

# Treatment update 2017: U=U, new drugs, generics and Q&A



Simon Collins  
HIV i-Base  
[i-base.info/slide-sets](http://i-base.info/slide-sets)

# Outline

- i-Base!
- U=U: 20 years evidence 30 mins  
*Review of evidence, implications, questions.*
- New HIV drugs 30 mins  
*Latest ART and next drugs, UK access, cure, PrEP and questions.*
- Open Q&A 30 mins  
*Open questions on HIV treatment.*

# HIV i-Base

## Treatment information project

- Peer-led Q&A service:  
Phoneline, email and web ~ 6000/year
- Non-technical guides – free to clinics
- Technical bulletin – HTB every 2 months
- Activist network – [www.UKcab.net](http://www.UKcab.net)
- [www.i-Base.info](http://www.i-Base.info)

# i-Base phonenumber and Q&A

**questions@  
i-Base.org.uk**

**www.i-Base.info/qa**

**0808 800 6013**

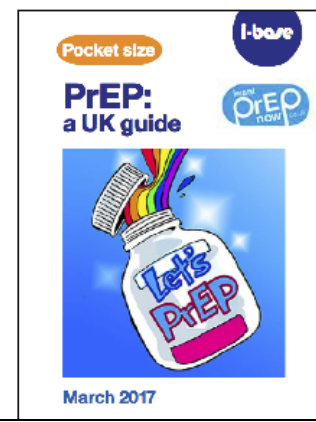
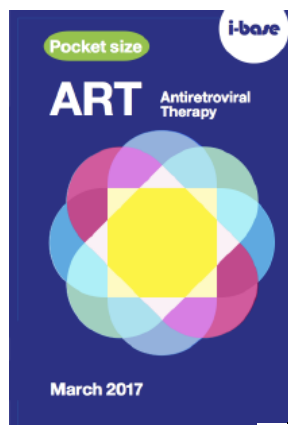
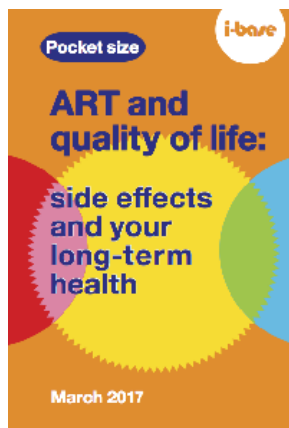
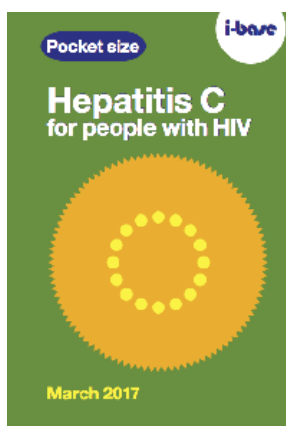
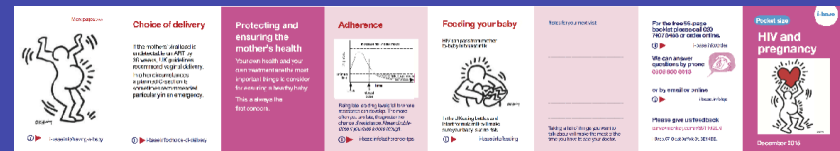
**take  
control  
of your  
treatment**

**i-base**  
0808 600 8013

**ask a  
question**  
by email,  
online  
or phone



# Publications and UK-CAB



$$U=U$$

- Undetectable = Untransmittable
- Over the last year >350 organisations including BHIVA, US CDC, UNAIDS etc.
- Is this real?  
Do you believe it? Does your doctor?

# International AIDS Society



U=U

UNDETECTABLE  
=  
UNTRANSMITTABLE

A PERSON LIVING WITH HIV  
WHO HAS AN UNDETECTABLE  
VIRAL LOAD DOES NOT  
TRANSMIT THE VIRUS TO THEIR  
PARTNERS.

The International AIDS Society is proud to endorse the U=U consensus statement of the Prevention Access Campaign.

[www.preventionaccess.org/undetectable](http://www.preventionaccess.org/undetectable)



nycHealthy ✓  
@nycHealthy

If your viral load is undetectable, it means you can't pass HIV to others. Treatment = Prevention! [on.nyc.gov/staysure](https://on.nyc.gov/staysure) #PlaySure #TasP



HIV treatments can make the virus undetectable, meaning it cannot be passed on

**#TestWeekScot**

[www.preventionaccess.org/undetectable](http://www.preventionaccess.org/undetectable)



PEOPLE WITH HIV ON EFFECTIVE  
TREATMENT DO NOT SEXUALLY  
TRANSMIT HIV

**ACT UP**  
DUBLIN

UNDETECTABLE = UNTRANSMITTABLE



*Karim,  
prof de danse*

*Les séropositifs sous traitement  
ont beaucoup de choses  
à nous transmettre.  
Mais pas le virus du sida.*



[www.preventionaccess.org/  
undetectable](http://www.preventionaccess.org/undetectable)



# Timeline

1998 US guidelines - early ART [1]

1998 ART stops mother to baby transmission [2]

2000 Rakai Study (Observational) [3]

2008 Swiss Statement: zero risk (Evidence review) [4]

2011 HPTN 052: 1 vs 27 (Randomised: low risk) [5]

2014 PARTNER: zero/44,000 (Observational: high risk) [6]

2016 PARTNER published – zero/58,000 [6]

2016 U=U + wide endorsements

1. DHHS, 1998; 2. Beckerman et al. 3. Quinn et al; 4. Vernazza et al; 5. Cohen et al; 6. Rodgers et al.

# Different types of evidence

- Expert opinion - NOT evidence!
- Case reports – small studies
- Systematic review – comparing studies
- Observational data – large cohorts when randomised studies are not possible
- Randomised clinical trials (RCTs)  
Double-blind, placebo controlled

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Beckerman et al, IAS conference 1998, Abs 459.

Small observational study treating HIV positive pregnant women with triple therapy ART for their own best care.

“Despite adherence problems ... the use of combination ART ... during pregnancy results not only in improved maternal health, but also in rates of transmission that approach zero”

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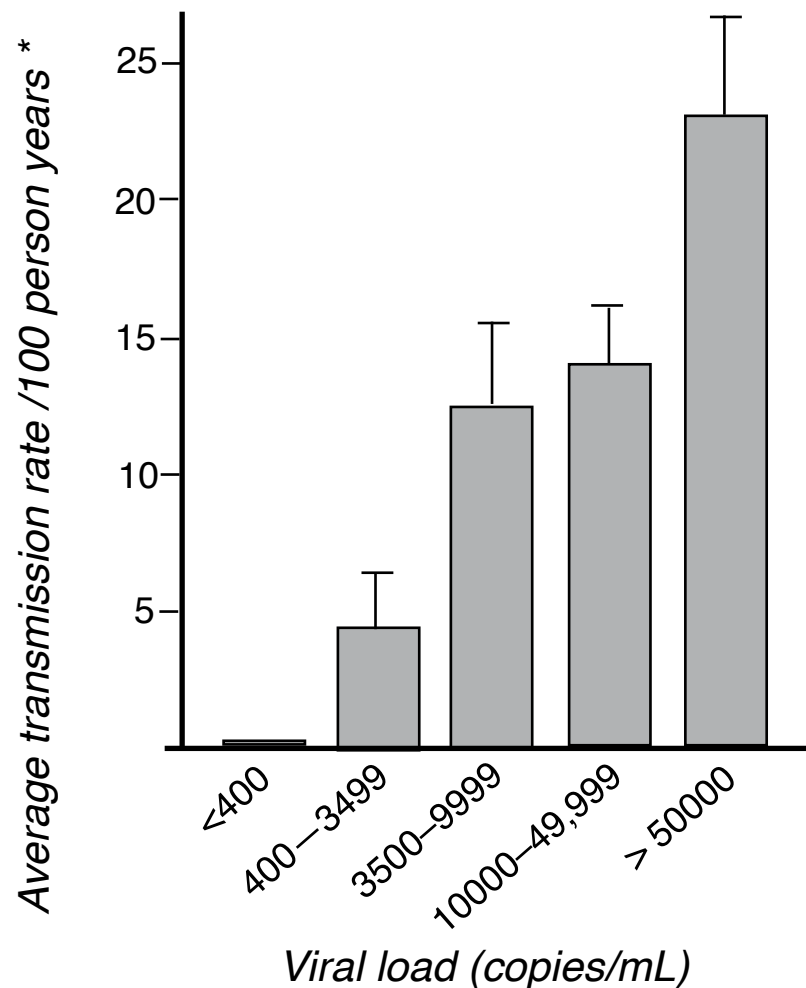
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Rakai study:  
~ 400 +ve/–ve  
couples in  
Uganda for 30  
months: no  
infections  
when VL less  
than 400 c/mL.

Large observational  
study

(Quinn et al, NEJM 2000)



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Swiss  
Statement  
(Vernazza et  
al, 2008)

Data review and  
expert opinion –  
driven by  
criminalisation in  
Switzerland.

“similar to  
kissing”

“an HIV positive person  
on effective HIV  
treatment (ART) cannot  
transmit HIV through  
sexual contact”

*So long as:*

- on ART and adherent
- undetectable VL
- no STIs
- risk <1 in 100,000 (<0.001%)

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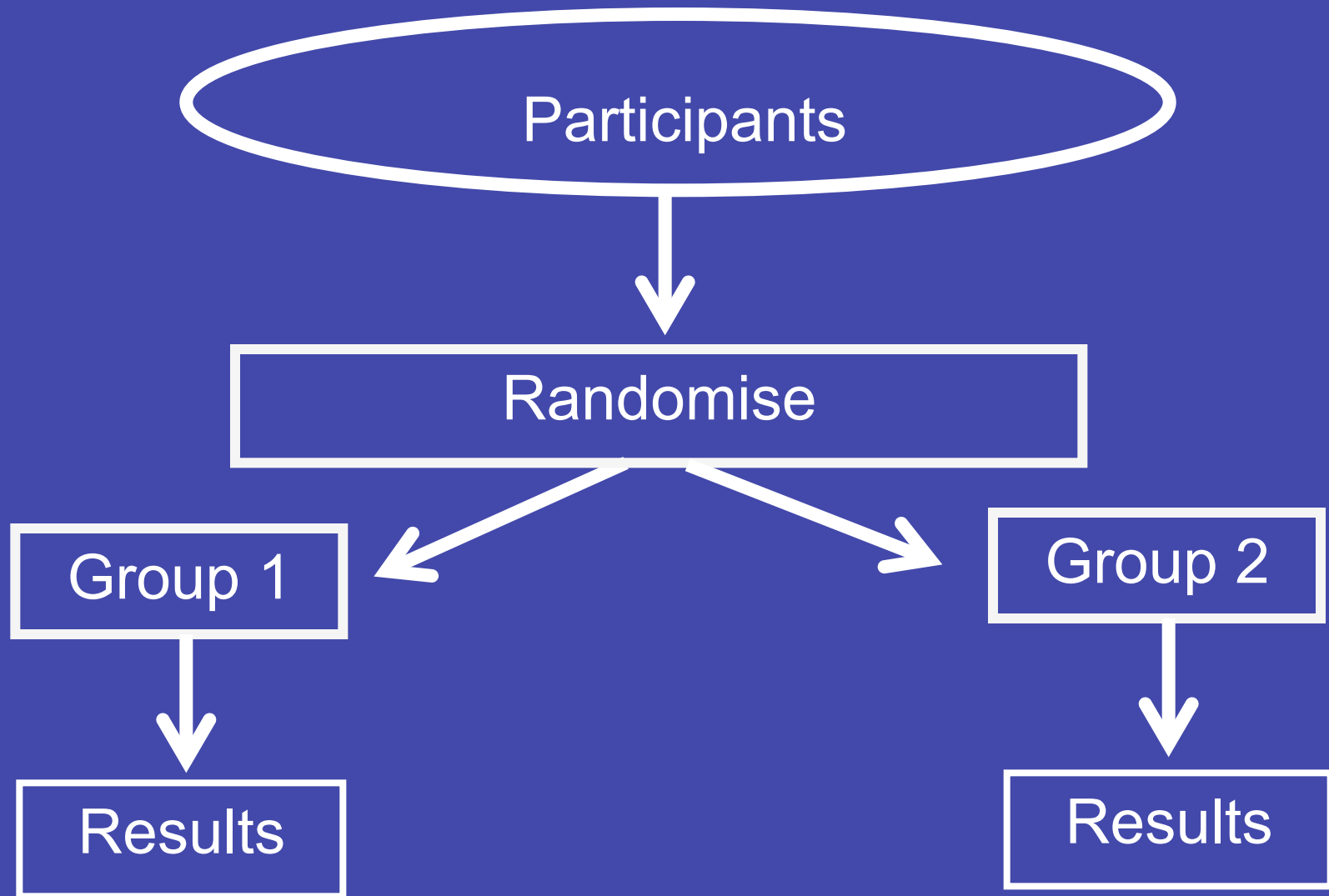
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Randomised studies = "Gold standard evidence"



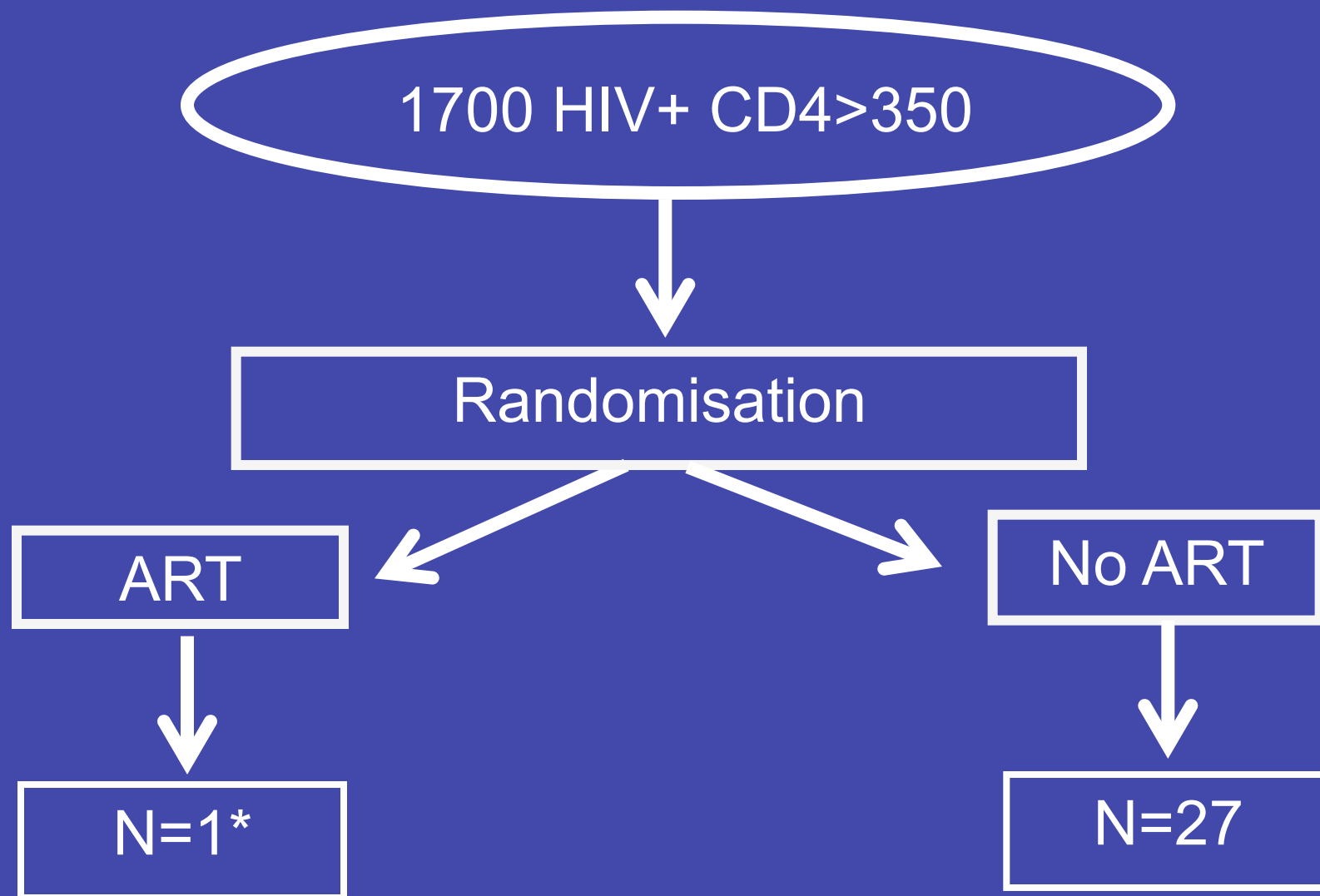
HPTN 052  
(Cohen  
et al, 2011)

Randomised ~ 1700  
+ve/–ve couples to  
early ART vs waiting

- all linked infections in couples waiting for ART (+ single case with detectable VL)
- study stopped early
- protection over 4 yrs



# HPTN 052: results



\* Very early ART when VL was still detectable

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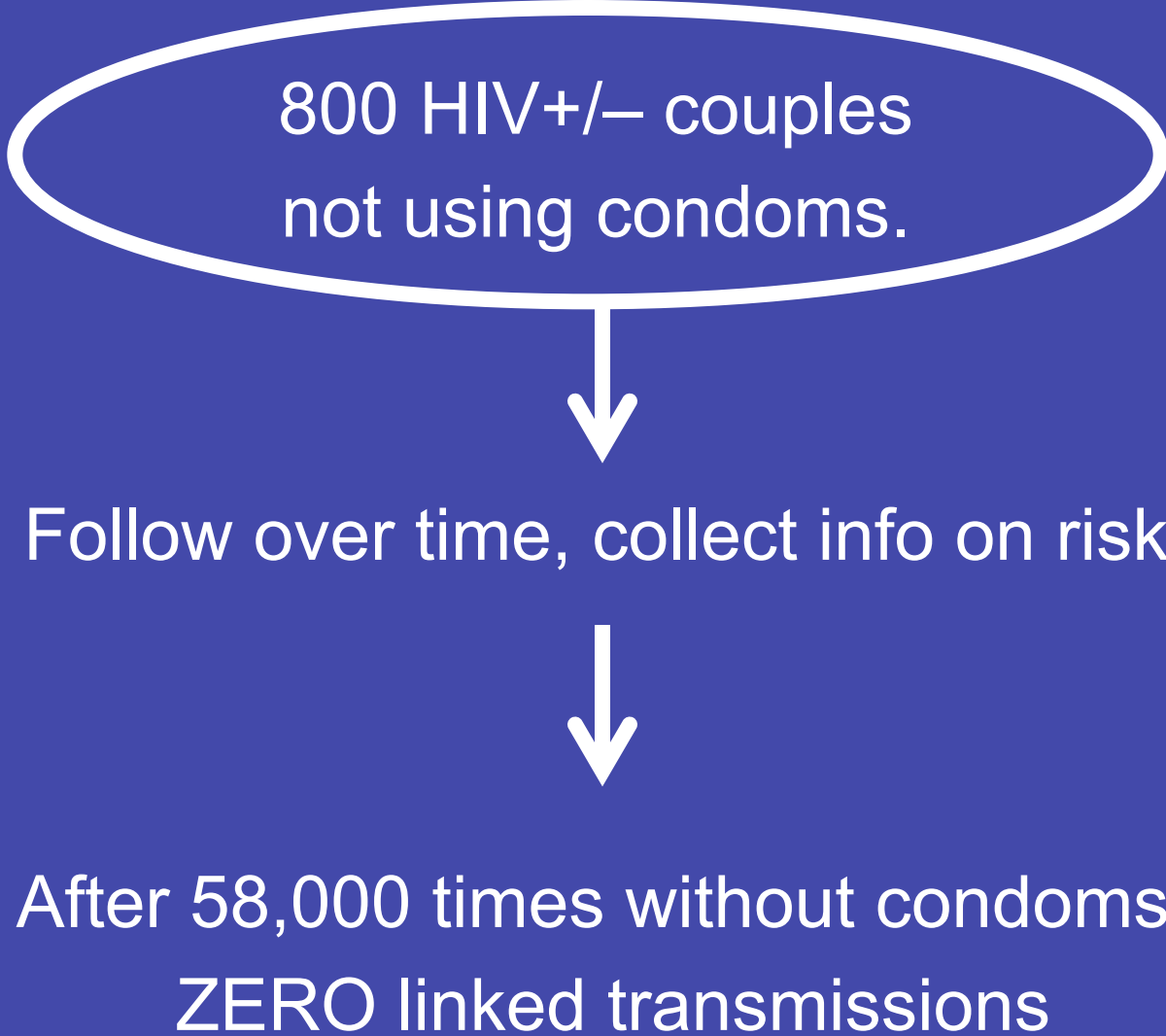
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# Best evidence: PARTNER

- >800 couples not using condoms.
- Detailed sexual questionnaires.
- Already not using condoms (for years)
- One third were gay male couples.
- Calculated absolute real risks.
- STI were common in gay men.
- Undetectable = less than 200 copies/mL

# PARTNER study



```
graph TD; A([800 HIV+/- couples  
not using condoms.]) --> B[Follow over time, collect info on risk.]; B --> C[After 58,000 times without condoms:  
ZERO linked transmissions];
```

800 HIV+/- couples  
not using condoms.

Follow over time, collect info on risk.

After 58,000 times without condoms:  
**ZERO** linked transmissions

# Summary

- Zero transmissions without condoms when VL undetectable in all studies.
- No published case reports since Swiss Statement in 2008.
- PARTNER includes random blips between undetectable results.
- Includes VL >50 to 200 copies/mL.
- Includes STI - 30% of gay couples.

# Questions?



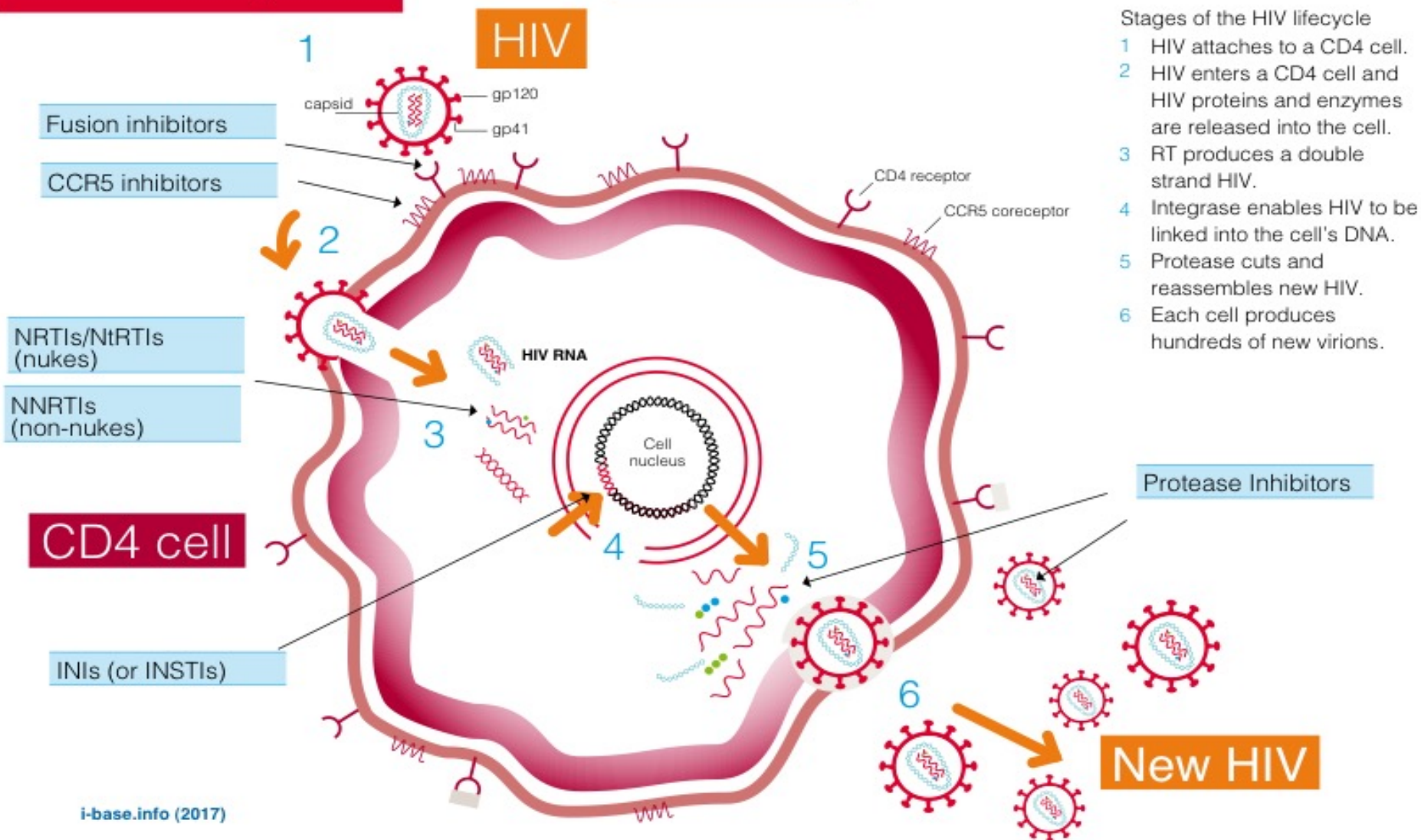
[www.preventionaccess.org/undetectable](http://www.preventionaccess.org/undetectable)

# New HIV drugs

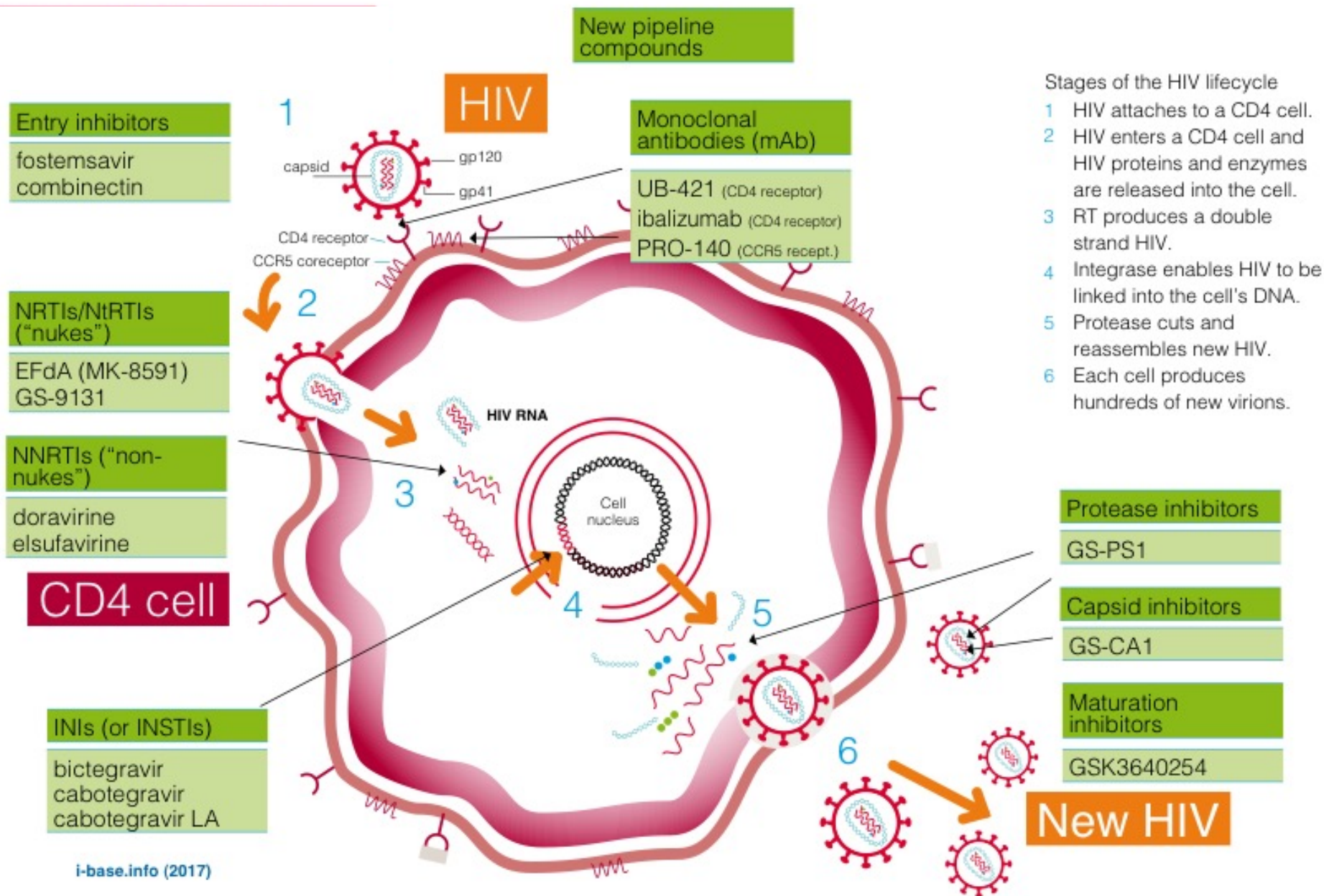
- Recent drugs
  - dolutegravir (Triumeq)
  - TAF (Descovy, Odefsey, Genvoya, Symtuza)
- Next: bictegravir, doravirine, EFdA?
- New classes/formulations:
  - long-acting injections
  - monoclonal antibodies (mAb) – treatment, PrEP & cure
  - maturation inhibitors and capsid inhibitors

# The HIV lifecycle

Existing classes







# New drugs: generics

- 65% to 85% of all NHS prescriptions.
- Principal of NHS care (and survival).
- Change in understanding of HIV.
- Change in relative priority of HIV.
- Every ARV will still be available.
- Options and choices?
- A pint for £10 vs 2 half-pints for £1?

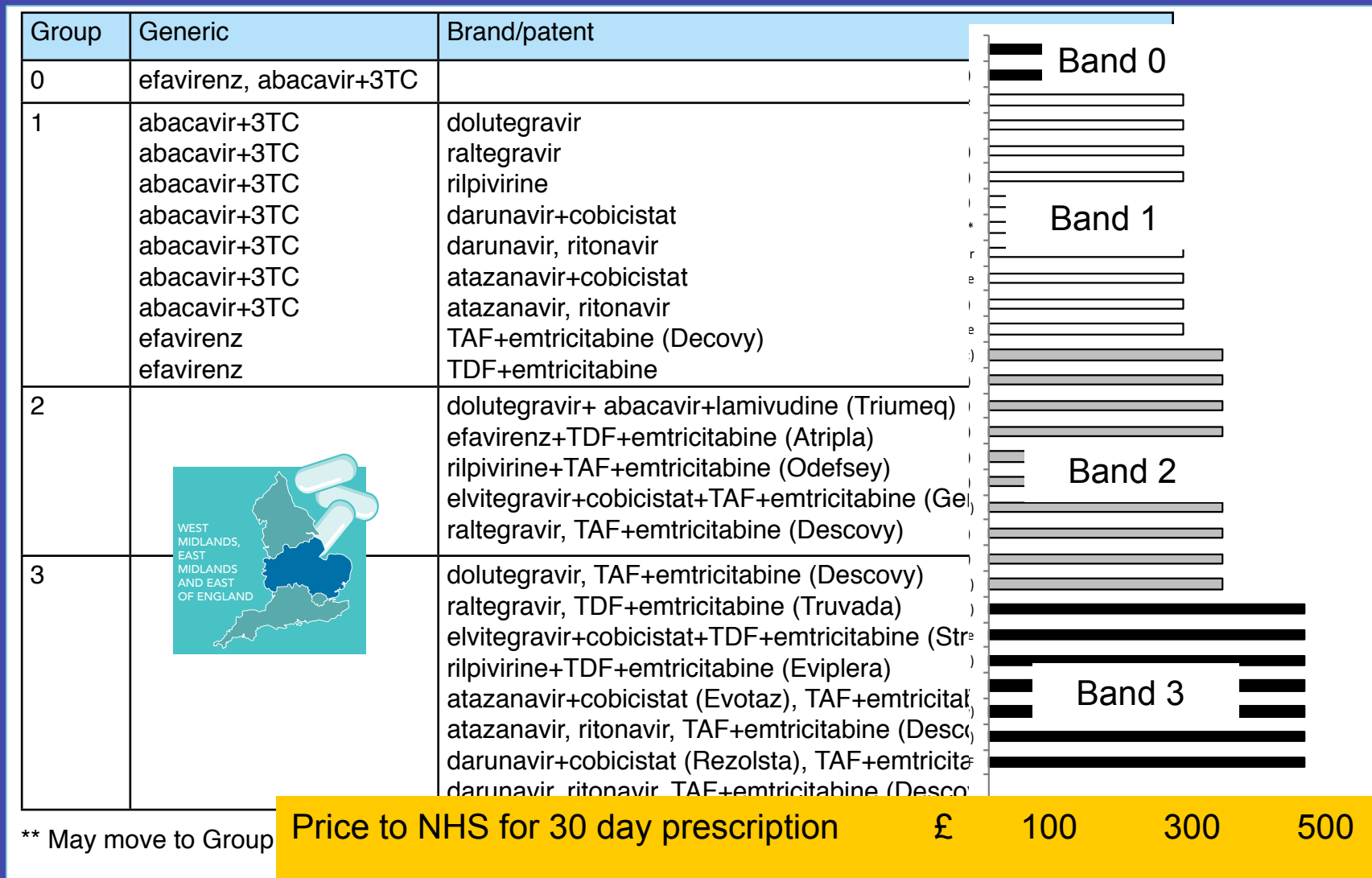
# Drug cost and NHS access

Group	Generic	Brand/patent
0	efavirenz, abacavir+3TC	
1	abacavir+3TC abacavir+3TC abacavir+3TC abacavir+3TC abacavir+3TC abacavir+3TC abacavir+3TC efavirenz efavirenz	dolutegravir raltegravir rilpivirine darunavir+cobicistat darunavir, ritonavir atazanavir+cobicistat atazanavir, ritonavir TAF+emtricitabine (Descovy) TDF+emtricitabine
2		dolutegravir+ abacavir+lamivudine (Triumeq) ** efavirenz+TDF+emtricitabine (Atripla) rilpivirine+TAF+emtricitabine (Odefsey) elvitegravir+cobicistat+TAF+emtricitabine (Genvoya) raltegravir, TAF+emtricitabine (Descovy)
3		dolutegravir, TAF+emtricitabine (Descovy) raltegravir, TDF+emtricitabine (Truvada) elvitegravir+cobicistat+TDF+emtricitabine (Stribild) rilpivirine+TDF+emtricitabine (Eviplera) atazanavir+cobicistat (Evotaz), TAF+emtricitabine (Descovy) atazanavir, ritonavir, TAF+emtricitabine (Descovy) darunavir+cobicistat (Rezolsta), TAF+emtricitabine (Descovy) darunavir, ritonavir, TAF+emtricitabine (Descovy)

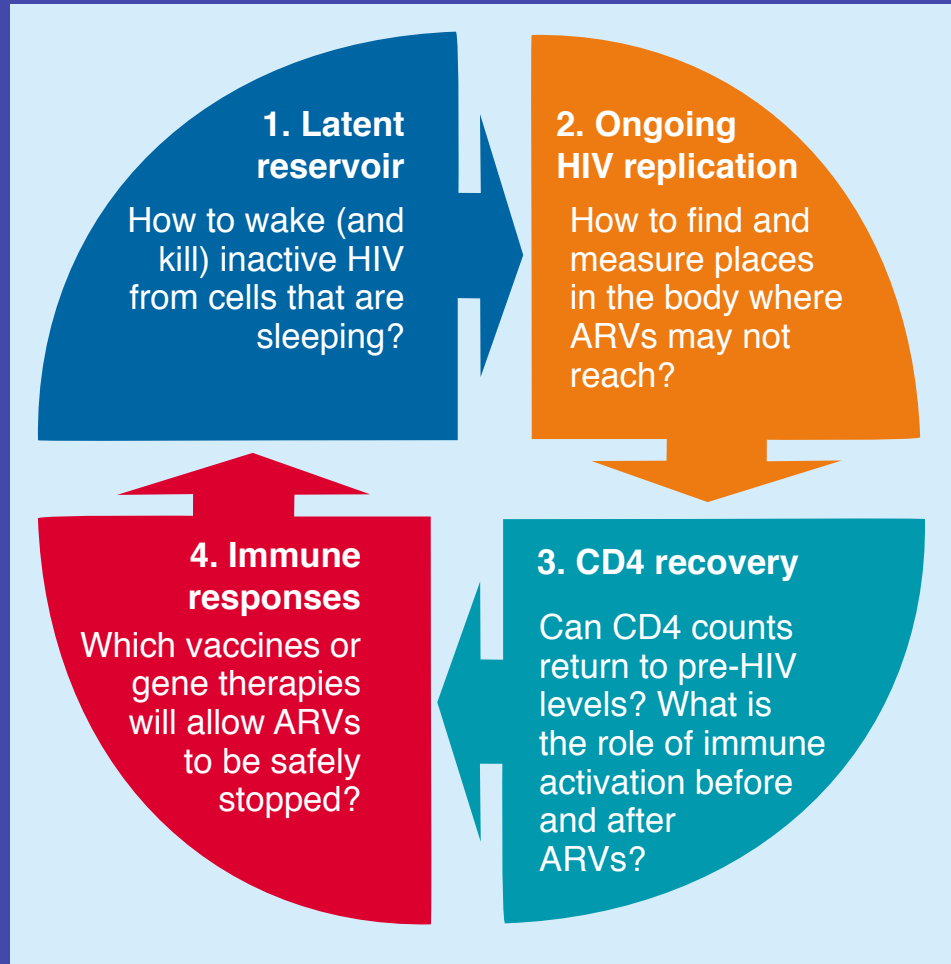


\*\* May move to Group 1

# Drug cost and NHS access



# When will we have a cure?



Combination  
cure...

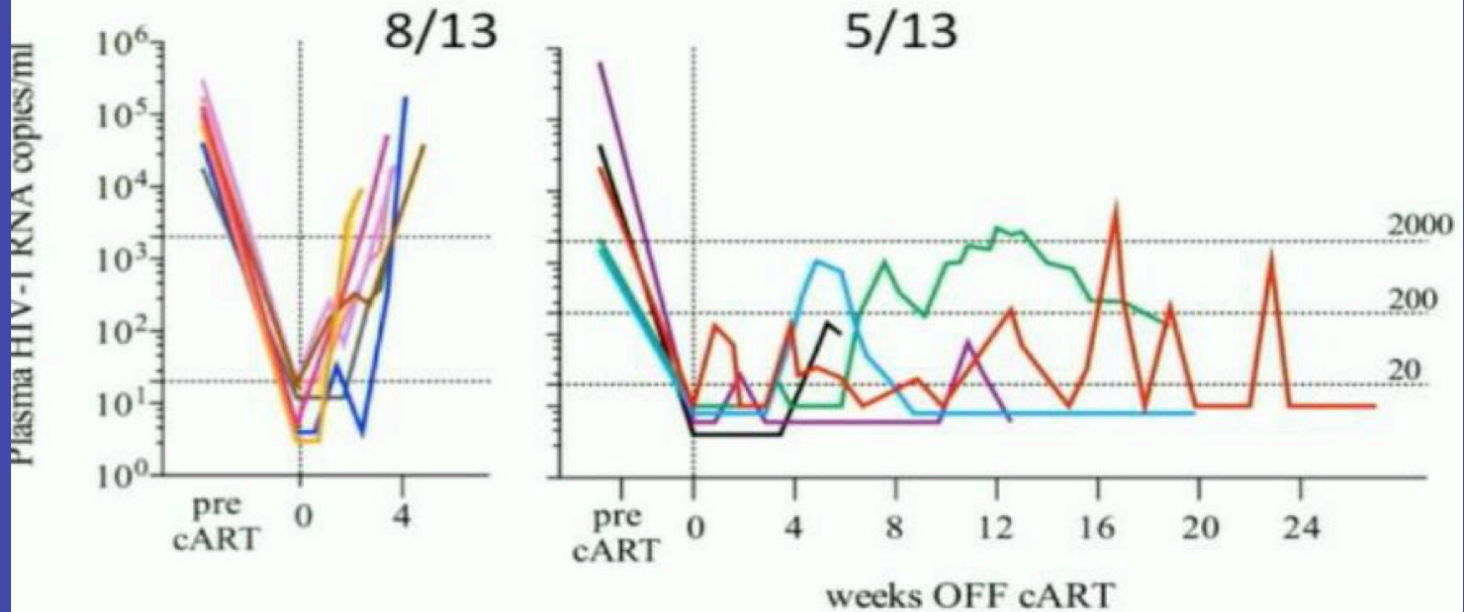
# Beatriz Mothe et al

- Roll-over study from dual vaccine
- n=24, ART within 3 mo of infection
- 15/24 boost vaccine + 3 x romidepsin infusions (HDACi – some side effects).
- Stop ART after the last vaccine
- 5/13 have controlled low-level viraemia
- 38% defined as response (up to 6 mo)

# Cure update?

Therapeutic vaccination: BCN02 – 35% response

- 13 participants have interrupted cART to date.



# PrEP if you are positive: What's in it for us?

- What is PrEP?
- How effective is it?
- Who is likely to be prescribed PrEP?
- What are the implications for people •  
living with HIV?  
Equality, shared care, reduced fear, QoL
- Questions



# PrEP if you are positive: What's in it for us!

- New option that gives HIV negative people control over staying HIV negative
- Highly effective – 99.999% etc
- Invisible to partners
- Option to lose fear from HIV
- Option to have greater trust and intimacy
- Option to increase quality of life

# Questions?

New drugs,  
Access, Cure?

