STOPPING
the Epidemic

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amfAR
MAKING AIDS HISTORY
Prevention of HIV-1 Infection with Early Antiretroviral Therapy


ABSTRACT

BACKGROUND

Antiretroviral therapy that reduces viral replication could limit the transmission of human immunodeficiency virus type 1 (HIV-1) in serodiscordant couples.

METHODS

In nine countries, we enrolled 1763 couples in which one partner was HIV-1-positive and the other was HIV-1-negative. 54% of the subjects were from Africa, and 50% of infected partners were men. HIV-1-infected subjects with CD4 counts between 350 and 550 cells per cubic millimeter were randomly assigned in a 1:1 ratio to receive...
THE BEGINNING OF THE END OF AIDS
AIDS Inc.
Ending AIDS Inc.
Potential decline in HIV incidence with new and more strategic investment

**A**
- Baseline
- Investment framework

12.2 million new infections averted between 2011 and 2020

**B**
- Baseline
- Investment framework

Cost (billions US$)
Combining effective prevention: synergistic impact

From Cohen Science 2011, model from Cremin and Hallett
“America’s combination prevention strategy focuses on a set of interventions that have been proven most effective – ending mother-to-child transmission, expanding voluntary medical male circumcision, and scaling up treatment for people living with HIV/AIDS. Now of course, interventions like these can’t be successful in isolation...”
Real-world evidence: San Francisco

### Mean CVL copies/ml

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean CVL</th>
<th>Newly diagnosed and reported HIV cases</th>
<th>HIV Incidence</th>
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<tbody>
<tr>
<td>2004</td>
<td>798</td>
<td>935 (CI: 658, 1212)</td>
<td></td>
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<tr>
<td>2005</td>
<td>642</td>
<td>792 (CI: 552, 1033)</td>
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<tr>
<td>2006</td>
<td>523</td>
<td>621 (CI: 462, 781)</td>
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<tr>
<td>2007</td>
<td>518</td>
<td></td>
<td></td>
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<tr>
<td>2008</td>
<td>434</td>
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(Mean CVL & newly diagnosed HIV p=0.005)  
(Mean CVL & HIV-incidence p=0.3)

Real-world challenges: treatment cascade

Of all with HIV infection in the US, only 328,000 (28%) have suppressed HIV RNA

MMWR (60), 2011
Confidence Required

Research  95%
Business
Politics
Confidence Required

Research 95%
Business 40%
Politics
Confidence Required

Research  95%
Business  40%
Politics
“It should be a badge of honor to know your HIV status and be on treatment if you have HIV, and on remaining HIV free if you do not,”

Jared Baeten, University of Washington
It Is Possible

“...we now have an unprecedented opportunity, based on solid scientific data, to control and ultimately end the AIDS pandemic.”

But it will take...

...research being the engine of impact

• Identify efficacious products
• Inform planning with actionable information
  – and help make the tough choices
• Make delivery as effective as possible
  – and identify what is not working
• Create continuous feedback loops
• Test all our work against the bottom line