

IAS 2012 Feedback:

New findings, better drugs and the goal of a cure

i-base

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HIV i-Base

www.i-Base.info

IAS take home

- **Cure research: co-ordinated priority**
- **Move to earlier treatment is global (at CD4 500>350>200) - based on better drugs.**
- **Treatment is still the most effective proven intervention to reduce sexual transmission**
- **8 million people on treatment in low and middle income countries**

IAS conferences

- Changing priorities over time reflect community-driven changes to medicine: IAS 1990, San Francisco: ACT-UP launch community research agenda with US National Guard backstage
- IAS 1998, Geneva: *“delegates haemorrhaged from session halls when presentations switched to the developing world”* Richard Horton
- IAS 2000 Durban - 2002 Barcelona: UNAIDS, Global Fund, PEPFAR, WHO 3x5 campaign

IAS conferences

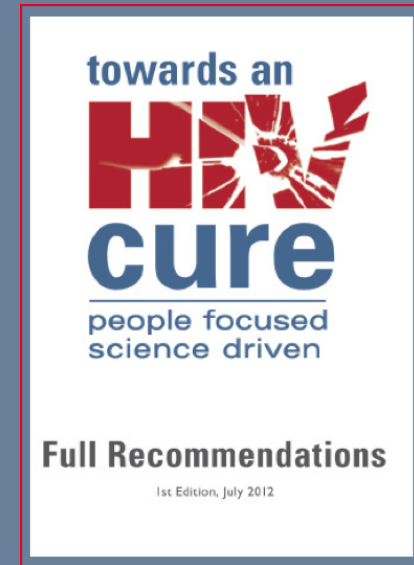
Broader expansion for research related to treatment access, prevention, global health funding, human rights (IDU in Bangkok in 2004), MSM, women's health, sex workers, children etc

	Total no. of studies	Track A: Basic science	Track B: Clinical science
1998	5000 posters +1000 pub only 400 oral	100+	300+
2012	3600 poster +100 pub only 400 oral	25	75

Cure research

- IAS focus: 3rd year for pre-conference workshop
- US and international funding.
- Roadmap for a cure: 7 key research areas each with numerous problems. What to measure, how, definitions, ethics and safety. (i-base.info/htb/19827)
- Early stages: 10 years away? (vaccine comparison?, “vaccine will come first”).

http://www.iasociety.org/Web/WebContent/File/HIV_Cure_Full_recommendations_July_2012.pdf



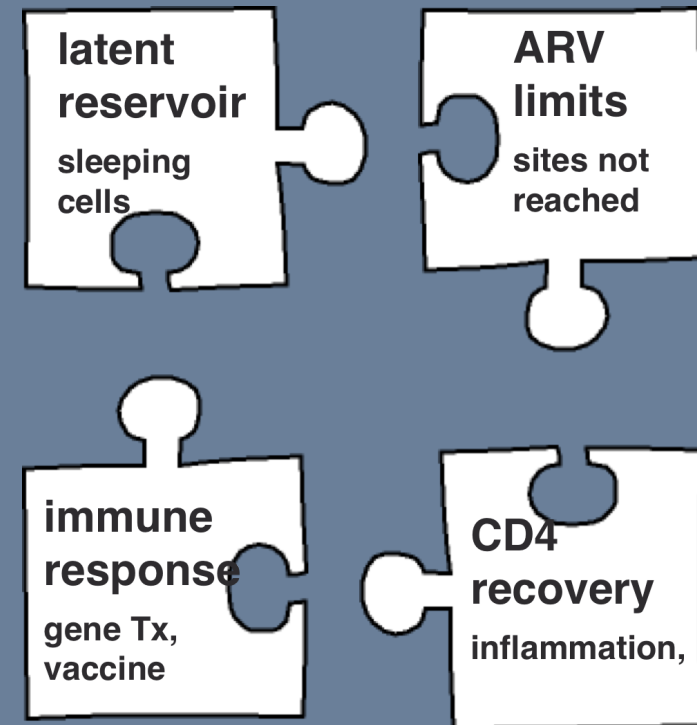
Cure research: key parts of the puzzle

- Why does HIV persist: immune and viral factors
- Where does HIV persist: tissue and cell reservoirs
- Immune activation and dysfunction on ART
- Natural models of HIV/SIV control
- How to measure persistent infection
- How to reverse latency: treatments
- Immune approaches, gene therapy, vaccine



Cure research: key parts of the puzzle

- **Eradication vs functional cure**
- **Viral latency:** long-lived sleeping CD4 cells - Why ARVs are not a cure and are lifelong. Strategies to wake cells (vorinostat).
- **Ongoing replication?:** Body tissues/cells where ARVs may not reach? importance? Gut, brain etc?
- **CD4 recovery:** incomplete with ARVs, immune activation, inflammation
- **Immune-based treatment:** gene therapy (ZFN CD4 changes), vaccines



On vs off treatment

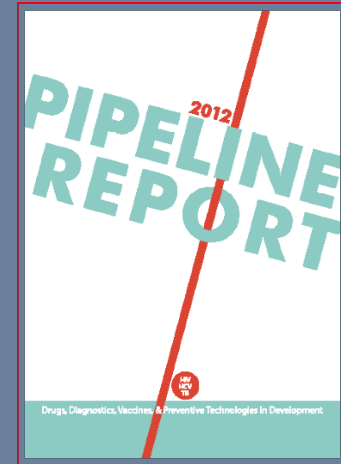
- SMART satellite workshop
- Importance of large randomised studies
- Changed expert opinion on untreated HIV
- Doctors, community and researchers
- Increased risk of major organ disease (heart, liver, kidney) and some cancers in people who interrupted treatment
- Caused by immune inflammation when not on treatment
- Link to some biomarkers (d-dimer, IL-6)

Randomised studies and earlier treatment

- IAS-USA guidelines (July 2012) – recommendation for treatment irrespective of CD4 count
- START study: international randomised study of immediate treatment (CD4 >500) vs waiting until 350 (current UK and WHO guidelines)

New drugs, generics and UK access

- **i-Base/TAG pipeline report:**
HIV, hepatitis and TB drugs, tests and strategies: single-tablet fixed-dose combinations, paediatrics etc
<http://i-base.info/2012-pipeline-report>
- **New drug pipeline includes numerous new single-pill formulations.**
- **Potential of integrase inhibitors**
- **Paediatric formulations**



New drugs and access in the UK

- **Elvitegravir: once-daily integrase**
- **Dolutegravir: once-daily integrase (50 mg)**
- **Cobicistat: new “booster”**
- **BMS 986001: d4T-like nuke**
- **Generic efavirenz/3TC and future NHS access to new drugs.**
- **\$900,000 US savings (Walensky talk)**

Treatment as Prevention

- **HTPN 052 widely quoted as “up to 96% reduction in transmission”**
- **Likely to significantly UNDER estimate protection: single case in study likely in first weeks of treatment**
- **Current impact from 8,000,000**
- **Next few years will have fewer new infections in relation to people starting treatment – but only if funded.**

8 million people on treatment

- **WHO 3x5 campaign:
3 million people on treatment by 2005**
- **Started when only 300,000 people were on treatment**
- **Politically this was “too few” but other thought it unrealistic for scale up**
- **Goal was missed in 2005 but 8 million people now on ARVs (2 million in S. Africa).**

8 million people on treatment

“If we do not scale up treatment as prevention, if we do not reach 15 million people on treatment by 2015, if we do not eliminate new infections in children, if we do not close the (\$7b) funding gap... history will never forgive us.

The end of AIDS is not free, it is priceless.”

Michel Sidibe (UNAIDS)

www.i-base.info/links-to-ias-webcasts

Thank you

www.i-Base.org