

# *The Chinese experiences with treatment as prevention*

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CONTROLLING THE HIV EPIDEMIC WITH ANTIRETROVIRALS  
Treatment as Prevention and Pre-Exposure Prophylaxis

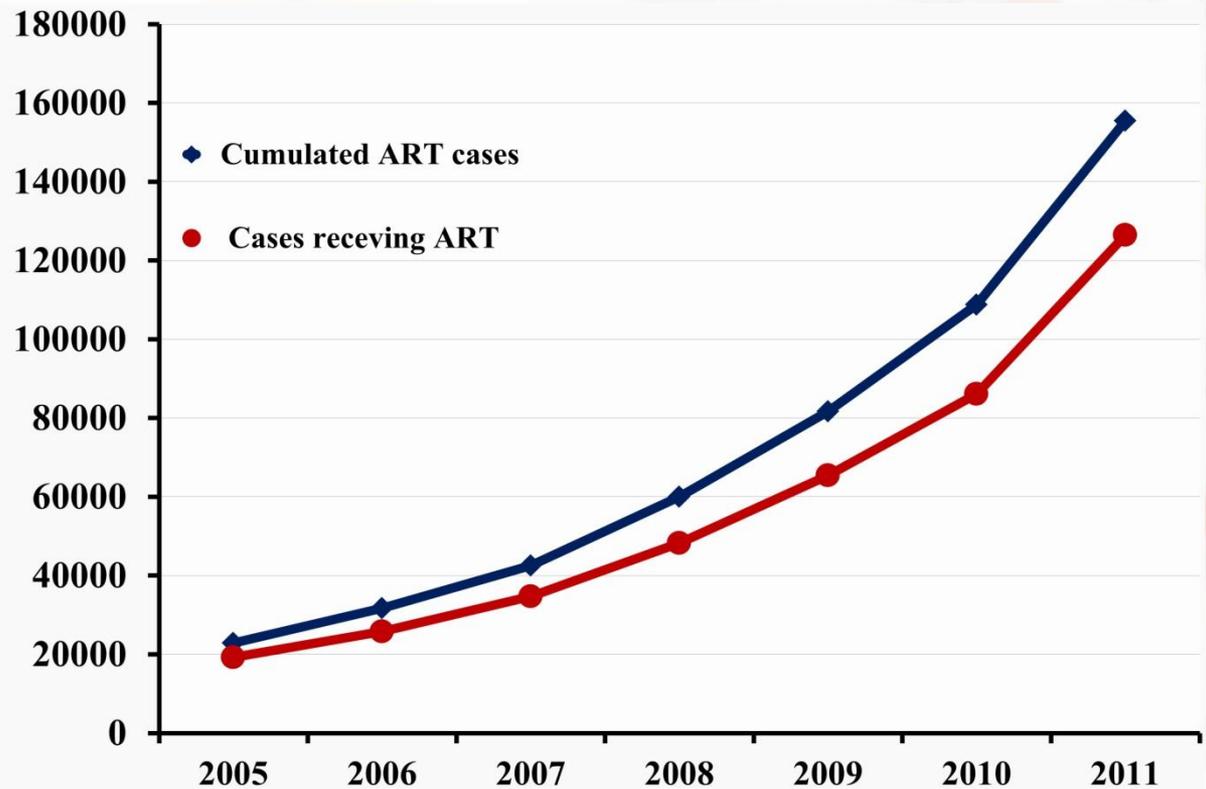
# Antiretroviral Therapy for Treatment in China

In 2012

ART treatment carried out in **2,215** countries.

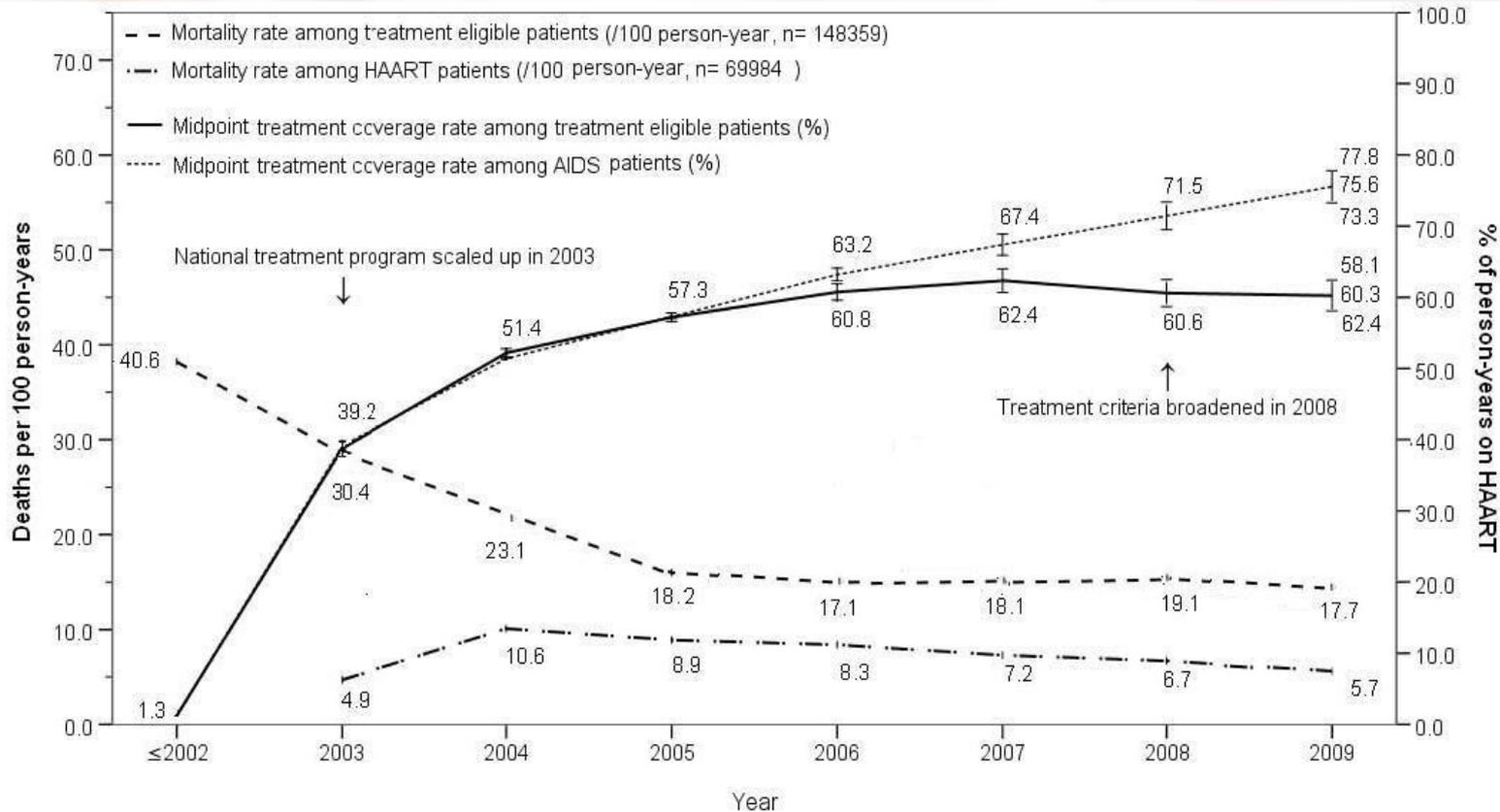
**211,758** cases had received ART, is on **170,655(80.6%)** treatment.

Around **20,000** with 2<sup>nd</sup> line ART



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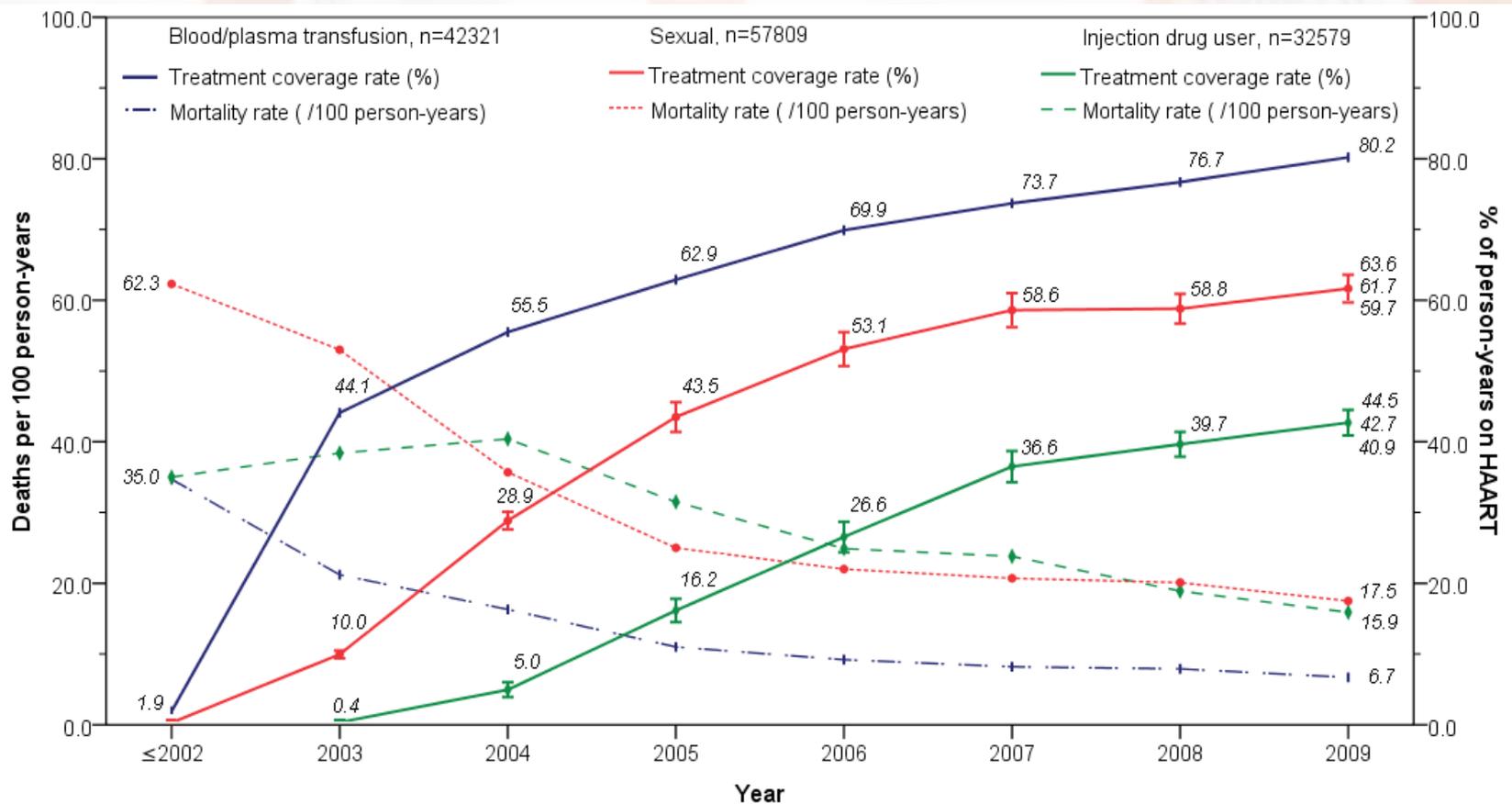
# ART coverage over 70%



Zhang Fujie, et al.. *Lancet Infect Dis.* 2011;11



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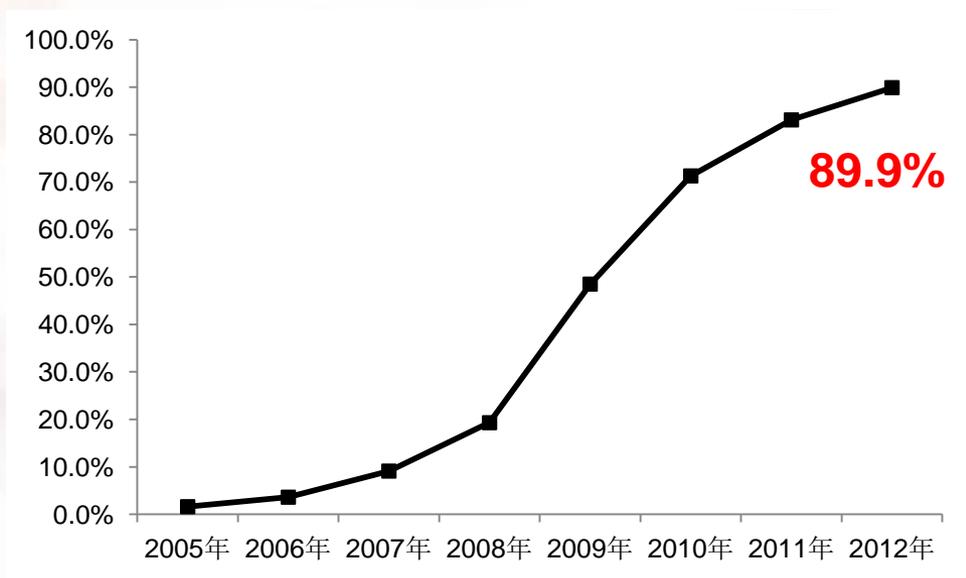
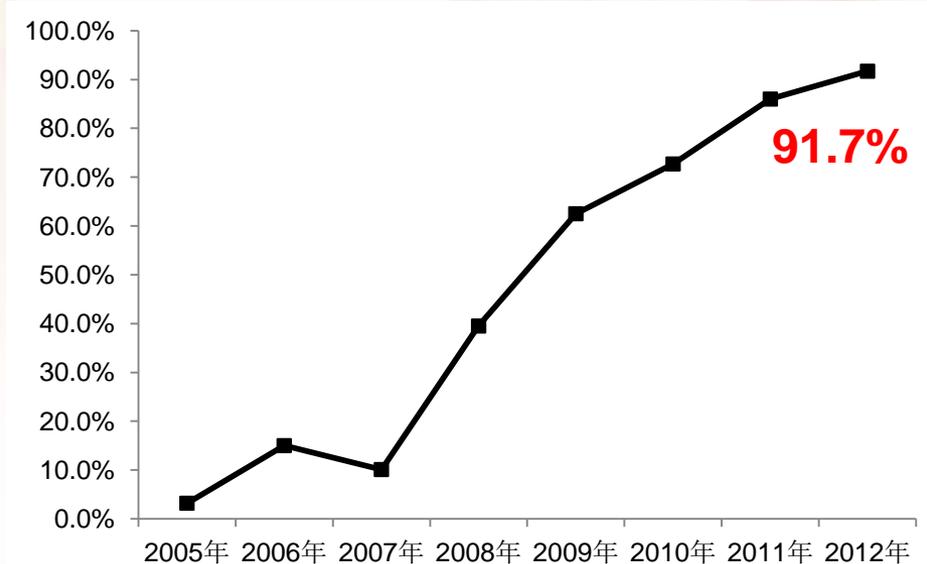
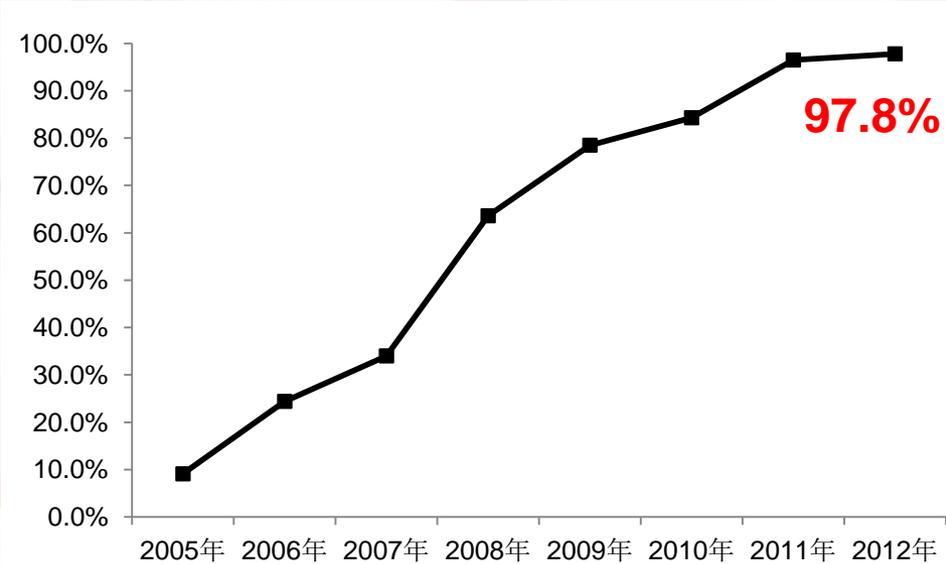
Total number of newly diagnosed patients who are treatment eligible by route of HIV infection:

Blood/plasma transfusion :	2378	6999	14614	5195	3953	3228	3563	2391
Sexual :	642	428	1542	2988	5096	8953	16955	21205
Injection drug use :	1408	375	1125	3062	3499	5461	9382	8267

Fujie Zhang et al.. *Lancet Infect Dis.* 2011;11



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**Completed Viral load testing**



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## Virologic Outcome of first line regime among patients on more than 6 months of ART

Treatment duration (months)	Patients eligible for VL tests	Patients with VL tests	Range of virologic success(%)
6-	9097	9072	86.5*-86.8
12-	18131	14649	70.2*-87.0
24-	14119	11357	70.3*-87.4
36-	30350	24200	64.9*-81.4
Total	71697	59278	70.4*-84.8

\*: patients who did not have VL test during last year were assumed as virologic failure



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# HIV DR testing for patients who experienced failure

- Of 2007 cases of DR patients, 465 (23.2%) were resistant to one class of meds, 76.1% (1527/2007) resistant to two classes of meds, and 0.7% (15/2007) to three classes of meds
- Of all the patients being treated, **HIVDR is estimated to be about 12%**, with prolonged treatment failure in drug-resistance cases

# ART coverage among difference HIV/AIDS groups

	2011 ART coverage(%)	2012 ART coverage(%)
CD4 ≤ 350		
Adults	81.9	87.5
Pediatric	71.1	85.9
CD4 > 350		
Discordant couples	-	20.6
MSM	-	5.2

Much improved in CD4 < 350/uL, but ART coverage still lower we expecte in CD4 > 350/uL



# Antiretroviral therapy to prevent HIV transmission in serodiscordant couples in China (2003–11): a national observational cohort study

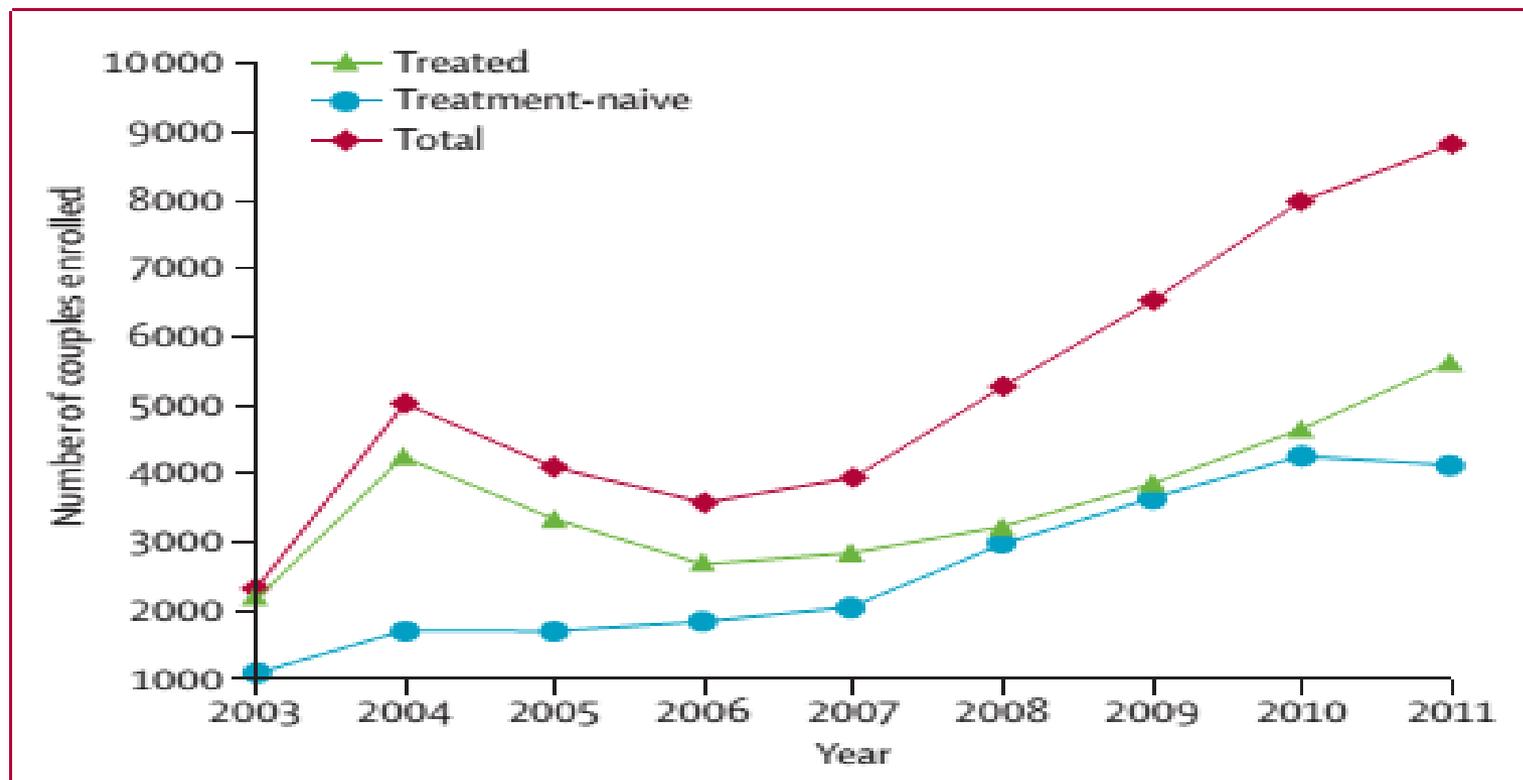


Figure 2: Serodiscordant couples enrolled, by year



# Antiretroviral therapy to prevent HIV transmission in serodiscordant couples in China (2003–11): a national observational cohort study

- **Findings:** Based on data from 38 862 serodiscordant couples, with 101 295·1 person-years of follow-up for the seronegative partners,
- **Treatment-naive cohort: 2·6 per 100 person-years** (95% CI 2·4–2·8) (median baseline **441 cells**)
- **ART cohort: 1·3 per 100 person-years** (1·2–1·3) (median baseline CD4 count **168 cells**)
- **26% relative reduction in HIV transmission** (adjusted hazard ratio 0·74, 95% CI 0·65–0·84)
- **The reduction in transmission** was seen across almost all demographic subgroups and was significant in the **first year** (0·64, 0·54–0·76), and among couples in **blood or plasma transfusion** (0·76, 0·59–0·99) or **heterosexual intercourse** (0·69, 0·56–0·84), **but** not among couples in which the HIV-positive partner was **IDU** (0·98, 0·71–1·36).

# ART coverage in discordant couples in 2011- A Retrospective Cohort Study

## ART Coverage in serodiscordant families:

**44.9%** in 2010

**58.1%** in 2011

## Study population:

HIV infected person with couple HIV testing negative in 2010 and receive testing in 2011, except those had no sex or confirmed transmission through the routes other than sex. Age between 18-80.

*Division of Integration and Evaluation, NCAIDS.  
Unpublished data*



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# ART in Serodiscordant Couples in 2011

*Division of Integration and Evaluation, NCAIDS.  
Unpublished data*

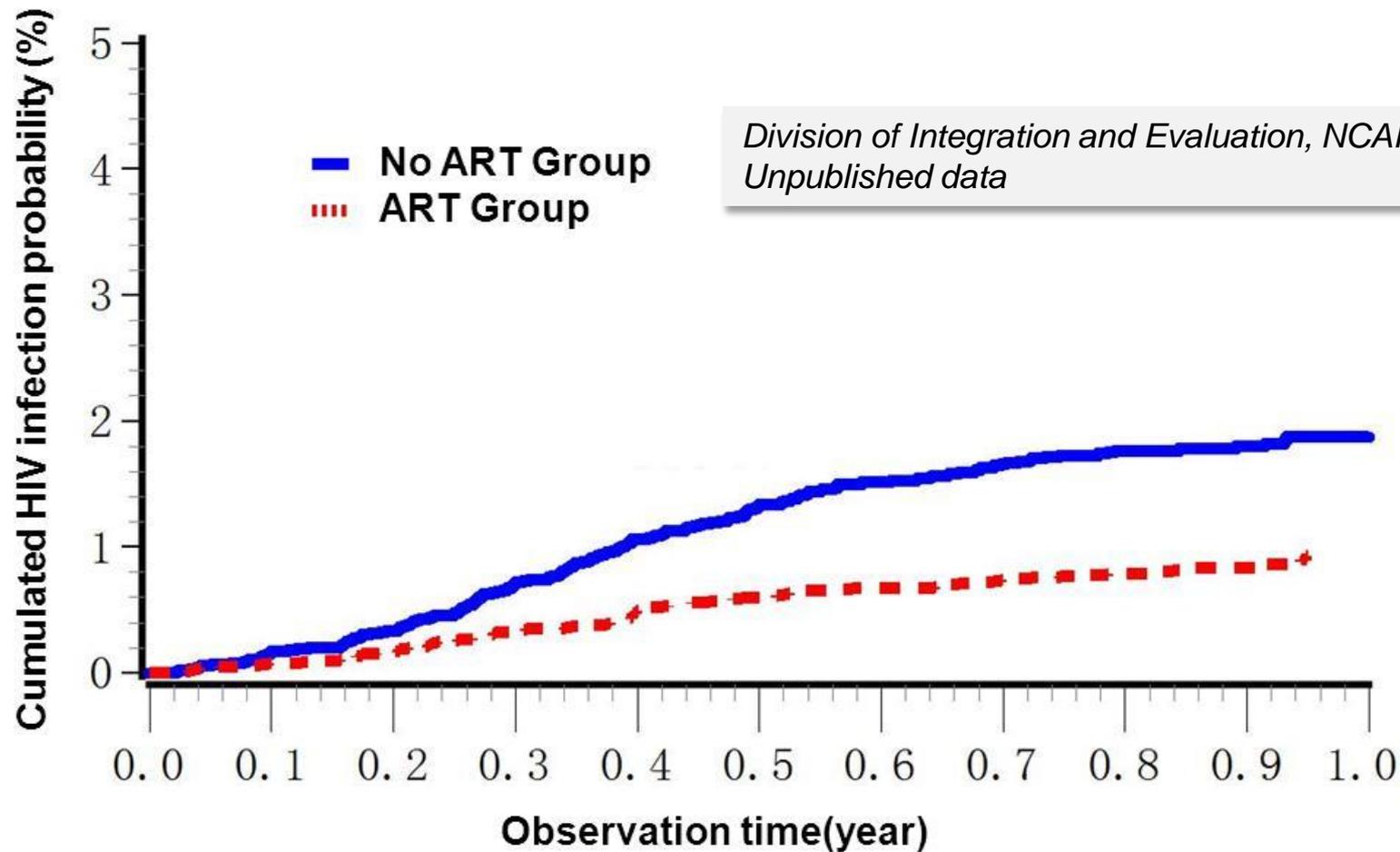
Group	Cases	Person.year	Positive conversion cases	Positive conversion proportion (%)	Positive conversion rate (%/year)
ART	16513	12204.4	120	0.7	1.0
NO ART	14254	10948.8	226	1.6	2.1
<b>Total</b>	30767	23153.2	346	1.1	1.5

**ART decreased 52% HIV transmission in discordant couples in China in 2011**



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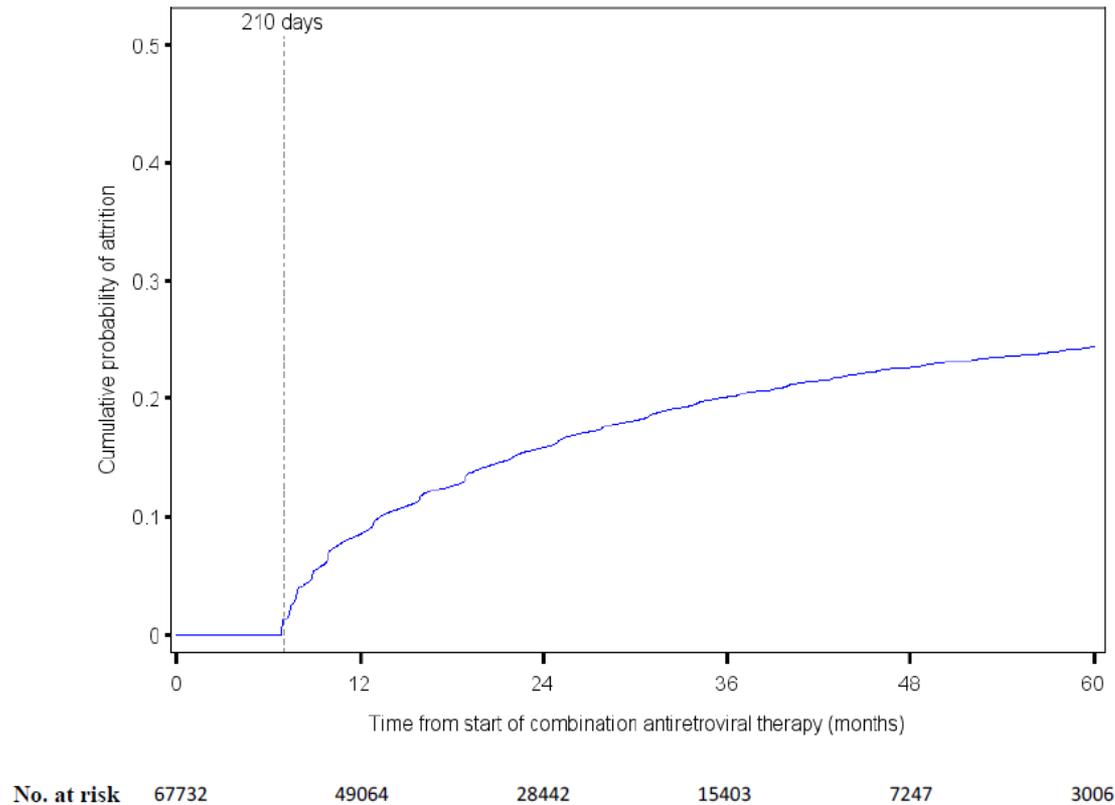
# Cumulated HIV Infection Probability among Serodiscordant Couples with and without ART



# When to start (from 2008)

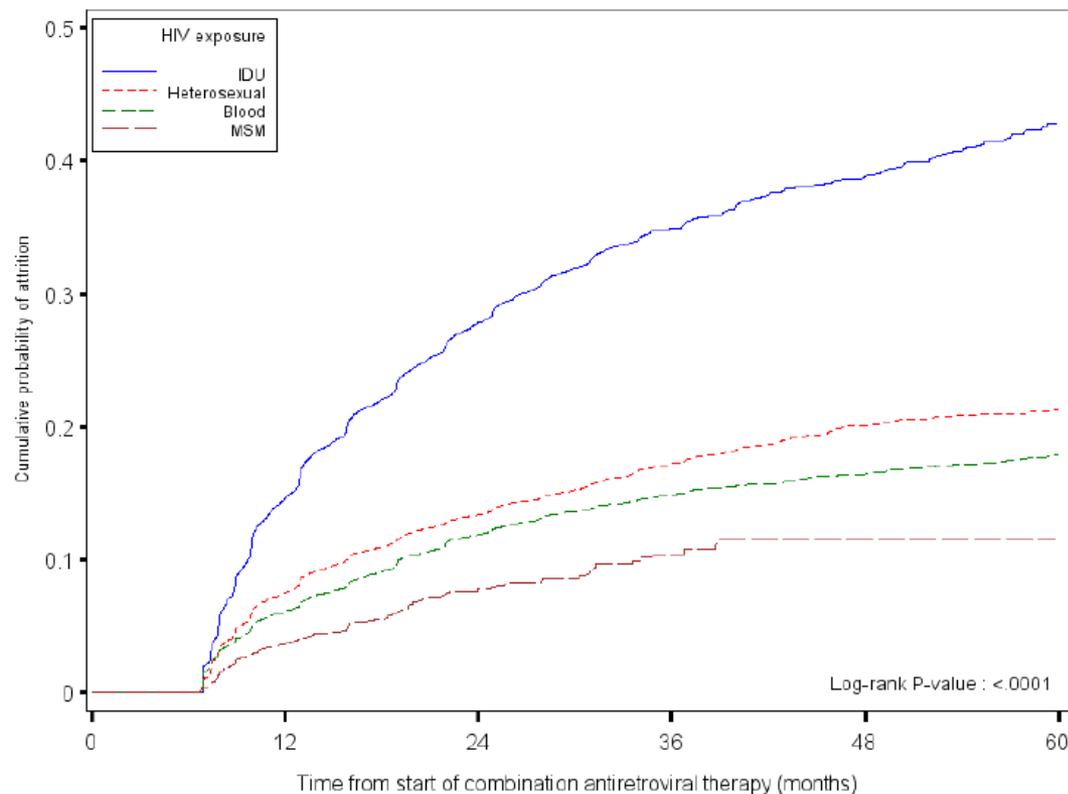
Clinical criteria	Laboratory criteria	Recommendation
Acute syndromes	Any CD4 level	Recommend to treat
WHO Stage IV/ III	Any CD4 level	Treat
Any WHO stage	CD4 $\leq 350/\text{mm}^3$	Treat
Any WHO stage	CD4 between 350 - 500/ $\text{mm}^3$	<p>When patient meet one of the following requirements below:</p> <ol style="list-style-type: none"> <li>1、 higher viral load (e.g. <math>&gt;100000</math> copies/ml);</li> <li>2、 rapidly declining CD4 (e.g. <math>&gt; 100/\text{mm}^3</math> decrease per year);</li> <li>3、 age <math>&gt;65</math>;</li> </ol> <p>Recommend to treat, but the patient should have the treatment willingness and good adherence.</p>
Any WHO stage	Any CD4 level	<p>When patient meet one of the following requirements below:</p> <ol style="list-style-type: none"> <li>1、 Pregnancy**</li> <li>2、 HIV-positive person in couples or steady sex partners. ***</li> <li>3、 co-infected with active HBV;</li> <li>4、 HIV associated nephropathy;</li> <li>5、 co-infected with active TB</li> </ol> <p>Recommend to treat, but the patient should have the treatment willingness and good adherence.</p>

# Attrition among Human Immunodeficiency Virus (HIV)-Infected Patients Initiating Antiretroviral Therapy in China, 2003–2010



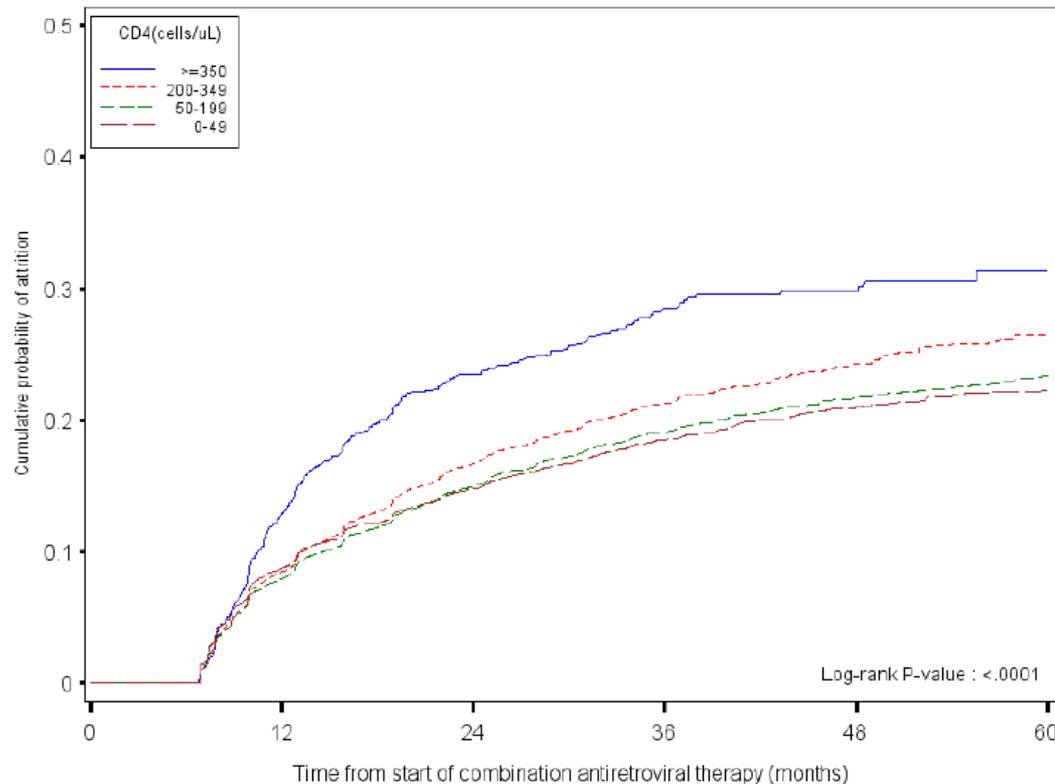
Hao Zhu and Fujie Zhang et al, Plos One 2012

# Attrition among Human Immunodeficiency Virus (HIV)-Infected Patients Initiating Antiretroviral Therapy in China, 2003–2010



No. at risk						
IDU	13735	9447	5185	2490	1039	315
Heterosexual	32194	23061	12545	6189	2581	858
Blood	14555	11415	8011	5306	2982	1599
MSM	2826	1992	776	297	121	45

# Attrition among Human Immunodeficiency Virus (HIV)-Infected Patients Initiating Antiretroviral Therapy in China, 2003–2010



No. at risk						
≥350	1760	1308	771	409	185	64
200-349	17465	12961	6524	2953	1131	449
50-199	26648	20058	11946	6555	3044	1136
0-49	17692	11953	7226	4052	1902	668

## Conclusion from the Study:

- ART can effectively reduce the HIV transmission among serodiscordant couples
- Adherence is one of the most challenging issues
- Other intervention including condom distribution should be strengthened to maximize the prevention result



# Factors Influence the ART Result

## Patients

If ART can life-long?

Life quality

Side effects of the medicine

Reveal infection- Stigma

Medical resources limited

HIVDR

Drug interaction

**ART benefits to the patients should be emphasized and convinced**



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Thank you for your attention!

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## 2011 Estimated for the HIV/AIDS Epidemic in China

- By the end of 2011, **780,000** (620,000–940,000) people were living with HIV/AIDS (PLHIV) in China,
- Of whom **154,000** (146,000–162,000) were living with AIDS. **28.6%** were female.
- National HIV prevalence was **0.058%** (0.046%–0.070%)



# Reported HIV/AIDS Transmission Rout Constituent Ratios

