of development of incidence tests, today there is still no validated incidence assay that can be used to estimate population-level incidence. In a world where we need to be able to assess in a timely manner the real-world impacts that different prevention programmes are having, developing and validating a reliable incidence assay is essential. Appropriate levels of funding should be directed to this effort.

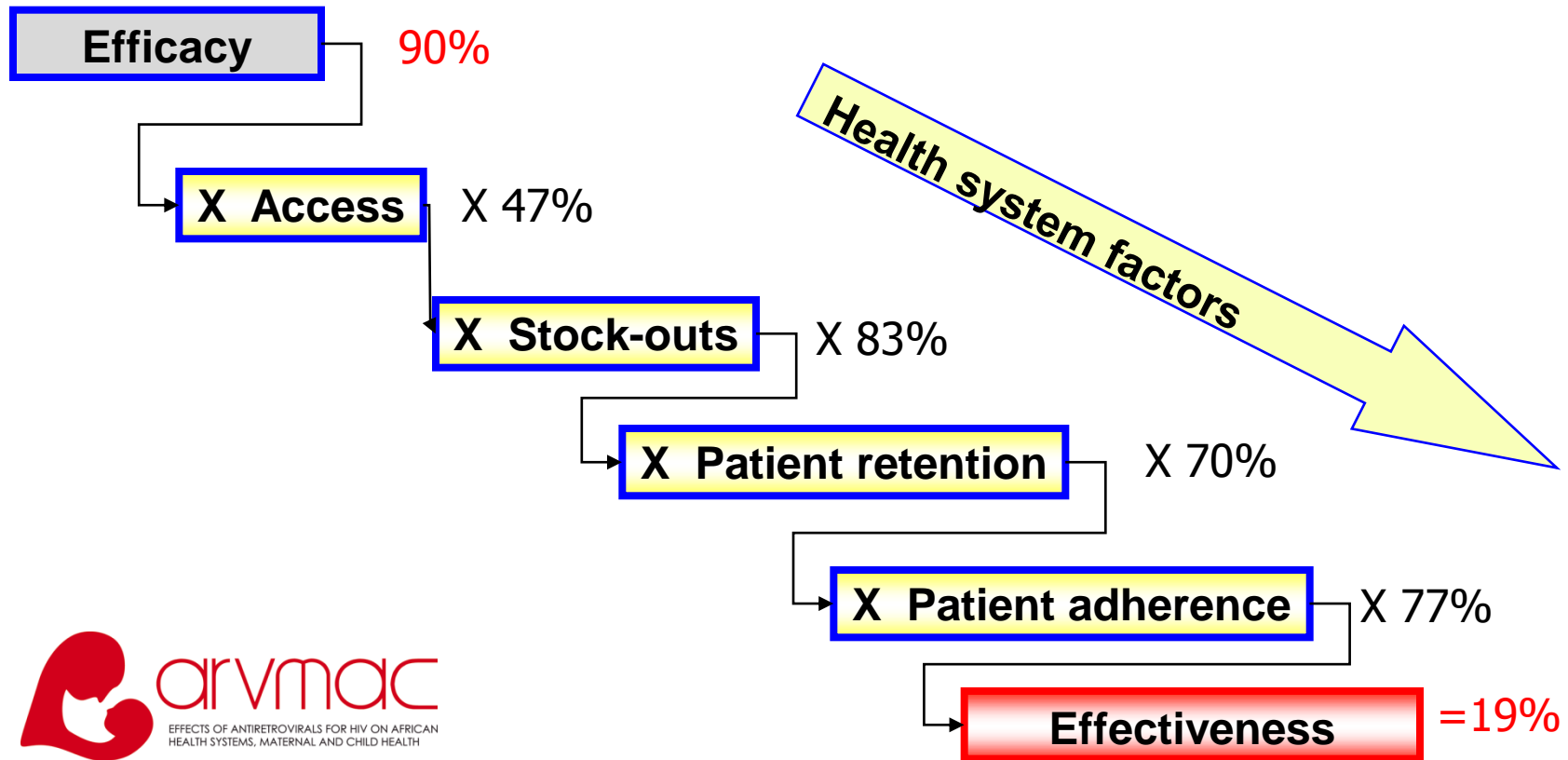
State of the epidemics (A.-M. Ekstrom)

Adult retention in antiretroviral therapy in selected countries, 0–48 months, 2009



State of the epidemics (A.-M. Ekstrom)

Real-life effectiveness of efficacious ART in Sub-Saharan health systems



Universal access to ART (Y. Souteyrand)

- **Challenges to achieve WHO 2015 commitments**

- Increasing resources

- Global resources for HIV programs need to be increased in LIC and MIC
- Need to remind governments to be consistent with their engagements

- Reducing inequities

- Geographic, demographic, socio-economic
- Focus on most vulnerable groups : women, children, sex workers, prisoners, MSM and IDUs

- Earlier access to treatment

- Increase the awareness of one's HIV status

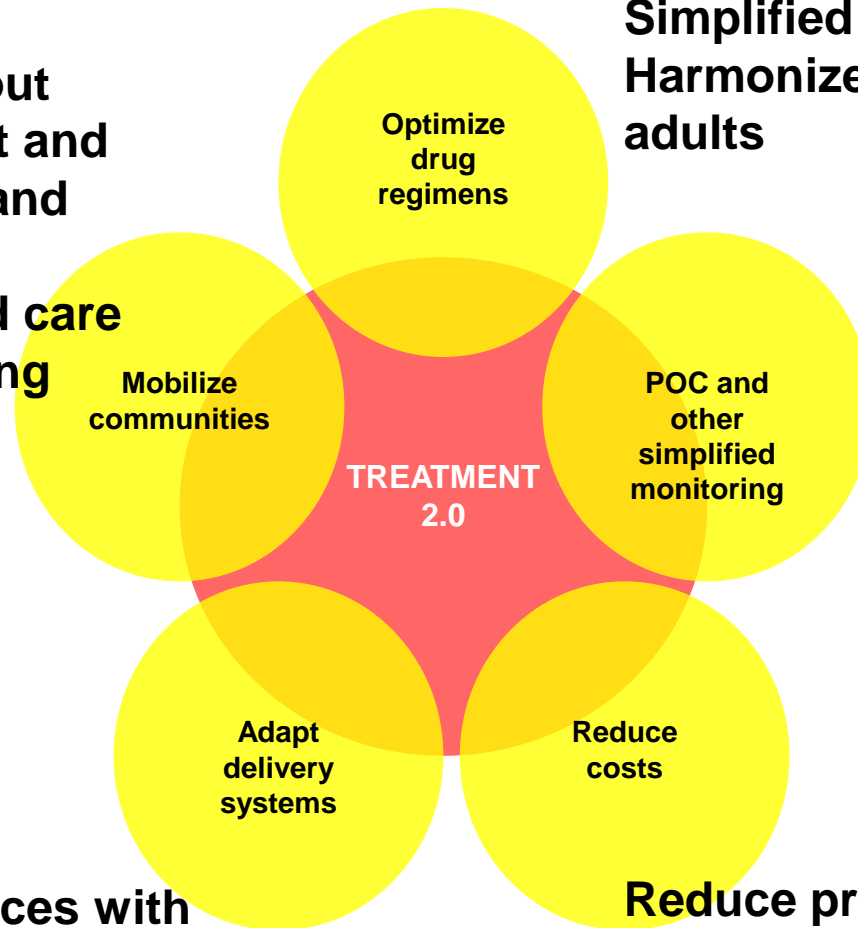
- Sustained long term treatment

- 20% HIV+ people are lost to follow up by 48 months of treatment

Responses to challenges

Raise awareness about prevention, treatment and care, related stigma and discrimination
Deliver treatment and care programmes, including towards vulnerable populations
Ensure human rights protection

Decentralizing
Integrating HIV services with non-HIV services
Task shifting



Simplified effective regimens
Harmonized for children and adults

Access to simple and affordable point-of-care and diagnostics
Ensure quality and quality-control of standards and innovative technologies

Reduce prices of drugs, tests and commodities
Reduce hospital and monitoring costs and users expenses

Cost-effectiveness in HIV care (Y. Yazdanpanah)

- **How to best utilize the available resources in LIC and HIC?**
- **Cost-effectiveness (CE) analyses are tools**
 - Tools to assist decision makers in choosing from among competing alternatives, in situations of uncertainty and limited resources for understanding, prioritizing and optimizing the use of health care services
 - One component among other issues
- **Two questions to be asked for any strategy :**
 - Is it effective?
 - Is it cost-effective?

Cost-effectiveness in HIV care (Y. Yazdanpanah)

- CE doesn't mean cheap!
- CE is different from cost savings
 - More effective intervention: often more expensive
- CE analyses are not always necessary
 - Is the additional benefit worth the additional cost?

		Incremental Cost	
		+	-
Incremental Health Effect	+	Evaluate C/E Ratio	<i>Yes</i>
	-	<i>No</i>	Evaluate C/E Ratio

Cost-effectiveness in HIV care (Y. Yazdanpanah)

- How can these strategies best be used?
 - Optimal timing of ART initiation
 - Sequencing of ART regimens?
 - Strategies to monitor ART efficacy and to examine criteria for switching ART regimens
 - Adherence, loss to follow-up interventions,
 - Interventions to avoid medications stockouts
 - HIV testing, linkage to care
 - Prevention interventions

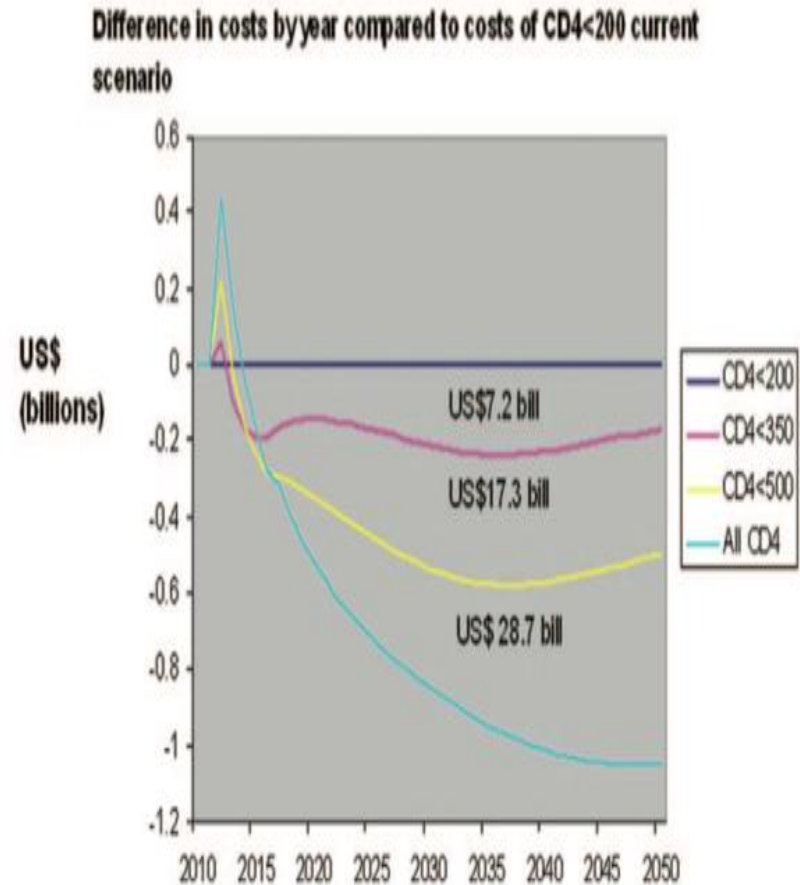


Figure 3. Annual cost by scenario compared to current prevention scenario baseline, 2010-2050.

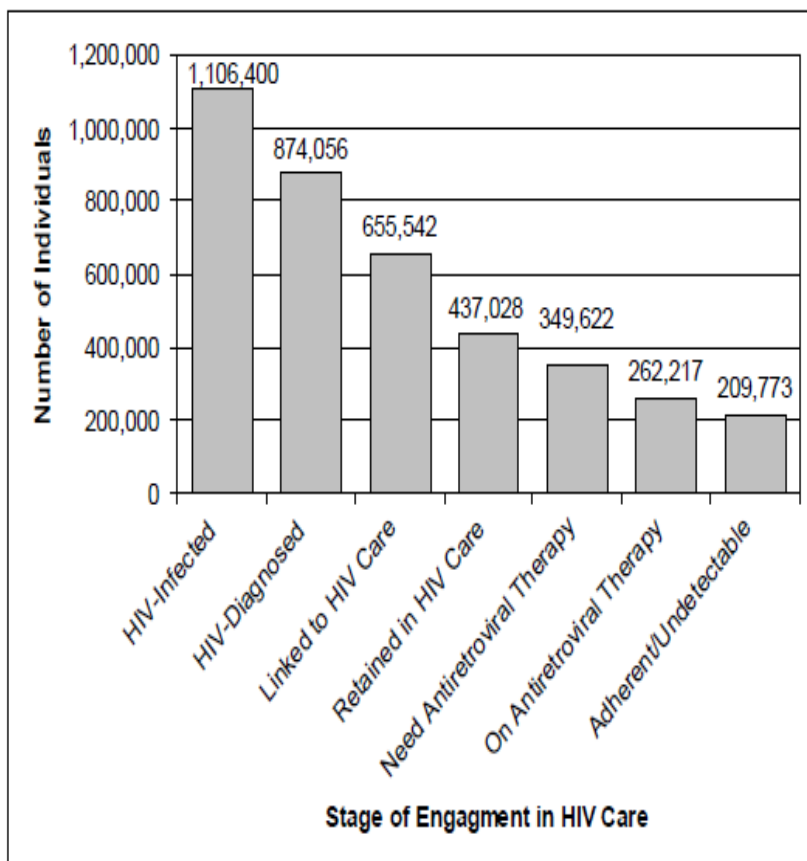
Treatment as Prevention (J.Lange)

- Implementation of TasP should NOT await further EFFICACY trials
 - Annual new HIV infections fell 21% between 1997 and 2010 but **2.7** (2.4 – 2.9) million new HIV infections in 2010
 - But...



Treatment as Prevention (J.Lange)

TasP won't be easy



TasP not enough but critical

- should be scaled up in conjunction with other effective HIV prevention interventions
- an essential component of the prevention package and should be rolled out as expeditiously as possible

Treatment as Prevention (J.Lange)

- **Why to treat as early as possible**
 - To maximize individual and public health benefits :
 - Biological plausibility
 - Overwhelming evidence that it increases survival
 - No immune reconstitution syndrome
 - Reduces TB incidence
 - Prevents “non-HIV-related disease”
 - “Health systems light” (task shifting)
 - Will reduce HIV transmission

Pre-Exposure Prophylaxis (M.A. Wainberg)

- **Will the use of antiretroviral drugs before sexual exposure prevent HIV acquisition ?**
 - It works in PMTCT programs
 - Efficacy was demonstrated in many *in vitro* experiments and in monkey models
- **What about Human trials?**
 - Six efficacy trials
 - Caprisa 004; iPrex; Fem-PrEP; Partners
 - All treatment strategies assessed TDF or TDF/FTC vs PCB
 - Inconsistent results
 - HIV transmission was reduced from 39 to 75%

Pre-Exposure Prophylaxis (M.A. Wainberg)

- **Questions raised :**

- Is the high level of adherence required with daily Prep achievable ?

- Adherence appeared to be one of the key factors for success

- What about emergence of resistant viruses?

- Few or no emergence of resistant viruses
- Exclude acute infections before starting PrEP

- Is there a risk of change in behavior that could off-set the benefit of Prep ?

- Safer sex practices and fewer sexual partners (iPrex)
- Same level of syphilis in each arm

- Is Oral Prep safe enough ?

PrEP – the debate must go on!

Pros

- Used for other diseases and in PMTCT
- It works and must be combined with other prevention strategies
- It is cost-effective
- Use drugs approved by regulatory agencies
- it is not mutually exclusive of other resources allocation

Cons

- Treatment are those who need them before
- It doesn't work other prevention strategies are much more efficient
- It is expensive and will increase health care related costs
- It is pushed by pharmaceuticals industry
- It will re-allocate resources from research or prevention

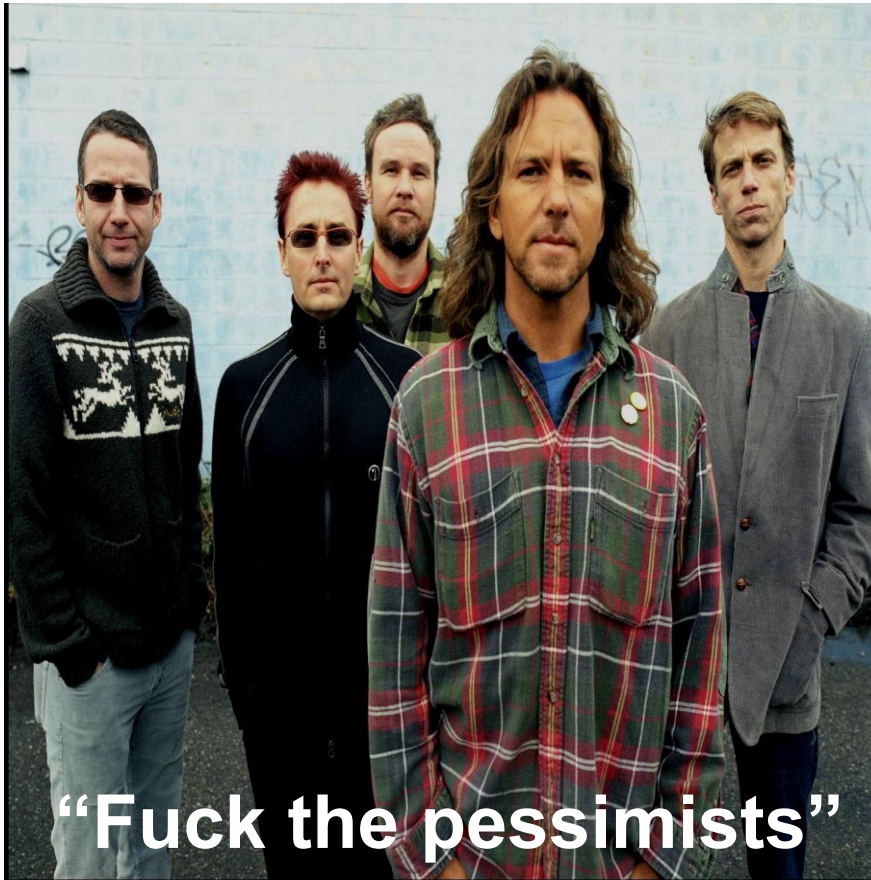
Key messages - 1

- **Need for better indicators to update the state of the epidemic**
- **Challenge to keep everybody in treatment and care**
 - Development of new drug regimens
 - Improve the « HIV cascade »
 - Strengthen health systems
 - Provide helpful informations for decision makers

Key messages - 2

- **Universal Access will not be achieved without a response grounded on science, political and financial commitments and human rights**
 - Human rights promotion needs more than ever to be a key principle of action to respond to the HIV/AIDS crisis
- **HIV transmission can be strongly reduced by treatments either pre- or »post«-exposition, but**
 - It is not going to be easy
 - It will not be enough
- **We need further research to evaluate PrEP strategies !**

Conclusion : we can end AIDS!



- Let's believe in Timothy R. Brown's dream :
« We are cured »