

IAS-JCIE Symposium

# HIV in Japan



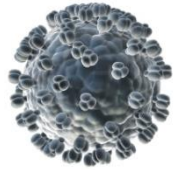
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# AIDS and HIV-1



- 1981 First case report of AIDS from Los Angeles
- 1983 Discovery of HIV-1 by Françoise Barre-Sinoussi

Centers for Disease Control and Prevention  
**MMWR**

June 5, 1981 / 30(21);1-3

***Pneumocystis* Pneumonia --- Los Angeles** 1981

In the period October 1980-May 1981, 5 young men, all active homosexuals, were treated for biopsy-confirmed *Pneumocystis carinii* pneumonia at 3 different hospitals in Los Angeles, California. Two of



**1983**

**Isolation of a T-Lymphotropic Retrovirus from a Patient at Risk for Acquired Immune Deficiency Syndrome (AIDS)**

Abstract. A retrovirus belonging to the family of recently discovered human T-cell leukemia viruses (HTLV), but clearly distinct from each previous isolate, has been

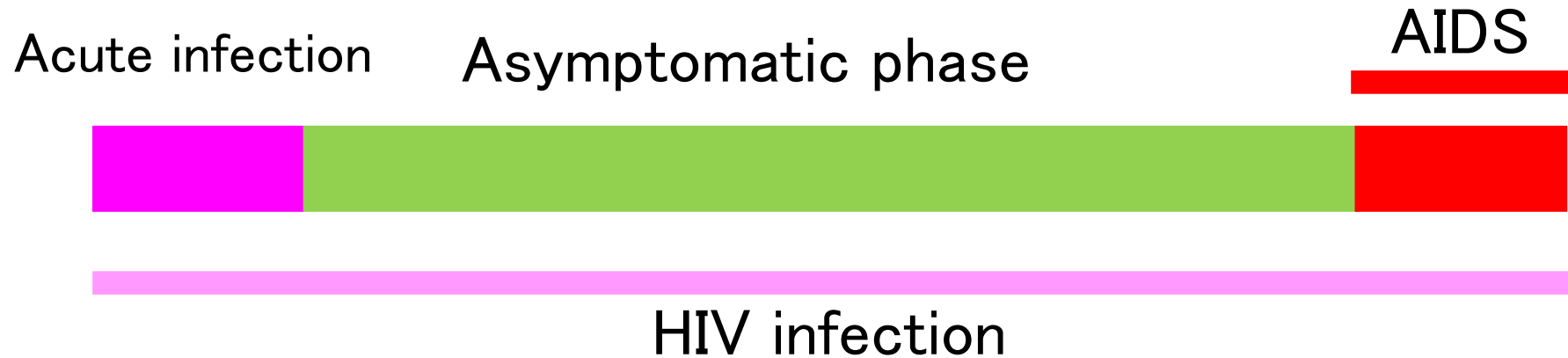
**Science**  
MAAS



# Brief history of HIV/AIDS

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AIDS is the terminal phase of HIV infection



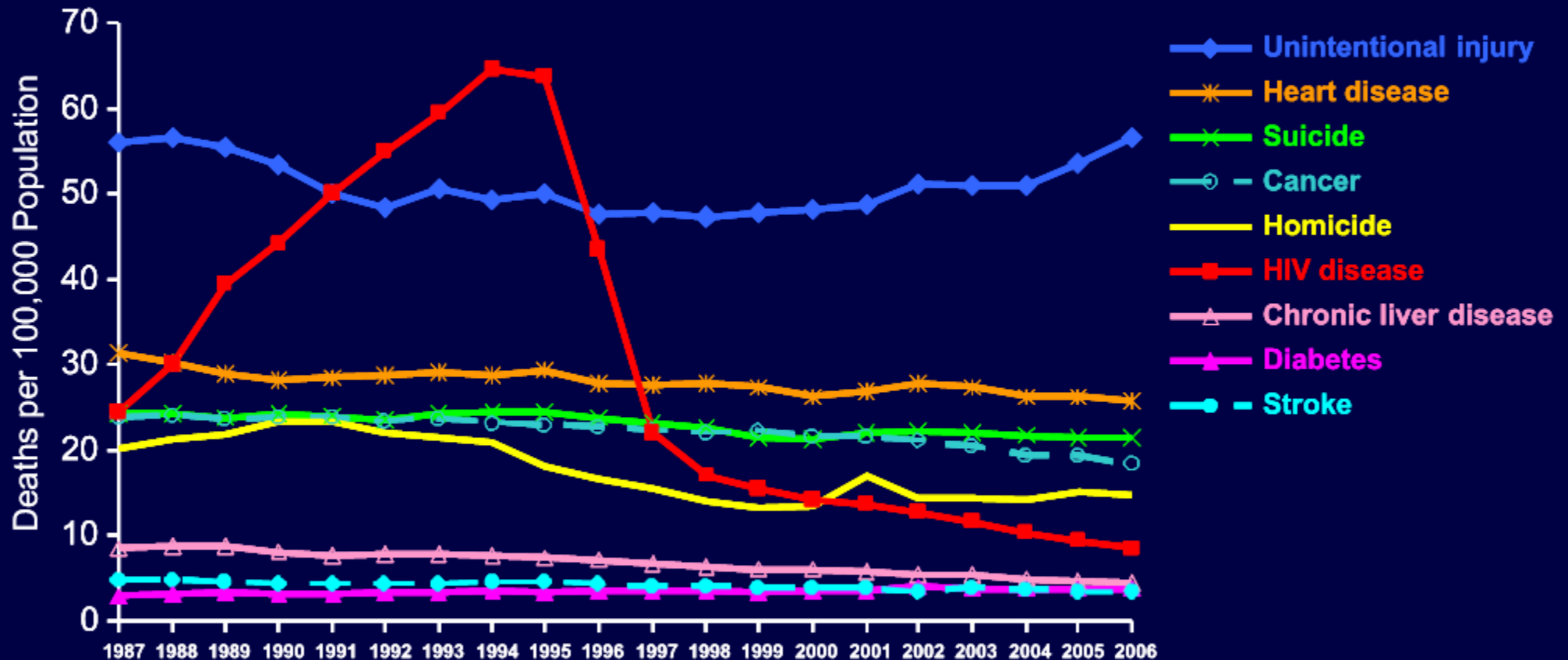
**AIDS: Disease caused by CD4 depletion caused by HIV**

1996~

Improvement of prognosis by antiretroviral therapy

# 9 leading causes of death, U.S.A. in 1987–2006

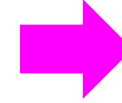
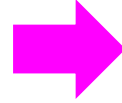
Male 25–44 y/o



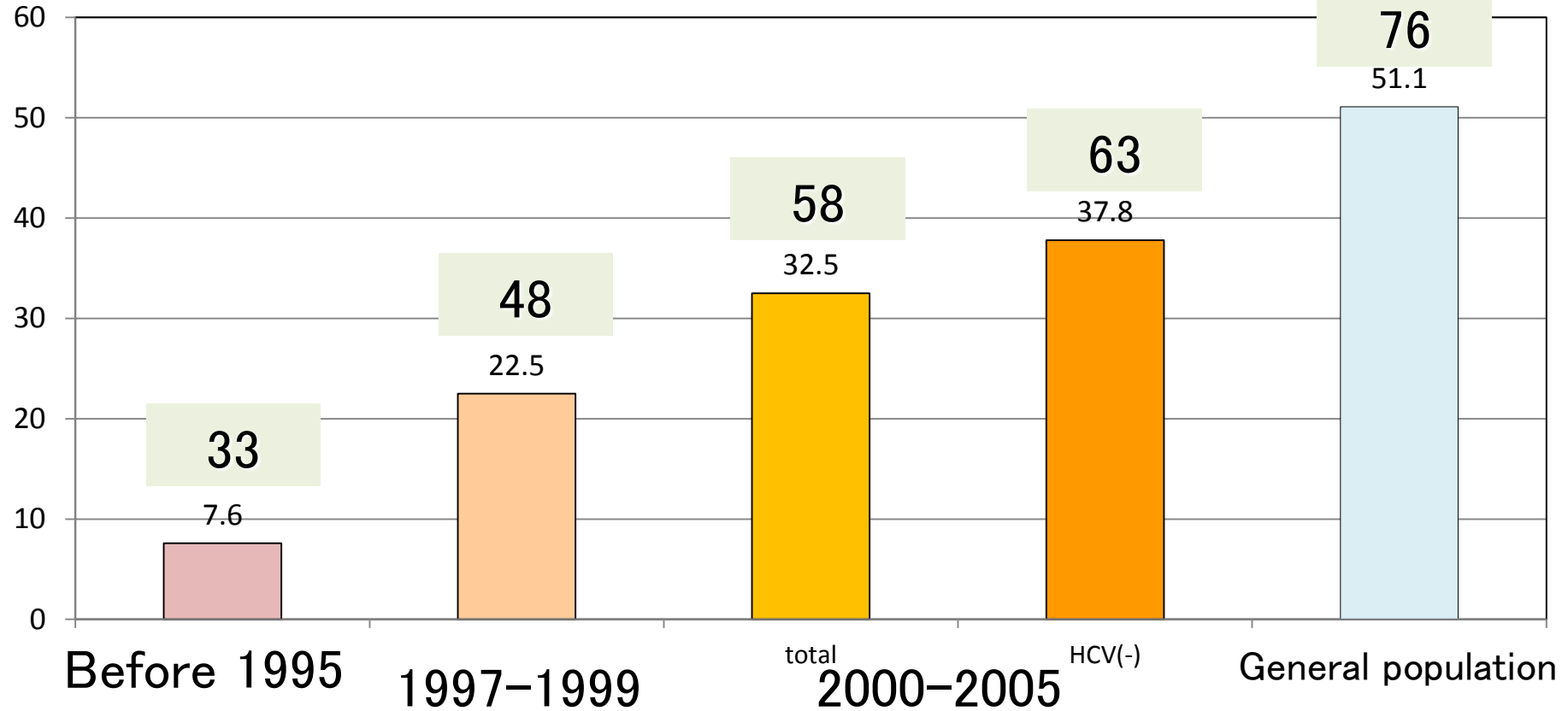
Note: For comparison with data for 1999 and later years, data for 1987–1998 were modified to account for ICD-10 rules instead of ICD-9 rules.



# Further improvement of antiretroviral drugs and prognosis



Age Estimated life expectancy of the people infected by HIV at 25



# Recent breakthrough-1

One HIV-1-positive, the other negative

1,763 randomized couples

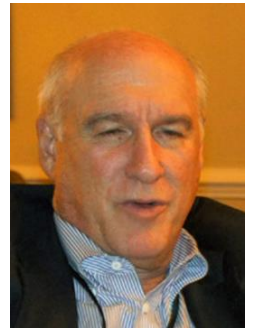
Partner  
infection

886

Immediate ART  
CD4 350-550

877

Delayed ART  
CD4  $\leq 250$



- Early ART was associated with a 93% lower risk of linked partner infection
- No linked infections when HIV-1 infection was stably suppressed by ART.

**Treatment as Prevention**



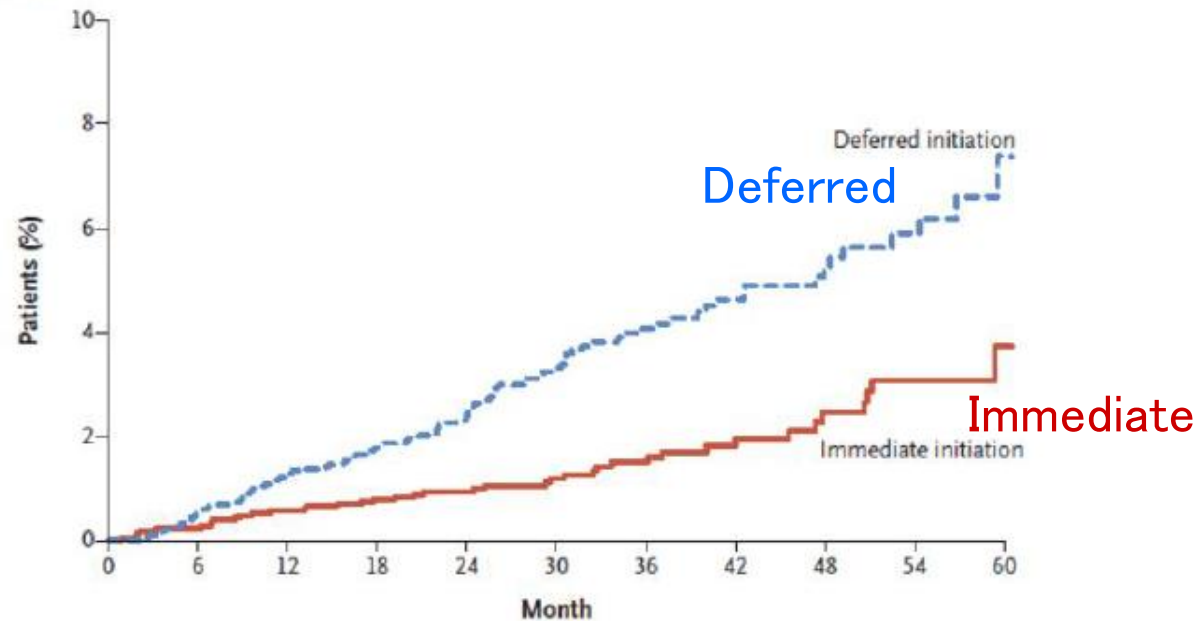
# Recent breakthrough-2

4,685 patients: CD4 651 /  $\mu$  L (median)

Immediate ART

Deferred ART CD4 < 350

A Time to First Primary Event

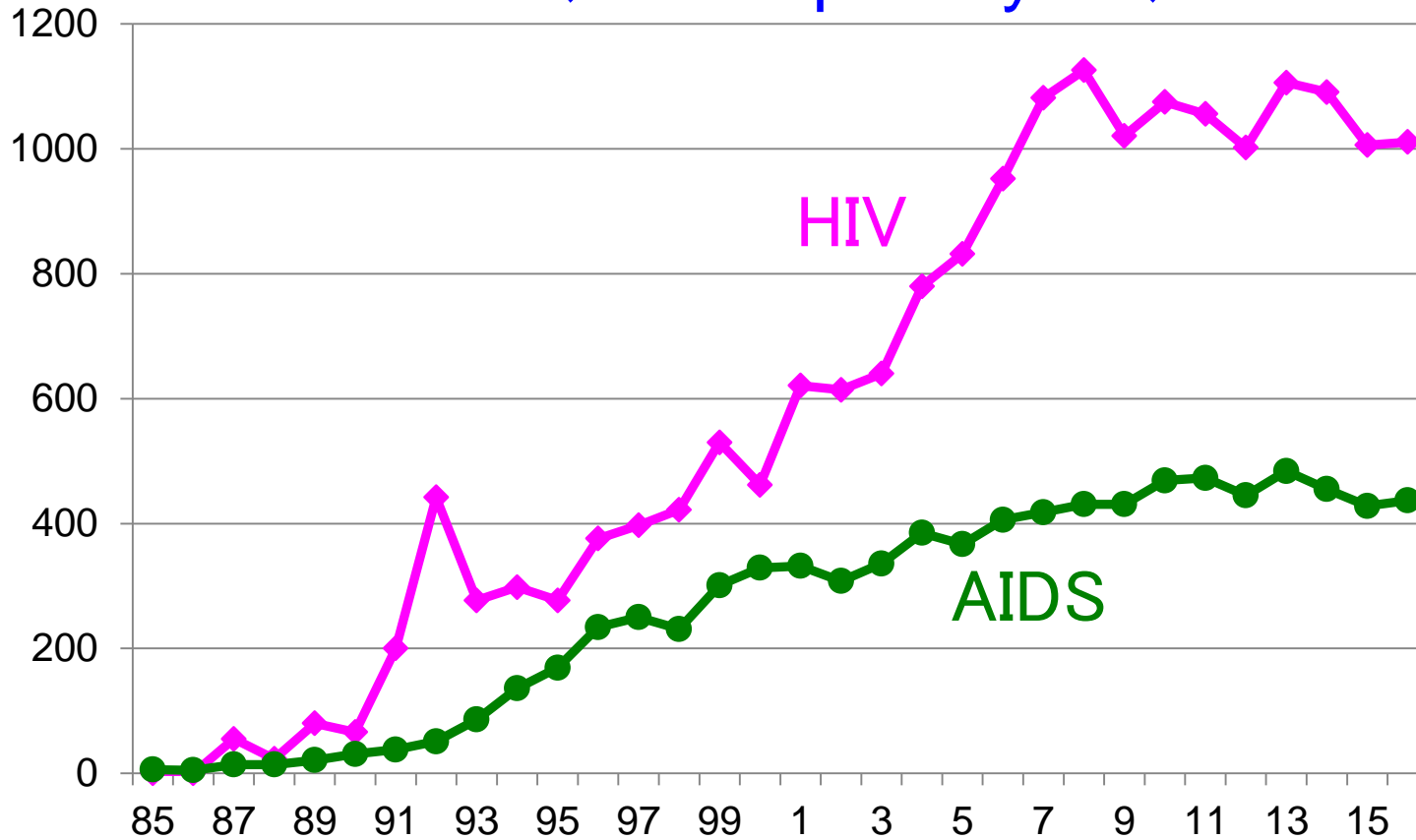


Benefits of the initiation of ART with CD4 > 500

# Annual new report of HIV/AIDS in Japan

(New report / year)

(Japanese + Foreign)  
(Male + Female)



2017  
HIV: 992  
AIDS: 415  
(Preliminary)

AIDS case reporting in Japan: AIDS cases at HIV diagnosis

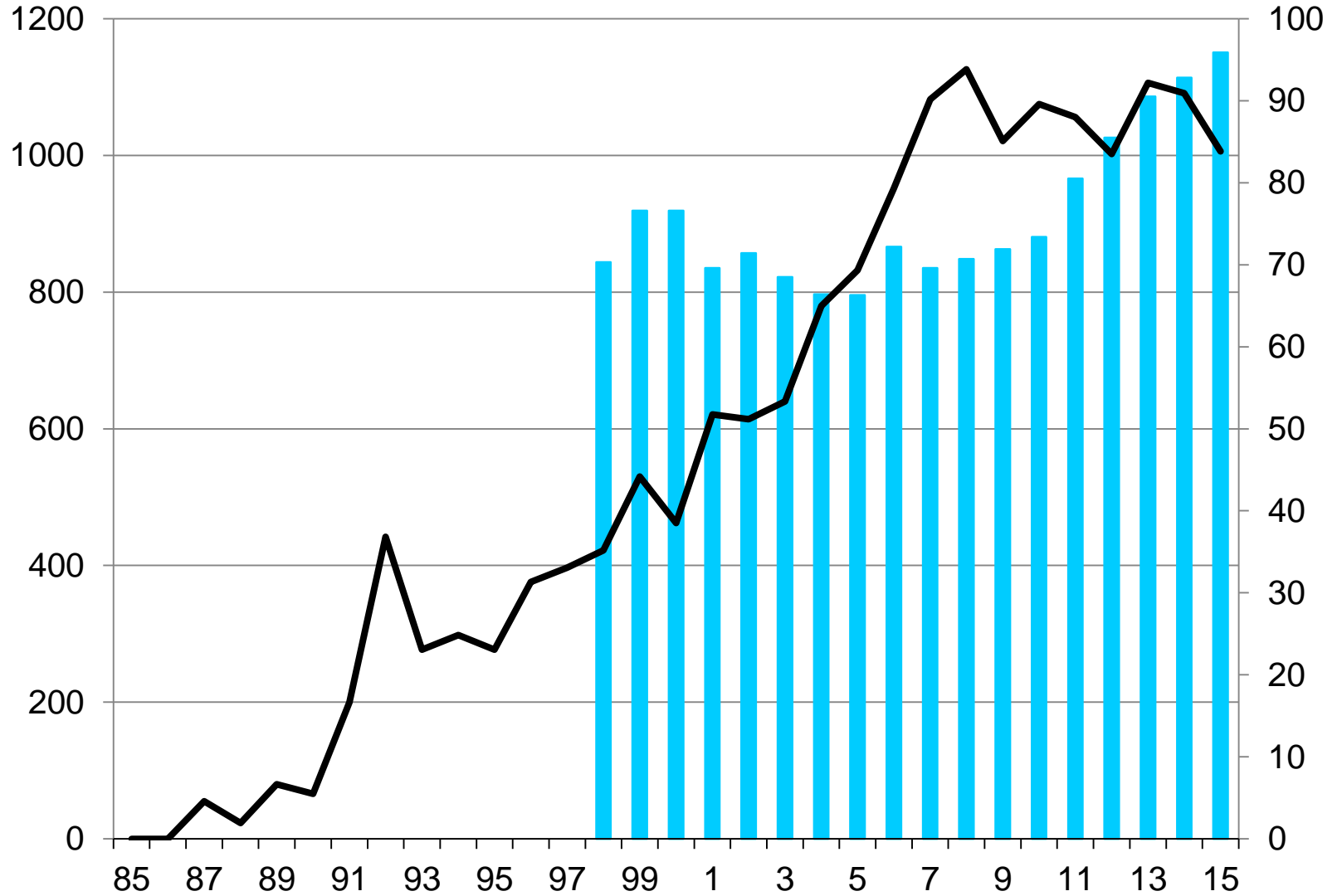
Indicates the late presenters and does not reflect the improvement of ART.



# Percent on ART at IMSUT Hospital

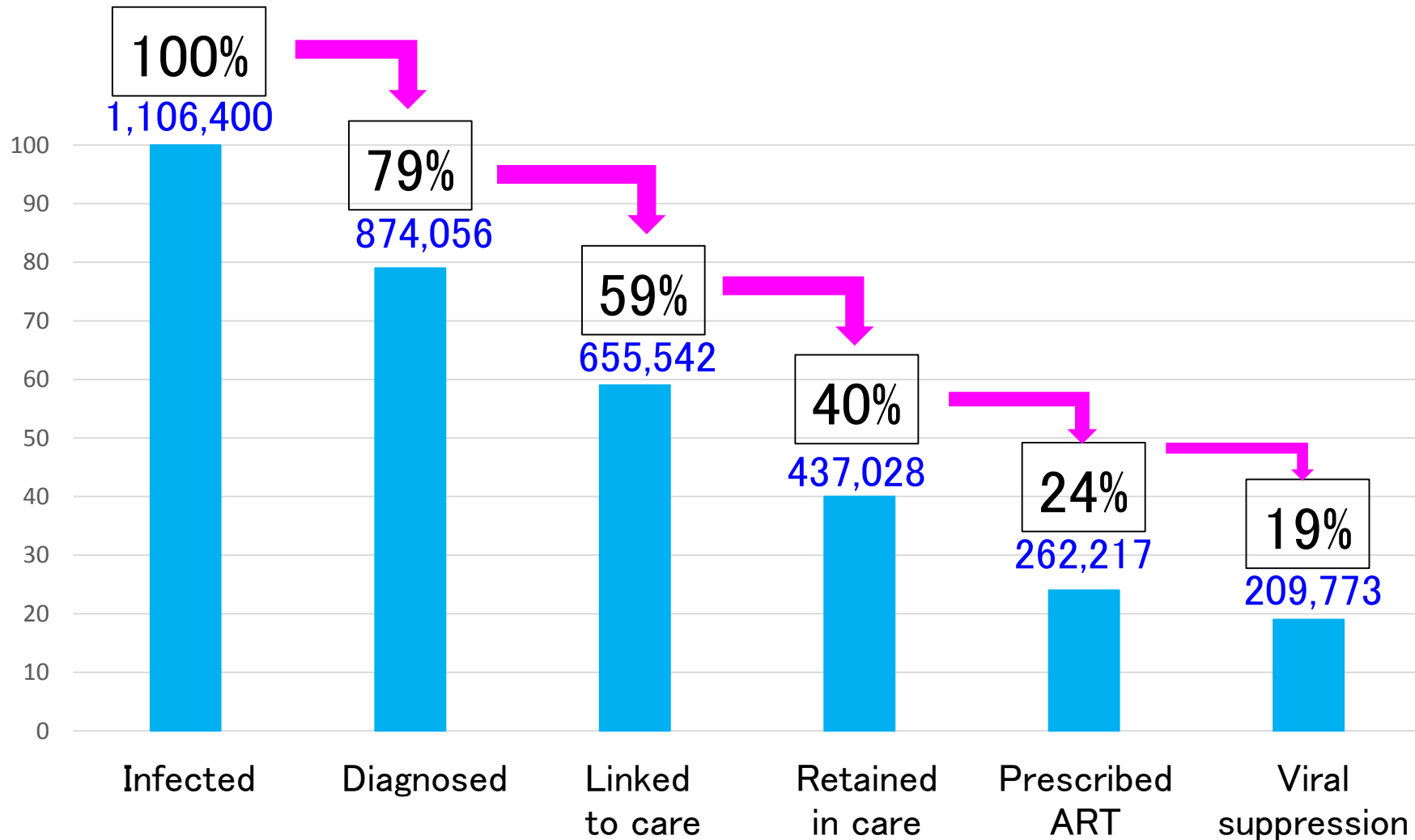
Reported cases

% on ART



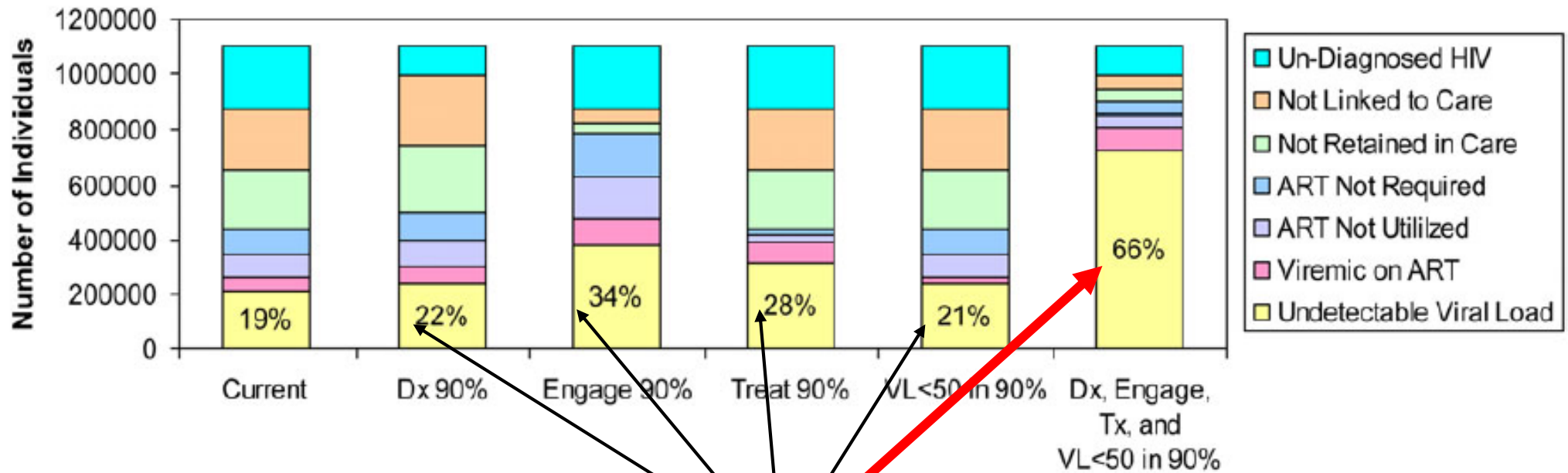
■ % on ART — HIV

# HIV care cascade study in U.S.A.



Denominator: Estimated number of infected people

# HIV care cascade study in U.S.A.: Implications for countermeasure



Minimal improvement by 90% accomplishment of individual steps

Enormous improvement of treatment success by the 90% accomplishment of all rates of diagnosis, treatment and undetectable viral load.

# HIV cascade in Japan: Methods

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## (1) Undiagnosed HIV-positive people

- Average HIV-positive numbers who donated blood for the first time in 2011–2015 to Japanese Red Cross.
- Extrapolation using the age- and sex-matched overall population on October 2015.

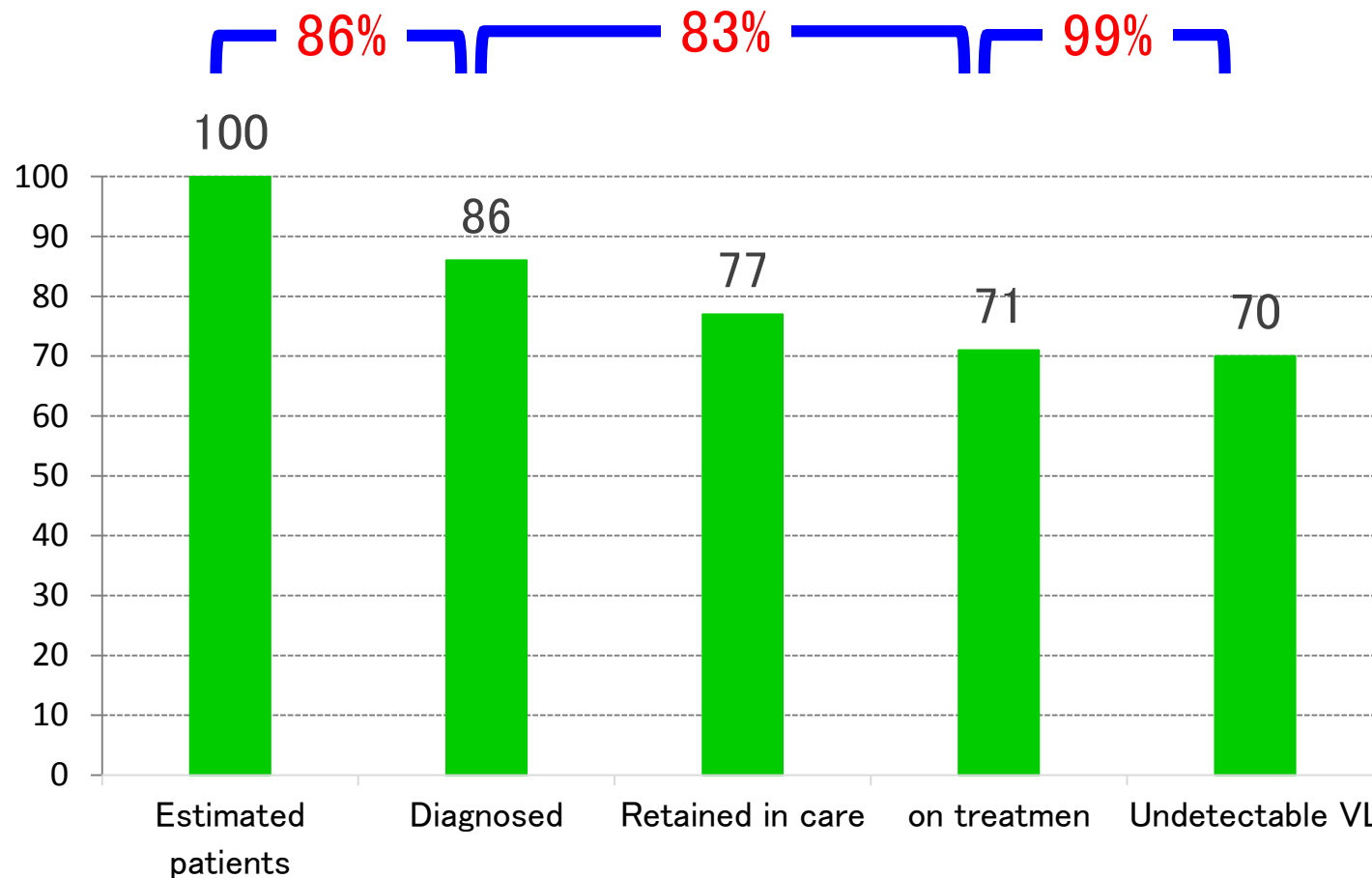
## (2) Diagnosed HIV-positives

- Cumulative data from the Annual AIDS Surveillance Report.
- Included the number from the Nationwide Survey on Coagulation disorders
- Subtracted the number of foreigners who left Japan based on an estimation reported previously.
- Subtracted the number of reported AIDS-related deaths.

## (3) Nationwide questionnaire survey of the AIDS core hospitals

- Health and Labour Sciences Research Grants to Y. Yokomaku.

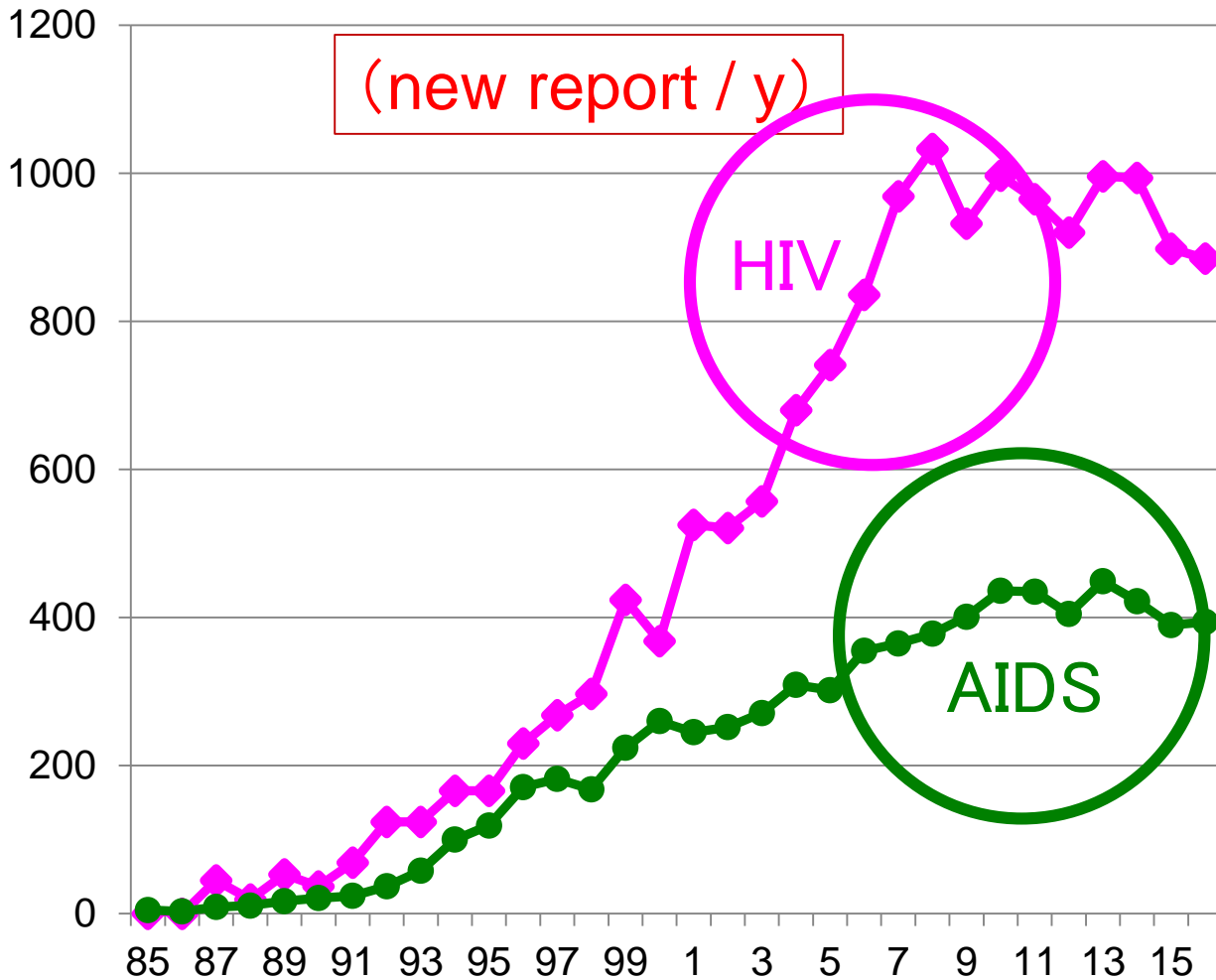
# HIV care cascade and 90-90-90 in Japan



More than 2,000 more people are attending the hospitals without reply or private clinics and are on treatment with suppressed viral load.

# HIV in Japan: What's next?

(Japanese nationality: Male + female)

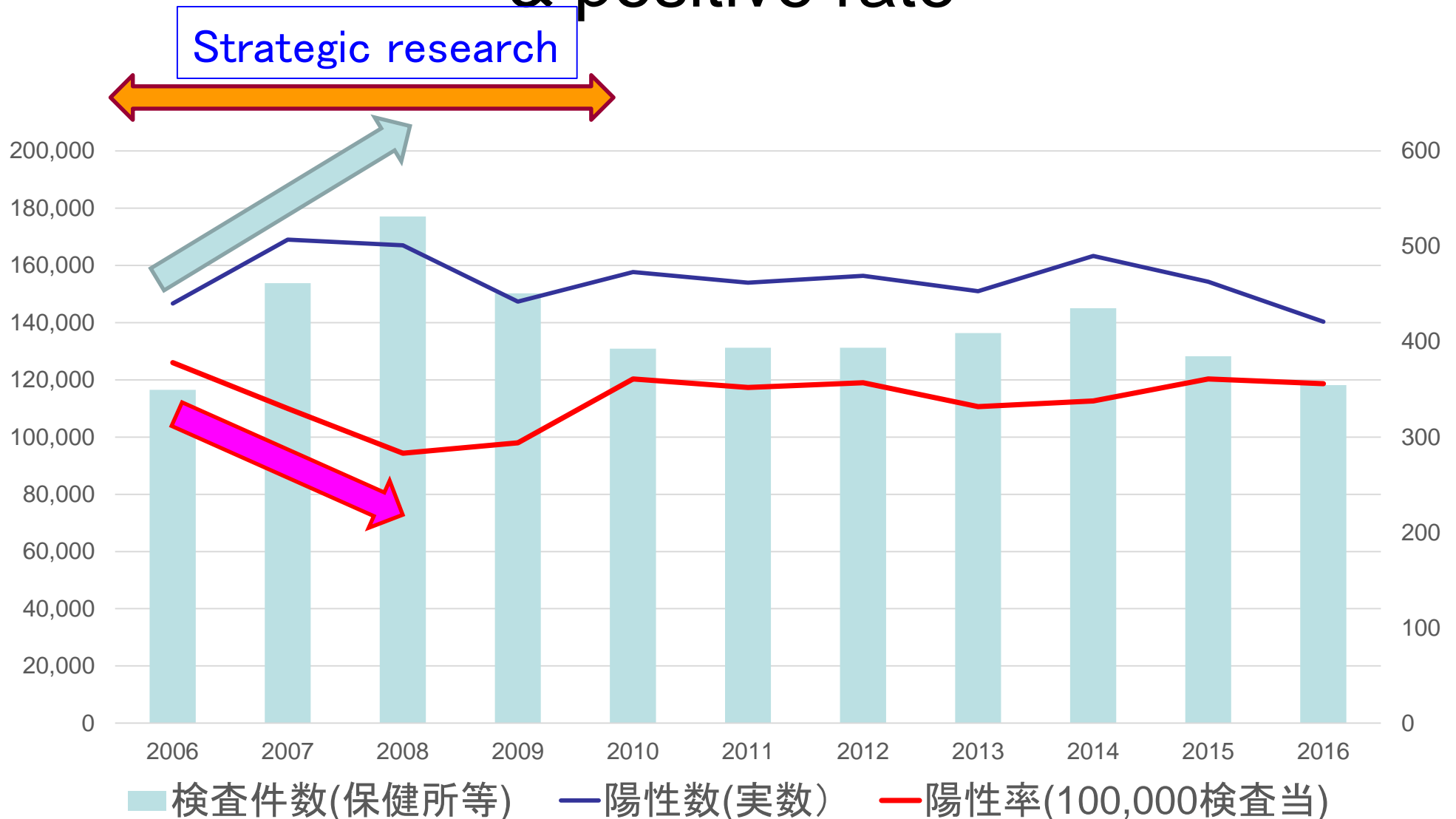


1. Testing promotion?

2. Decreasing new infection?

3. Decreasing new AIDS?

# Testing at health centers, positive numbers & positive rate



Further promotion of current testing would not be effective



# Summary

- Revolutionary improvement of ART → Yes
- Treatment as Prevention → Yes
- Is AIDS over in Japan? → **No!**
- Time for integrated treatment and prevention
- Personal opinion for the next:  
More research on those who do not test and get AIDS.