Effects of Collaborative Improvement on PMTCT and ART Indicators in Cote d’Ivoire: A Comparative Study

J. N’Guesan, MD; L. Frano, ScD; A. Ackah, MD, MPH; V. Kauassi Kan, MEng; T. Gandwe, MPH
1 - USAID Health Care Improvement Project, University Research Co., LLC; 2 - EnCompass LLC; 3 - Zambia-Emory HIV Research Project

Context
Côte d’Ivoire has a high HIV prevalence, with 4.7% of the population infected with the virus. Yet a national 2008 assessment of prevention of mother-to-child transmission (PMTCT) and anti-retroviral therapy (ART) services showed significant gaps in care quality in both public and private facilities. To measure the effects of an improvement collaborative on these quality gaps, the USAID Health Care Improvement (HCI) Project in Côte d’Ivoire compared results achieved in demonstration sites with new sites that were going to join the collaborative.

Strategy for change
In a modified quasi-experimental design to investigate the effects of participating in a collaborative, 36 demonstration sites comprised the intervention group, and 42 similar sites in the soon-to-be-initiated expansion phase comprised the control group (shown in Figure 1). The collaborative identified 8 key changes for PMTCT and 9 for ART that demonstration teams had tested and shared through learning sessions and coaching visits, including training in new HIV and AIDS forms, creating links between PMTCT and ART registers, and creative ways to find those lost to follow-up (shown in Table 1).

Effects of changes
- Intervention and control sites had similar levels of team collaboration and employee engagement, but intervention sites had significantly higher QI competency and QI activity implementation.
- Intervention sites showed significantly larger gains in 4 of the 5 indicators (particularly on documentation and loss to follow-up) than in control sites (some results are shown in Figure 2).
- Intervention sites were significantly more likely to have implemented changes to improve documentation and loss to follow-up (significant odds ratios varying from 1.66 to 4.88).
- We found some spill-over effect of innovation spread in control sites—some change ideas were also implemented in control sites in 2009 due to the introduction of improvements by PEPFAR implementing partners that had seen improvement in their sites participating in the collaborative and shared those ideas with other sites they worked with.

Measurement of improvement
- Data on key inputs, QI competency, QI activities, team collaboration, data availability, and key changes implemented were collected through interviews with key informants, staff and QI team members at both control and intervention sites.
- Data on the collaborative’s 5 results indicators were compiled from all sites for January 2009—May 2010.

Table 1. Effective changes developed by teams participating in the ART/PMTCT Improvement Collaborative

<table>
<thead>
<tr>
<th>Area of Changes</th>
<th>ART</th>
<th>PMTCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving patient tracking and follow-up</td>
<td>• Calling patients or contacts about missed appointments and encouraging them to return to the clinic</td>
<td>• Training children for HIV testing during vaccinations</td>
</tr>
<tr>
<td></td>
<td>• Using NGOs to trace lost patients and bringing them back to the clinic</td>
<td>• Regular meeting between OB-GYN and HIV service providers</td>
</tr>
<tr>
<td></td>
<td>• Designing a staff member to be responsible for reviewing records for completeness each day</td>
<td>• Improving counseling of pregnant HIV-positive women about the importance of returning for HIV testing of the infant</td>
</tr>
<tr>
<td>Increasing availability and competence of health workers</td>
<td>• Providing the obstetrician/gynecologist (OB-GYN) in ART program with HIV-infected pregnant women</td>
<td>• Training and involving guards in patient orientation</td>
</tr>
<tr>
<td>Service organization and scheduling</td>
<td>• Recording appointments in two lists—one for the facility and one for the patient</td>
<td>• Regular meeting between OB-GYN and HIV service providers</td>
</tr>
<tr>
<td></td>
<td>• Making appointments to provide drugs to patients and CD4 control on the same day</td>
<td>• New room designated for PMTCT activities</td>
</tr>
<tr>
<td>Availability of supplies and equipment</td>
<td>• Created triage station</td>
<td>• New room designated for PMTCT activities</td>
</tr>
<tr>
<td></td>
<td>• Provided thermometer to ensure patient’s temperature</td>
<td>• New room designated for PMTCT activities</td>
</tr>
</tbody>
</table>

Lessons learnt
- Collaborative improvement can motivate sites to make changes in the way they provide services and enable them to achieve better results in some clinical areas than sites not involved in QI.
- More is still to be learned about the effects of spill-over of ideas to new sites and how well they take up new ideas.

Message for others
Sites that participate in collaborative improvement appear to implement more changes and have better results than sites that do not participate. This learning contributed to reducing loss to follow-up and better patient care documentation—two important areas for improving outcomes for patients with HIV and AIDS.

Acknowledgements
This work was supported by the American people through the United States Agency for International Development (USAID) and its Health Care Improvement (HCI) Project. The USAID Health Care Improvement Project is managed by University Research Co., LLC (URC) under the terms of Contract Numbers DHHS-G-00-07-00005-00 and GHN-V03-07-00003-00. We thank the Ministry of Public Health of Côte d’Ivoire, PEPFAR (the National HIV Care Program), participating hospitals, PEPFAR implementing partners (ACONDA, EGPAF, HAI, ICAP) and the QI teams for their cooperation and support for this work. For more information on HCI’s work, please visit www.hciproject.org.

Figure 1. Scale of the ART/PMTCT improvement work in Côte d’Ivoire

Figure 2. ART documentation in intervention sites compared to control sites

Groups work on changes during the first learning session held January 14-16, 2009