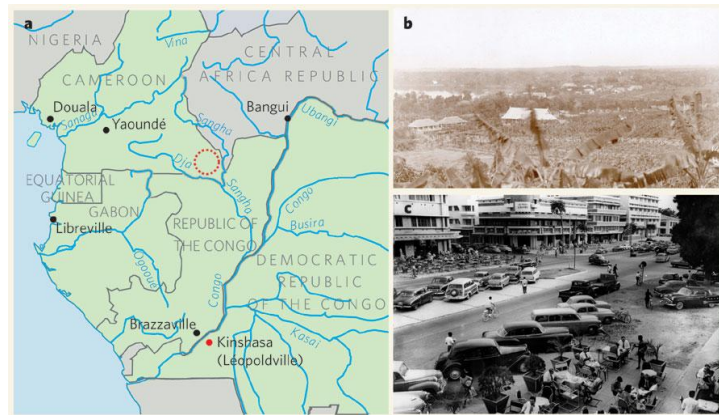


HIV

A long journey

some facts for general interest



Rein Sikut, Ph.D.
Scientific adviser
GSK Estonia

When AIDS was first noticed?

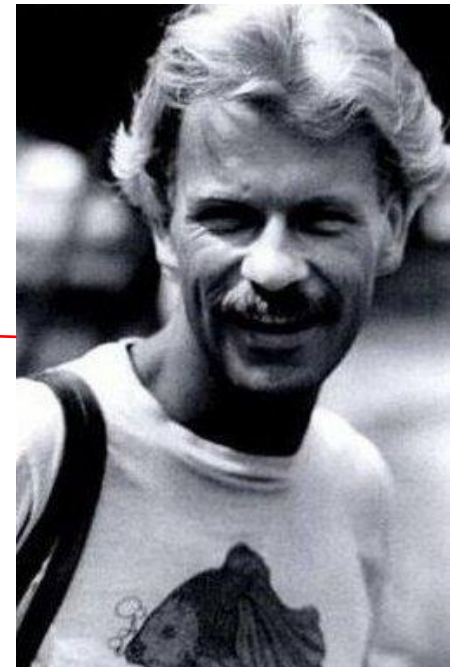
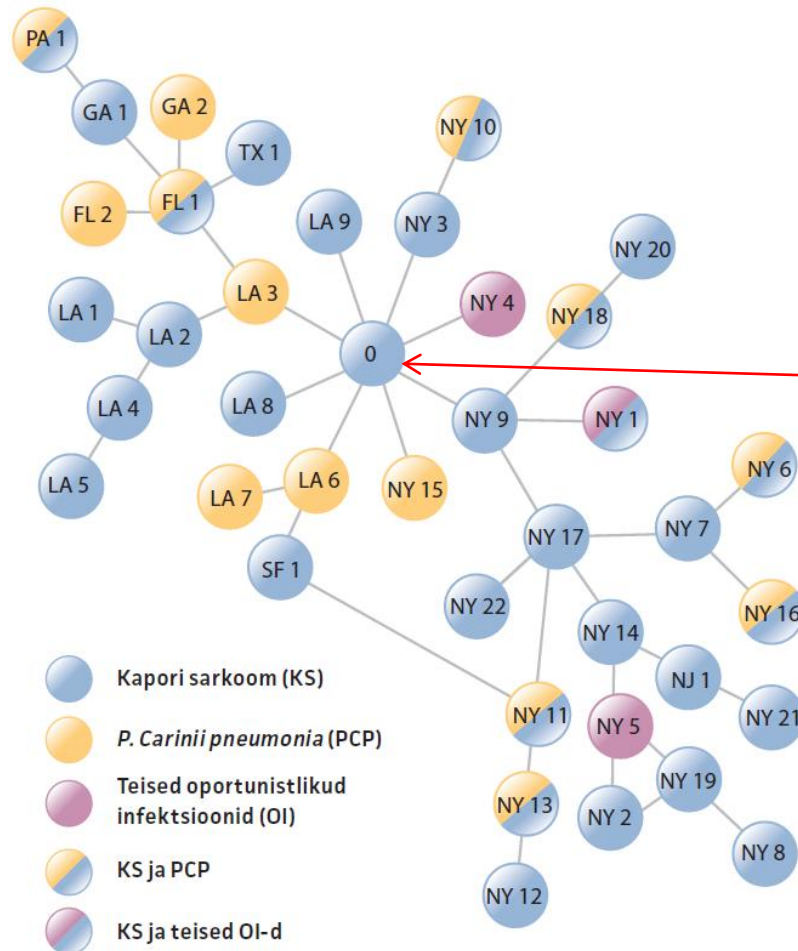
In June 1981, large cities of USA – Los Angeles, New York and San Francisco reported new disease that was affecting young gay men.

Patients were hospitalized due to pneumonia,
All had very low CD4+ cell count, immune system was not functioning.

Many of them developed Kapos'i sarcoma, a rare type of skin cancer usually seen in old people.

1982

It was revealed that it is infectious disease, main risk group is MSM with high number of partners. “Patient zero” in USA was identified



Gaëtan Dugas
1953-1984

Auerbach D et al. Am J Med. 1984
põhjal

HIV-1 virus was identified in 1983

Nobel Prize in Physiology & Medicine 2008
For their discovery of HIV.



Francoise Barré-Sinoussi



Luc Montagnier



Robert Gallo

What do we know about HIV ?

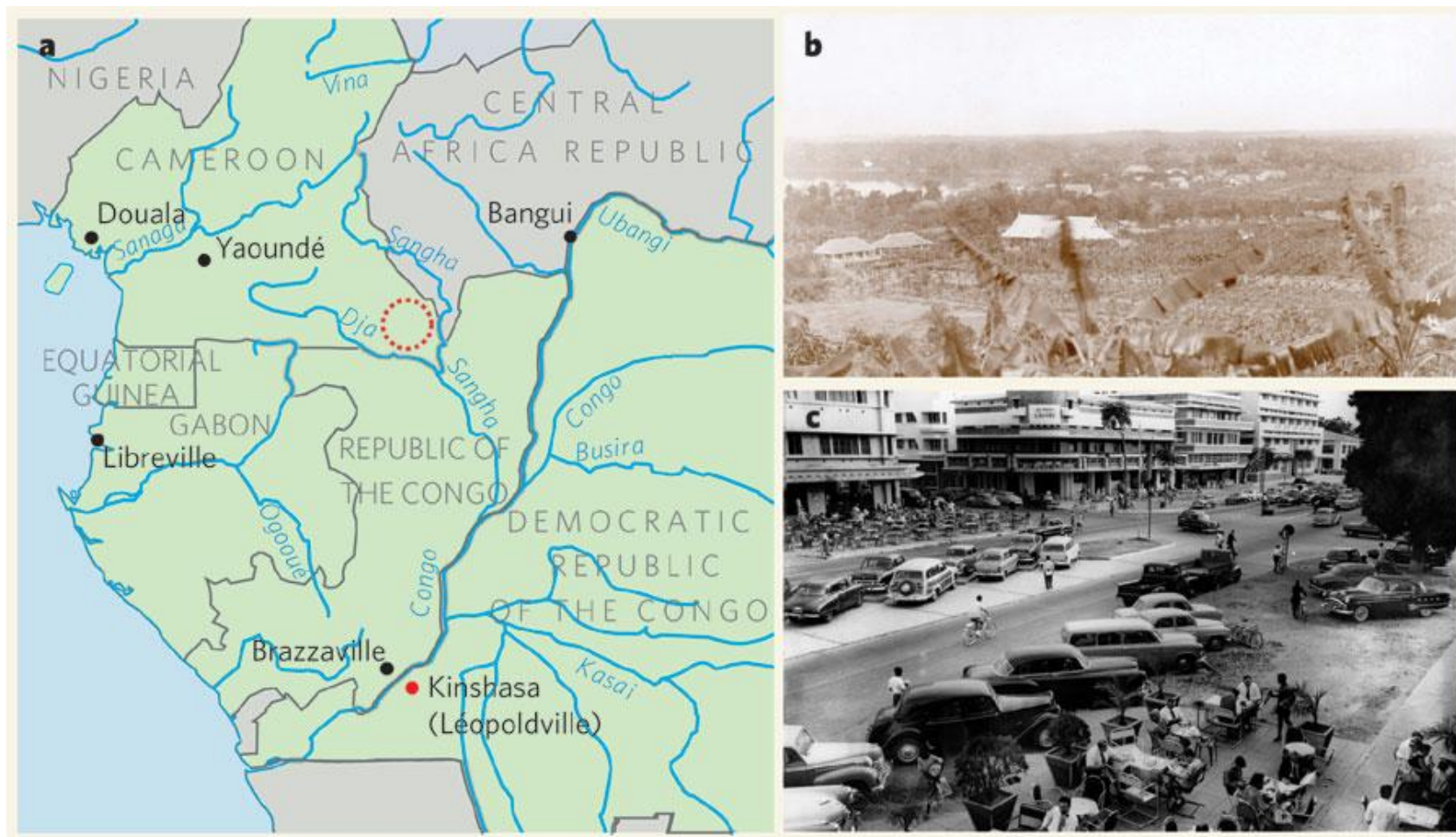
- Where the virus comes from?
- When did it came over to humans
- How did it happen?
- What were the initial routes of HIV spread in the world?
- How the virus works in human cells and how to stop the virus proliferation by drugs.

But we don't know:

- How to eradicate virus from the body?
- How to make vaccine against that?
- etc.

Kinshasa - the oldest samples of HIV, originating from 1959 and 1960 were found:

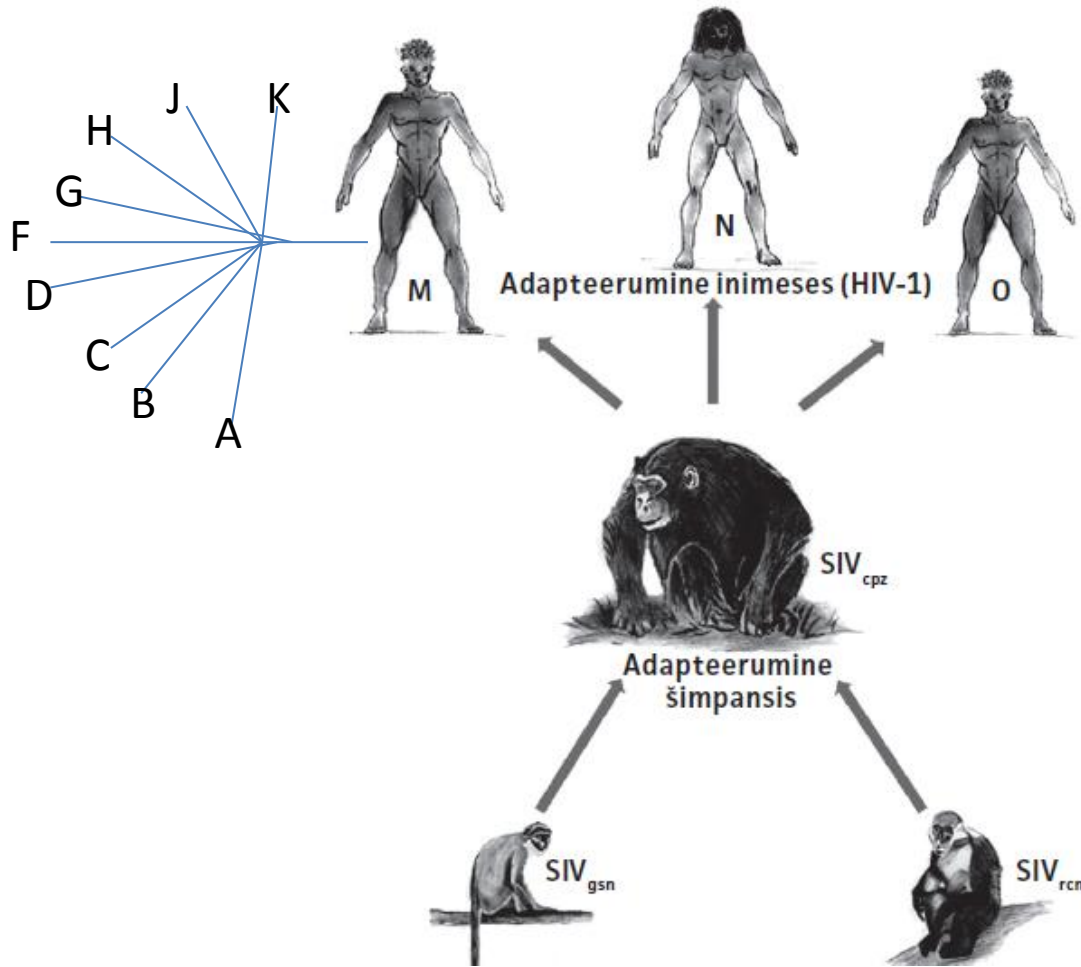
Kinshasa – starting point of global HIV pandemic



Sharp PM and Hahn BH. Nature, Vol 455, Oct 2008, p.605

Origin of HIV-1: from chimps to humans.

SIV- simian immunodeficiency virus, the closest relative of HIV



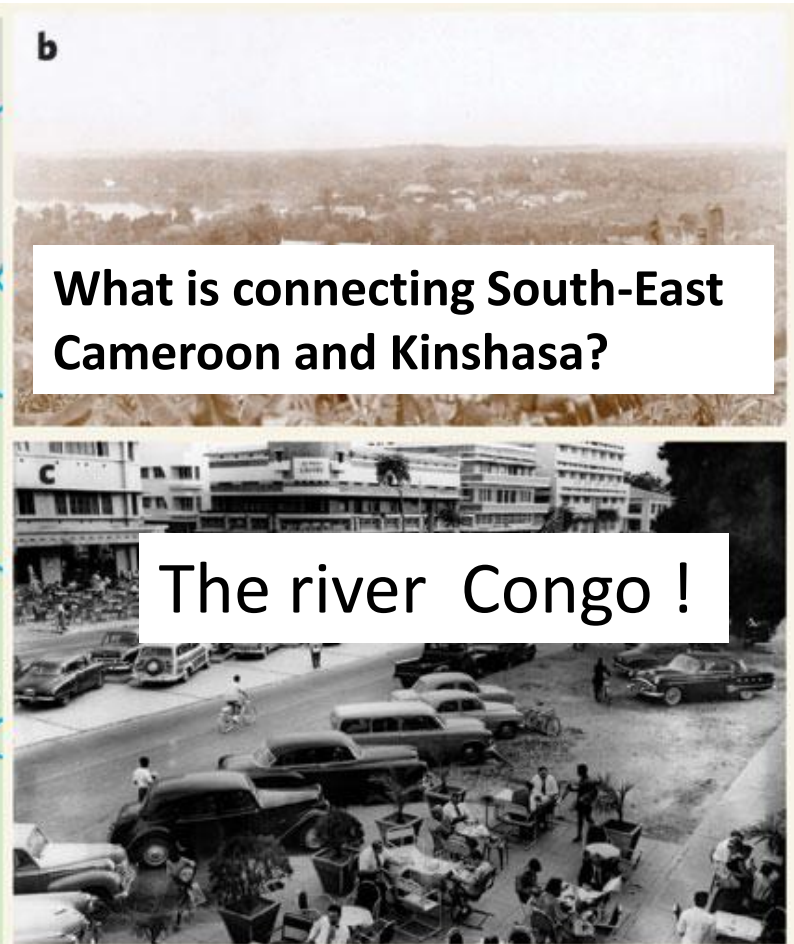
Estimated time of transmission:

1908 ± 20 y

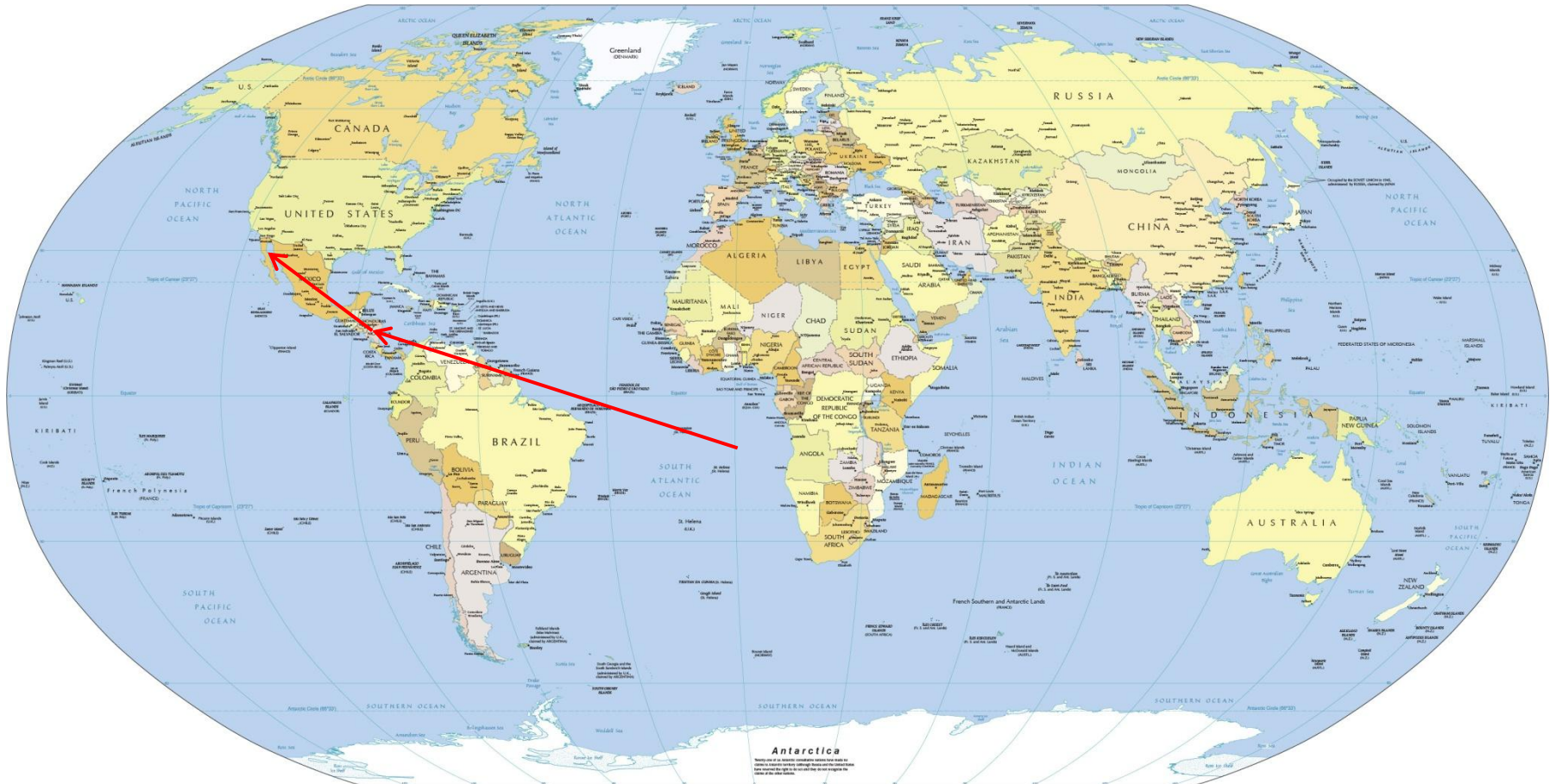


Drawn according to :
Heeney et al. *Science* 2006;313:462-6

Transmission site of SIV to humans: South-East of Cameroon



Out from Africa: to Haiti and USA



Who carried the virus to Haiti ?

From USA to the rest of the World

After initial recognition of the disease in 1981, it took only 6-7 years to reach Baltic countries:

HIV hit Baltics in :

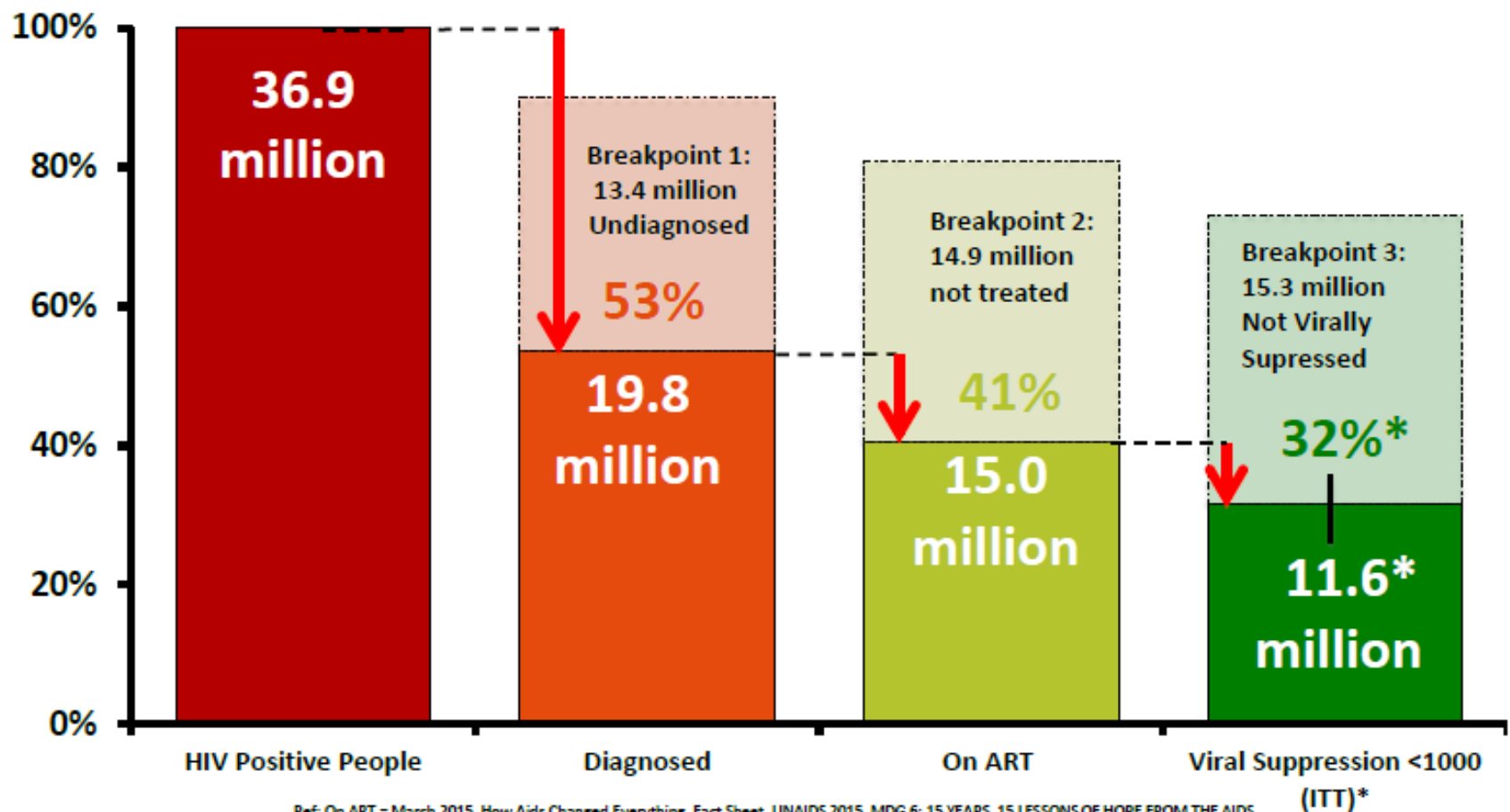
1987 Latvia

1988 Estonia

1988 Lithuania

How many HIV+ people are globally?
How many are diagnosed?
How many are on treatment?

Global Estimates (2014-15) vs the Gap to reach 90-90-90 Targets



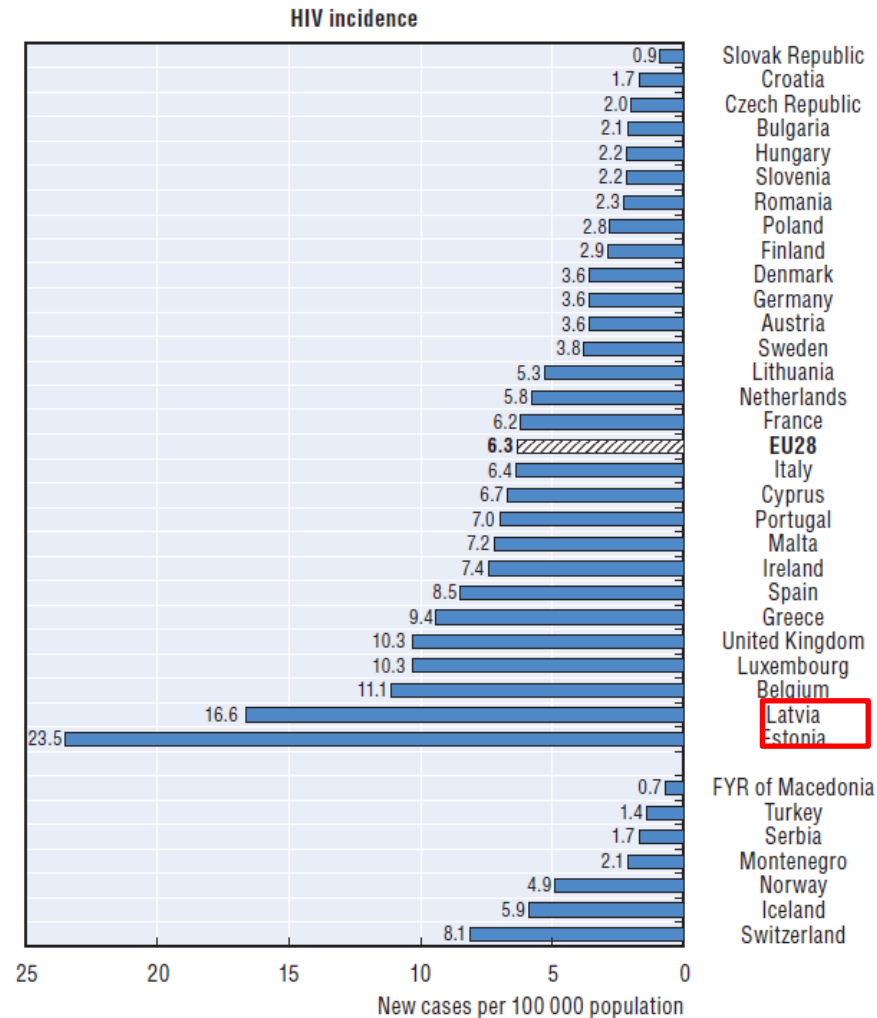
Which country has the largest HIV epidemic in the World?

South African Republic

6.3 million people living with HIV,

3.4 million are on ARV therapy

Situation in EU

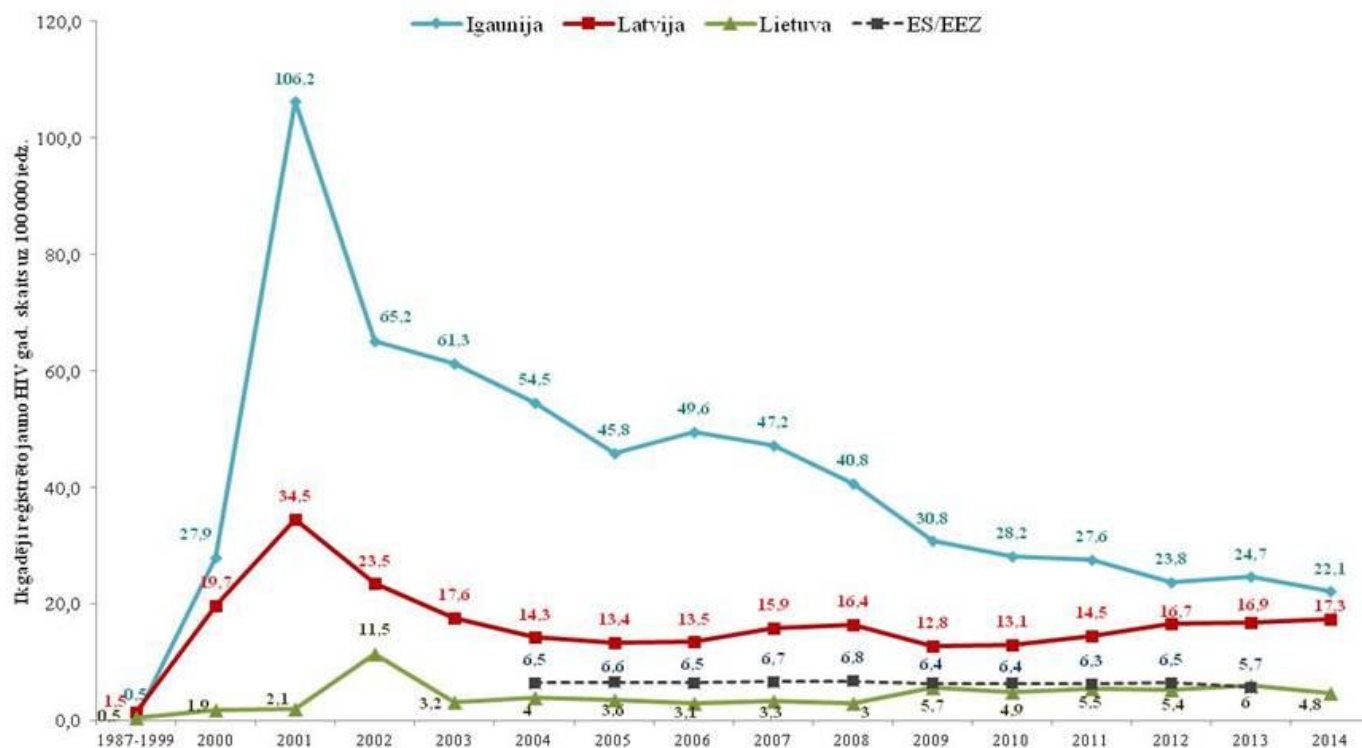


OECD/European Union (2014), "HIV/AIDS", in *Health at a Glance: Europe 2014*, OECD Publishing.

http://dx.doi.org/10.1787/health_glance_eur-2014-15-en

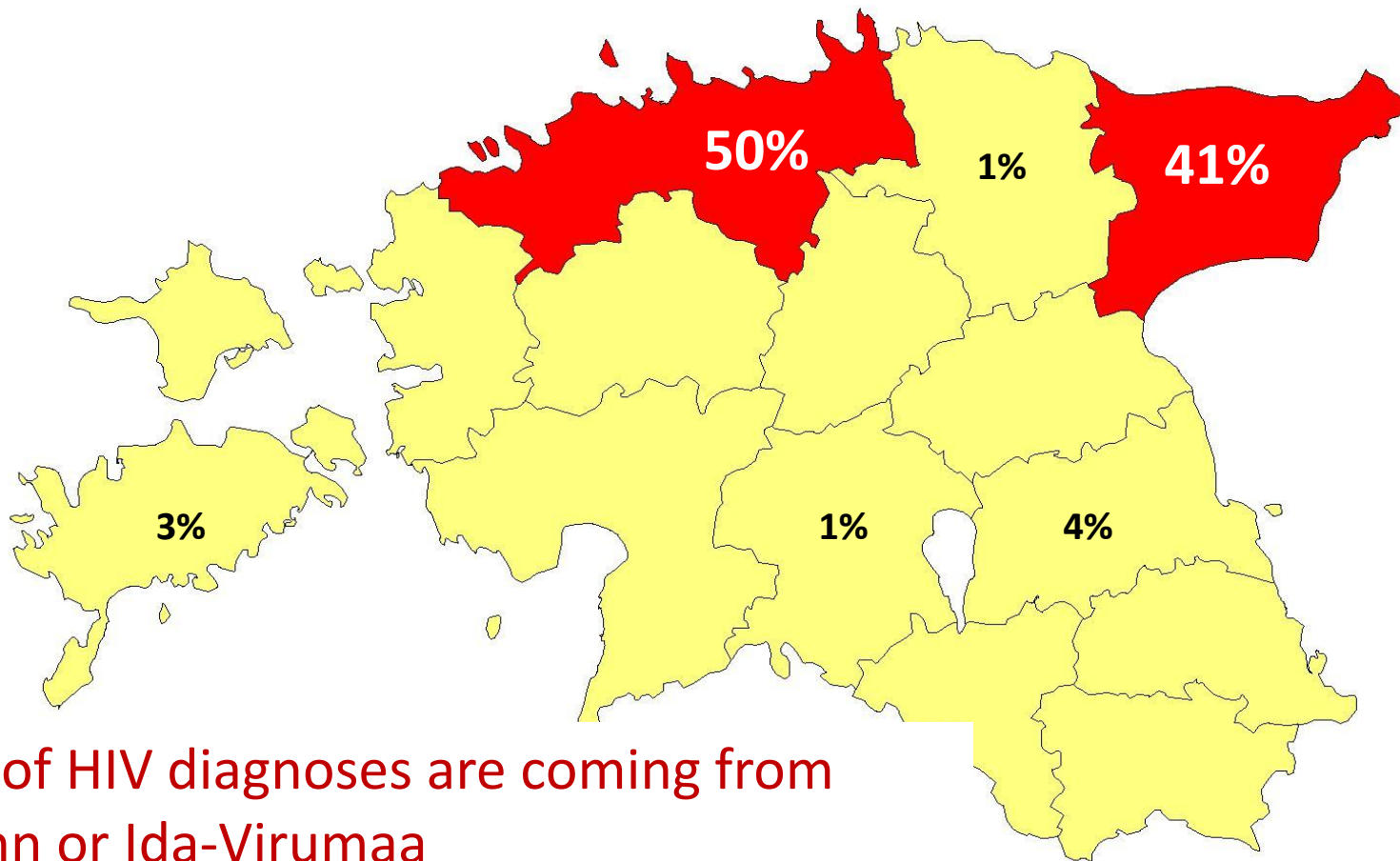
Trends in HIV incidence rates in Baltic countries (1987-2014)

Ikgadēji reģistrēto jauno HIV gadījumu skaits Baltijas valstīs un ES/EEZ uz 100 000 iedzīvotāju, 1987-2015 (1.janvāris)



Sagatavoja Biedrība "Baltijas HIV Asociācija"

Avoti: ECDC/PVO Euro, EuroHIV, Igaunijas Veselības aprūpes padome, Eurostat, LR Centrālā Statistikas pārvalde, Lietuvas Statistikas departaments, Igaunijas Centrālā statistikas pārvalde, Lietuvas Infekciju slimību un AIDS centrs, Latvijas Slimību profilakses un kontroles centrs



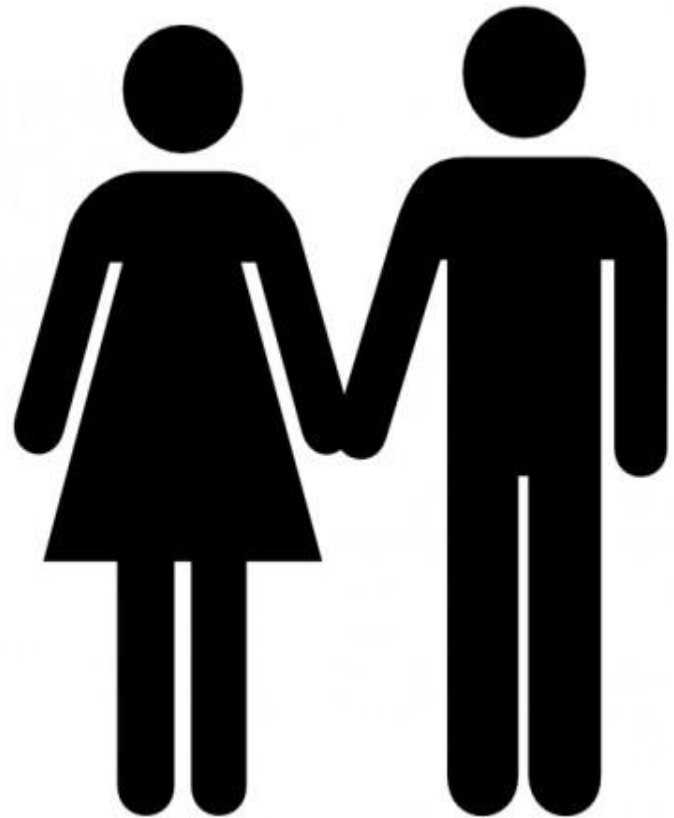
91% of HIV diagnoses are coming from Tallinn or Ida-Virumaa

HIV treatment is prevention

Effective treatment reduces
transmission risk by

96%

in heterosexual couples



HIV treatment prevents mother-to-child
transmission by

98%



We have drugs against HIV.

What is lacking?

- How to find infected people in due time?
- How to motivate patients to start treatment and stay on treatment?
- How to reduce stigma related with HIV infection?
- etc.