From '3 by 5' to Treatment 2.0:

Revolution or Evolution?
The Public Health Approach

✓ Standardized treatment protocol and simplified clinical monitoring
✓ Optimal use of available human resources
✓ Involvement of community members and people living with HIV
✓ Strategies to minimize cost
✓ Human rights protected and promoted
Implementing ART in Resource-Limited Settings

- People living with and affected by HIV as leaders in ART scale up
- Essential package of care and prevention services to support ART
- Service delivery, human resources & training
- Management of commodities and supply (lab monitoring package)
- Strategic information
Case Studies in ART Scale-up
Number of people receiving ART in low and middle income countries by region 2002–2009

5.25 million on ART by end of 2009
30% rise from end of 2008
13 fold increase in six years
ART scale up in resource limited settings

Implementation has been greatly influenced by WHO guidelines

- 2002
- 2003
- 2006
- 2010

Objectives:

Support

Universal Access

Primary Audience:

Treatment advisory boards, national AIDS programmes & policy makers
Current challenges

• Transition from emergency response
• Treatment gap
• Leverage HIV and TB preventive benefits of ART
• Integrated approaches to broaden health outcomes
• Financing
Treatment 2.0: Accelerated optimization of treatment
Treatment 2.0: Priorities

I - Optimize drug regimens

II – Promote diagnostics using point of care and other simplified technologies

III – Reduce costs

IV – Adapt delivery systems

V – Mobilize communities, protect human rights
I. Optimize Drug Regimens

- Reduce pill burden/pill size
- Reduce toxicity
- Minimize drug-drug interactions
- Minimize laboratory monitoring needs
- Safe to use in adults, adolescents, children and pregnant women

- Improved adherence & clinical outcomes (maximize time on effective 1st line therapy)
- Improved convenience (patient and programme levels)
- Reduced costs (direct and indirect)

- Improve API route synthesis
- Dosage reduction
- Substitution of drug components
- Use of extended release formulations
- Co-formulation (FDC or co-blister pack)
- Use of new strategies (e.g.: induction-maintenance)
Antiretrovirals with potential for dose optimization

<table>
<thead>
<tr>
<th>Drug</th>
<th>Current dose</th>
<th>Potential optimised dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZT</td>
<td>300mg BID</td>
<td>200 mg BID</td>
</tr>
<tr>
<td>3TC</td>
<td>300 mg OD</td>
<td>150 mg OD</td>
</tr>
<tr>
<td>EFV</td>
<td>600 mg OD</td>
<td>400 mg OD</td>
</tr>
<tr>
<td>LPV/r</td>
<td>400/100 mg BID</td>
<td>200/100 or 200/150 mg BID</td>
</tr>
<tr>
<td>ATV/r</td>
<td>300/100 mg OD</td>
<td>300/50 or 200/50 mg OD</td>
</tr>
<tr>
<td>DRV/r</td>
<td>600/100 BID</td>
<td>400/50 mg OD</td>
</tr>
<tr>
<td>RTV</td>
<td>100mg (booster)</td>
<td>50mg (booster)</td>
</tr>
<tr>
<td>RAL</td>
<td>400 BID</td>
<td>100-200 mg BID</td>
</tr>
</tbody>
</table>

Several drugs have potential for dose-optimisation, providing equivalent efficacy with an improved safety profile and lower costs.
Potential areas for Optimization?

1st Line

TDF-FTC-EFV

- Simplification of tenofovir route synthesis
- Use of 3TC instead of FTC
- Reduced dosage of 3TC and EFV
- Substitution of EFV for Rilpivirine or NVPXR or Lersivirine

2nd Line

AZT-3TC + LPVR

- Use of co-blisters packs
- Reduced dose of AZT, 3TC and LPVR
- Substitution of 3TC for Apricitabine or Racivir or Elvucitabine
- Substitution of LPVR for ATVr or DRVr
- Substitution of AZT/3TC for integrase inhibitors (Raltegravir, Elvitegravir or GSK 572)
- Substitution of RTV for cobicistat or SPI-452
- Maintenance with PI monotherapy
II. Promote diagnostics using point of care and other simplified technologies

- Develop and implement diagnostic and monitoring tools that can be used at the first line of service delivery

- Rapid HIV diagnosis, CD4, Viral load and HIV incidence assays are priorities

- Quality Assurance/Quality Control for standard and new technologies
III. Reduce Costs

- Make drugs more affordable
- Make diagnostics more affordable
- Reduce hospitalization, monitoring and out-of-pocket expenses through treating earlier
- Prevent further HIV and TB infections
IV. Adapt Delivery Systems

- Decentralize services
- Integrate delivery systems, especially prevention, diagnosis and treatment
- Expand options for HIV testing and counselling in the health sector and at the community level as a gateway to treatment and prevention services
- As ART becomes simpler, expand task-shifting and use of primary health centres and community systems for delivery
- Shift from stand-alone ART services to integration with primary care, TB, antenatal, maternal and child health, sexual and reproductive health and drug dependence services
- Strengthen procurement and supply systems
V. Mobilize Communities

• Strengthen the demand side for treatment

• Engage communities in testing and counselling, service delivery, adherence and provision of care and support

• Ensure that human rights of all affected communities and people living with HIV are protected

• Achieve equity in access to treatment for all communities
New knowledge leads to periodic updating of guidelines and advocacy

1996 – ART in industrialized settings
The Dawn of HAART (One World, One Hope): potent ART combination becomes available.
“Hit Hard, Hit Early Era”

2002/2003 – WHO guidelines
Treatment costs high, ART toxicity is a concern, health systems are weak
“Treat those with greatest need”.
(Treat at CD4 < 200)
"The 3 by 5 Initiative"

2006 – WHO guidelines
Access improves, Rx costs lower but late diagnosis as a major barrier.
Treat if CD4 < 200, but consider if < 350
"Commitment to Universal Access"

2010 – WHO guidelines
Evidence mounting to treat earlier and with less toxic regimens. Do no harm and equity as key principles.
“Treat at CD4 <350”

"Treatment 2.0"
Further simplification and optimization of treatment to increase ART access
Adding the benefits of treatment in prevention of new infections

INTERNATIONAL AIDS CONFERENCE
Vancouver

UNIVERSAL ACCESS
Treatment 2.0

rrrrrrrEVOLUTION!!