Cost-effectiveness of Improving Adherence to Antiretroviral Therapy Using Electronic Drug Monitor Feedback among HIV-Positive Patients in China: The Adherence for Life (AFL) Study

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Abstract

AFL Intervention Design

● 80 ART patients were enrolled, given eCAPs
● Subjects stratified into high vs. low adherence groups (based on mean adherence ≥95% in Month 1), and randomized in each stratum to intervention or control
● Intervention subjects received EDM adherence data at 6-month visits; adherence was <sub>sub-optimal</sub>(>95%) in previous month, prosecuted by a clinician using EDM report; otherwise, counseling was optional
● Controls: continued standard of care, received counseling if self-reported adherence in previous month was <95%

Methods

Cost-effectiveness most sensitive to variation in effect size, number of patients participating, and cost of eCAPs

If intervention effect increased to 45%, cost per adherent patient falls by 25%

We found that an intervention using EDM feedback to inform counseling can improve ART adherence to optimal levels in Chinese patients at a low incremental cost ($247/patient)

We recommend further analysis of ART adherence interventions and scale-up of those found to be cost-effective in order to treat rising numbers of ART patients most efficiently

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Table 1: Costs and cost-effectiveness of AFL intervention

<table>
<thead>
<tr>
<th>Cost Item</th>
<th>2012 Cost (US$)</th>
<th>Cost % Total</th>
<th>Cost 2012 US$</th>
<th>Cost % Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fixed Costs</td>
<td>4262</td>
<td>33%</td>
<td>3906</td>
<td>31%</td>
</tr>
<tr>
<td>Variable cost per subject</td>
<td>706</td>
<td>5%</td>
<td>525</td>
<td>4%</td>
</tr>
<tr>
<td>Total cost</td>
<td>4968</td>
<td>100%</td>
<td>5431</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2: Results of one-way sensitivity analysis on the incremental cost of moving an ART patient from sub-optimal adherence to optimal adherence (≥95%)

<table>
<thead>
<tr>
<th>Base-case cost</th>
<th>Intervention effect size (%)</th>
<th>Gain in adherence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$247</td>
<td>20%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Conclusions

We found that an intervention using EDM feedback to inform counseling can improve ART adherence to optimal levels in Chinese patients at a low incremental cost ($247/patient)

We recommend further analysis of ART adherence interventions and scale-up of those found to be cost-effective in order to treat rising numbers of ART patients most efficiently

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References


Citations


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