Community-directed interventions for priority health problems in Africa: results of a multicountry study

The CDI Study Group

Objective
To determine the extent to which the community-directed approach used in onchocerciasis control in Africa could effectively and efficiently provide integrated delivery of other health interventions.

Methods
A three-year experimental study was undertaken in 35 health districts from 2005 to 2007 in seven research sites in Cameroon, Nigeria and Uganda. Four trial districts and one comparison district were randomly selected in each site. All districts had established ivermectin treatment programmes, and in the trial districts four other established interventions — vitamin A supplementation, use of insecticide-treated nets, home management of malaria and short-course, directly-observed treatment for tuberculosis patients — were progressively incorporated into a community-directed intervention (CDI) process. At the end of each of the three study years, we performed quantitative evaluations of intervention coverage and provider costs, as well as qualitative assessments of the CDI process.

Findings
With the CDI strategy, significantly higher coverage was achieved than with other delivery approaches for all interventions except for short-course, directly-observed treatment. The coverage of malaria interventions more than doubled. The district-level costs of delivering all five interventions were lower in the CDI districts, but no cost difference was found at the first-line health facility level. Process evaluation showed that: (i) participatory processes were important; (ii) recurrent problems with the supply of intervention materials were a major constraint to implementation; (iii) the communities and community implementers were deeply committed to the CDI process; (iv) community implementers were more motivated by intangible incentives than by external financial incentives.

Conclusion
The CDI strategy, which builds upon the core principles of primary health care, is an effective and efficient model for integrated delivery of appropriate health interventions at the community level in Africa.

Introduction
Ensuring that available health interventions reach the people who most need them is one of the greatest challenges in achieving the Millennium Development Goals. Many simple, affordable and effective disease control measures have had only limited impact on the burden of disease due to their inadequate distribution in poor and remote communities. Although several global health initiatives have improved the delivery of selected health interventions, many priority interventions, such as those directed against malaria, still have unacceptably low coverage, especially in Africa. Thus, there is an urgent need for more effective strategies to improve access. The proliferation of health initiatives has also led to further fragmentation of the overall health effort, and there are increasing calls for integration within the primary health care system. Greater integration is particularly relevant for the delivery of those community-level interventions in which the community itself participates. There is little scientific evidence, however, on how to achieve this integration within the context of primary health care.

The community-directed intervention (CDI) strategy is an approach in which communities themselves direct the planning and implementation of intervention delivery. Adopted by the African Programme for Onchocerciasis Control (APOC) in the mid-1990s, the CDI strategy has helped to ensure and sustain the delivery of annual ivermectin treatment to over 75 million Africans, many living in remote areas.

The success of the CDI strategy in onchocerciasis control has sparked widespread interest in applying the strategy and using the established community network for other interventions. The board of APOC, on which the health ministries of 19 African countries are represented, asked the Special Programme for Research and Training in Tropical Diseases (TDR), sponsored by the United Nations, The World Bank and the World Health Organization (WHO), to undertake a study on the potential use of the CDI approach to carry out interventions against other diseases. TDR responded to this request by launching a multicountry study in 2005 to determine the extent to which the CDI approach could effectively and efficiently provide integrated delivery of other health interventions of varying complexity. The present article provides a synthesis of the main findings of the study; more detailed results are provided in the TDR study report.

Methods
Strategy
A community-directed intervention (CDI) is one that is undertaken at the community level under the direction of the community itself. Initially, local health services and their partners introduce the range of possible interventions in a participatory manner and explain the community-directed approach and how it can ensure community ownership from the outset. Subsequently the community takes charge of the process, usually through a series of community meetings where the roles and responsibilities of the community in the CDI process are discussed and the community decides how, when and where the...
intervention will be implemented and by whom; how implementation will be monitored, and what support (financial or otherwise), if any, will be provided to implementers. The community then collectively selects the implementers. Health workers train and monitor the latter, but the community directs the intervention process.16

Study design

From 2005 to 2007 we conducted a three-year multicentre experimental study of community-directed intervention (CDI) strategy implementation in seven study sites in three African countries (Table 1). From 12 African countries. Each selected research site encompassed five health districts. All districts had been practicing community-directed treatment with ivermectin for several years and had been delivering the other four interventions through regular health system channels. In each site, four of the health districts were randomly designated as trial districts for CDI implementation and one was randomly designated as a comparison district where the four additional interventions would continue to be delivered in the conventional way.

To assess the overall effort needed to apply the CDI strategy for the combined delivery of interventions, the research was undertaken in three one-year phases (Table 2). In year 1 (2005), one intervention in addition to ivermectin treatment was delivered through the CDI strategy in each trial district. In year 2 (2006), one more intervention was added to the CDI approach, and in year 3 (2007) the remaining two interventions were added.

Evaluation

We used quantitative survey methods to evaluate effectiveness and cost, and qualitative methods to evaluate processes.

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### Table 1. Study sites and study population for multicentre experimental study of community-directed intervention (CDI) strategy in three African countries, 2005–2007

<table>
<thead>
<tr>
<th>Country</th>
<th>Institution</th>
<th>Study region</th>
<th>Study districts/local government areas</th>
<th>Study district population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cameroon</td>
<td>University of Buea</td>
<td>Western province</td>
<td>Dischang, Foumbot, Bafang, Bangangté and Mbouda</td>
<td>219,865</td>
</tr>
<tr>
<td>Cameroon</td>
<td>University of Yaoundé</td>
<td>Littoral province</td>
<td>Yabassi, Nkondjock, Pouma, Ndomb and Nkambo</td>
<td>96,855</td>
</tr>
<tr>
<td>Nigeria</td>
<td>University of Ibadan 1</td>
<td>Oyo state (north-western)</td>
<td>Iwarzaja, Iseyin, Kajola, Ibarapa North and Ibarapa Central</td>
<td>488,765</td>
</tr>
<tr>
<td>Nigeria</td>
<td>University of Ibadan 2</td>
<td>Oyo state (north-central)</td>
<td>Oyo East, Saki West, Irepo, Atiba and Atisbo</td>
<td>562,816</td>
</tr>
<tr>
<td>Nigeria</td>
<td>Sight Savers International</td>
<td>Kaduna state</td>
<td>Lere, Jemaa, Kachia, Kaura and Kauru</td>
<td>164,681</td>
</tr>
<tr>
<td>Nigeria</td>
<td>University of Ibadan 2</td>
<td>Taraba state</td>
<td>Pantisawa, Garbachede, Pupule, Bali and Yakoko</td>
<td>556,605</td>
</tr>
<tr>
<td>Uganda</td>
<td>Ministry of Health</td>
<td>Western, eastern and northern regions</td>
<td>Arua, Sironko, Kyenjojo, Kanungu and Nebbi</td>
<td>265,663</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>2,354,694</td>
</tr>
</tbody>
</table>

Source: UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases.16

### Table 2. Design of three-year experimental study of community-directed intervention (CDI) strategy implementation in seven study sites in Cameroon, Nigeria and Uganda, 2005–2007

<table>
<thead>
<tr>
<th>Study phase</th>
<th>Interventions delivered through the CDI process</th>
<th>Comparison district</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>district 1</td>
<td>district 2</td>
</tr>
<tr>
<td>Year 1 (2005)</td>
<td>CDTi + vit A</td>
<td>CDTi + DOT</td>
</tr>
<tr>
<td>Year 2 (2006)</td>
<td>CDTi + vit A + ITN</td>
<td>CDTi + DOT + HMM</td>
</tr>
<tr>
<td>Year 3 (2007)</td>
<td>CDTi + vit A + ITN + DOT + HMM</td>
<td>CDTi + DOT + HMM + ITN</td>
</tr>
</tbody>
</table>

CDI, community-directed intervention; CDTi, community-directed intervention with ivermectin; DOT, short-course, directly-observed treatment; HMM, home management of malaria; ITN, insecticide-treated net; vit A, vitamin A.
Box 1. Indicators to assess the effectiveness of the community-directed intervention (CDI) process

**Vitamin A supplementation:**
- Percentage of children aged 6 to 59 months who received vitamin A during the last treatment round

**Insecticide-treated nets:**
- Percentage of households having at least one insecticide-treated net
- Percentage of children less than 5 years of age who slept under an insecticide-treated net the night before the study interview
- Percentage of pregnant women who slept under an insecticide-treated net the night before the study interview

**Home management of malaria:**
- Percentage of children less than 5 years of age who had had fever sometime during the prior 2 weeks and who had received appropriate treatment (i.e. treatment with a nationally-recommended antimalarial drug, at the correct dosage schedule, within 24 hours of the onset of fever)

**Short-course, directly-observed treatment:**
- Treatment completion rate, i.e. the percentage of patients registered between 6 and 18 months before the survey who had completed treatment according to their treatment card.

(All tuberculosis patients from the study communities who were registered in a health facility serving their district between 6 and 18 months before the evaluation were followed up to determine their treatment status from their treatment card.)

**Ivermectin distribution:**
- Percentage of the total population treated with ivermectin during the previous year.

**Effectiveness**

For evaluation purposes, 10 villages were randomly selected in each district. Five households were randomly selected from each community, so that each study site had a total of 50 evaluation villages and 250 evaluation households. We assessed the effectiveness of the CDI process for delivering the different interventions to the target populations using the standard coverage indicators listed in Box 1. For each indicator, all persons concerned in the selected households (or the caretakers of children aged less than 5 years) were interviewed using a standard questionnaire.

**Provider costs**

The cost of delivering the five interventions was assessed through the collection of provider cost data at the district level, the first-line health facility level and the community level. At the district level, programme officers responsible for the delivery of each of the five interventions were interviewed regarding eight cost items: staff salaries; allowances for volunteers; consultant fees; training; mobilization; transportation; maintenance and utilities; and supervision and monitoring. Where resources were shared, the interviewee was requested to allocate a percentage of the total costs of each individual (re-current and capital) input to the study interventions.

At the first-line health facility level, information for seven of the same cost items was obtained from the officer in charge of the facility (consultant fees were not considered relevant at this level). Whenever possible, cost estimates were checked against records, but these were rarely available.

At the community level, provider costs were defined as the monetary value of the time the community implementers spent delivering the interventions (opportunity costs). To calculate opportunity costs we used the national minimum wage and assumed an 8-hour working day. Finally, we used the 2005 official exchange rate between the national currency and the United States dollar (US$) to convert all costs to US$ after correcting for inflation using each country’s national consumer price index.

**Process**

At the beginning of the project, we hypothesized a conceptual framework to describe qualitatively which components of the CDI process would affect the successful implementation of CDIs. Qualitative social science research instruments to evaluate these factors were subsequently developed and pretested. The instruments included in-depth interviews with community implementers (584 interviews in year 3) and health workers (371); focus group discussions with community groups (278); key informant interviews with nongovernmental organization (NGO) partners (147); focused discussions during stakeholder briefings and structured observation using checklists (445). We processed all qualitative data using Atlas.Ti 5.2 software (Atlas.ti Scientific Software Development GmbH, Berlin, Germany). We coded textual data using a cross-site code list developed on the basis of the conceptual framework. We merged single site data into a cross-site database. At the final analysis workshop, research teams produced detailed reports of the CDI process in their study area, drawing from the evaluation data collected. Through collective brainstorming, sharing of site reports and in-depth analysis of the cross-site database, team members then identified the factors that they felt had positively or negatively affected programme implementation. Factors affecting the outcome of each component of the process were then rated according to their importance to outcomes.

**Research ethics**

The common study protocol, including the informed consent forms, was approved by WHO’s Research Ethics Review Committee and by the participating country’s national ethical review committee or appropriate institutional review board. Informed consent was obtained from all persons who voluntarily agreed to be interviewed.

**Results**

**Effectiveness**

During the first year of the study major shortages of intervention materials kept interventions from being implemented in several districts, so complete coverage evaluations were only undertaken in years 2 and 3. In both years the coverage for vitamin A supplementation, insecticide-treated nets and home management of malaria was significantly higher when delivered through the CDI process (Table 3). The increased coverage was particularly striking for the antimalaria interventions. While very low in the comparison districts, it nearly doubled when delivered through CDI.

These averages, however, still do not reflect the full potential for providing home management of malaria within the context of the CDI strategy. During the study period Cameroon set forth a new malaria treatment policy stipulating
Table 3. Intervention coverage evaluation for years 2 and 3 in districts with conventional delivery versus districts that had applied the community-directed intervention (CDI) strategy for one or two years, Cameroon, Nigeria and Uganda, 2005–2007

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Evaluation results for year 2</th>
<th>Evaluation results for year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Comparison districts (conventional delivery only)</td>
<td>CDI districts with conventional delivery in year 2</td>
</tr>
<tr>
<td>Vitamin A supplementation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total no. of children</td>
<td>618</td>
<td>1274</td>
</tr>
<tr>
<td>No. treated (%)</td>
<td>536 (86.7)</td>
<td>1103 (86.6)</td>
</tr>
<tr>
<td>Households with ITNs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total no. of households</td>
<td>280</td>
<td>577</td>
</tr>
<tr>
<td>No. with at least 1 ITN (%)</td>
<td>44 (15.7)</td>
<td>135 (23.4)</td>
</tr>
<tr>
<td>Children sleeping under ITNs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total no. of children</td>
<td>452</td>
<td>892</td>
</tr>
<tr>
<td>No. that slept under ITN previous night (%)</td>
<td>41 (9.1)</td>
<td>95 (10.7)</td>
</tr>
<tr>
<td>Pregnant women sleeping under ITNs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total no. of pregnant women</td>
<td>63</td>
<td>135</td>
</tr>
<tr>
<td>No. that slept under ITN previous night (%)</td>
<td>5 (7.9)</td>
<td>6 (4.4)</td>
</tr>
<tr>
<td>Home management of malaria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total no. of febrile children</td>
<td>230</td>
<td>485</td>
</tr>
<tr>
<td>No. appropriately treated (%)</td>
<td>49 (21.3)</td>
<td>135 (27.8)</td>
</tr>
<tr>
<td>DOT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total no. of tuberculosis patients on register</td>
<td>43</td>
<td>179</td>
</tr>
<tr>
<td>No. that completed treatment (%)</td>
<td>35 (81.4)</td>
<td>146 (81.6)</td>
</tr>
</tbody>
</table>

CDI, community-directed intervention; DOT, short-course, directly-observed treatment; ITN, insecticide-treated net.

Source: UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases.16
that Coartem® be prescribed only after a patient had been positively diagnosed with malaria. This made it impossible to incorporate the home management of malaria into the CDI process in Cameroon. However, in Nigeria and Uganda, where no such policy restrictions were in place, the percentage of children receiving appropriate antimalarial treatment in year 3 in the CDI study districts was 77% (Fig. 1) – two and a half times more than in the comparison districts and far in excess of the Roll Back Malaria target of 60% for 2005.17

Contrary to the findings for the other interventions, the completion rate for the short-course, directly-observed treatment was not higher in the CDI study districts than in the comparison districts. Such treatment was the intervention that the health system most reluctantly included in the CDI approach, since most district tuberculosis control officers felt community members could not be entrusted with the handling of the drugs. Hence, short-course, directly-observed treatment was fully implemented through the CDI approach in only one of the seven study sites.

In response to concerns raised by APOC’s board, the evaluation also considered how including other interventions in the CDI process would affect annual ivermectin treatment rates. The results indicate that the effect had been positive and that ivermectin treatment coverage was 10% higher in districts where multiple interventions were delivered through the CDI approach.

**Costs**

At the district level, cost analysis suggests that delivering health care interventions through the CDI process is relatively cost-efficient (Fig. 2). In the CDI districts, the median cost per district of implementing and delivering the five study interventions was a little above US$ 15,000, while in the comparison districts it was about US$ 30,000. There was little difference in the relative allocation of costs between CDI trial sites and comparison districts. In both cases staff salaries comprised the major cost (51.2% versus 48.6%, respectively). Maintenance, training and social mobilization each accounted for 10–17% of costs in both groups of districts. The cost of transport comprised less than 3% in the CDI districts and about 8% in the comparison districts.

At the first-line health facility level, the CDI strategy did not result in significant cost savings (Fig. 3). While costs were slightly lower in the CDI districts (median: US$ 1025) than in the comparison districts (median: US$ 1170), the difference was not statistically significant. In this case as well staff salaries were the costliest component.

The median opportunity cost for community implementers per community was US$ 65 in trial communities and US$ 44 in comparison communities, where implementers were only involved in distributing ivermectin. However, opportunity cost estimates varied widely per community (Fig. 4) and did not differ significantly between CDI and comparison districts.

**Critical process factors**

Implementing the CDI strategy involved five major processes at different levels of...
the health system. These processes were extensively evaluated and the main findings are summarized in Box 2.

Stakeholder consultation and mobilization were among the factors most critical to the success of the CDI process. Because the interventions being addressed by the CDI strategy had never been carried out in an integrated manner before, many stakeholders had vested interests in or a strong sense of ownership of particular delivery approaches that they perceived as meeting their own programme targets. These views had to be harmonized at different levels.

The case of vitamin A supplementation provided a vivid example of the challenges involved. Vitamin A distribution was linked to national immunization day campaigns, in which considerable sums are invested, and thus provided local health staff and politicians with an opportunity to “buy” political capital. Despite national decisions to include vitamin A supplementation in the study, at first it was difficult to persuade district health staff and NGO stakeholders to incorporate vitamin A into CDI delivery or to relinquish vitamin A supplies. For this reason, during the first year of the study vitamin A could not be delivered through the CDI process in several study sites. In the second year, national health system levels were targeted as an issue-specific advocacy effort that emphasized the potential value of the CDI strategy in the light of the eventual phasing out of national immunization day campaigns. The result was a clear policy directive to deliver vitamin A through the CDI process in the study areas, at least for the term of the study, and this resolved the problems.

The CDI process is embedded in the health system and is therefore subject to health system constraints. A major challenge, especially during the first year of the CDI study, concerned the health system’s procurement of needed intervention materials to support the increased demand generated by the CDI strategy’s integrated approach. The most common procurement problem was a shortage of insecticide-treated nets and antimalarials. Recurrent shortages created problems for community implementers: “I had difficulties, people who would not get nets due to shortage of nets accused me of keeping their nets” [community implementer, Kaduna].

A key step in the CDI process was the selection of community implementers by the community in a manner that best suited its interests. All research teams observed that when the whole community participated in the selection process and in defining the implementers’ tasks, they subsequently also gave greater support for the volunteers to implement the CDI strategy. The implementers thus selected also tended to be more appropriate and motivated for the task.

In the CDI process, no external provision is made for giving material incentives to implementers. Instead, communities decide what incentives to provide. Community volunteers expected monetary incentives, since these were commonly offered for other health efforts, but as observed in previous studies, they seldom valued them as highly as non-material incentives. The latter – namely community recognition, status, the feeling of making a contribution, pride in the services provided, knowledge gained and positive feedback from individual
The true embedding of the CDI process in communities led to broader “systems” effects or changes in the ways communities and health services related to each other. As a result of the CDI process, communities became increasingly aware of public health issues, health commodities and their rights to access services, and this awareness, in turn, reinforced their commitment to the process and to other health measures. Once aware of the extent of their rights and responsibilities, they were more assertive about demanding adequate services from the health authorities.

Over the course of the study, an increasing number of women attended meetings, spoke out and were selected as community implementers, particularly as a result of growing awareness of their potential role in malaria treatment. Over time, women became more outspoken, participated more actively, and demanded to be assigned responsibilities. Community-based organizations, including women's groups, became more involved in the CDI process. For instance, in one Nigerian site, the market women's association now plays an active role in CDI activities. Interest in community development, stimulated initially by the CDI strategy, was observed to expand gradually to other development efforts. Health workers became more engaged in outreach activities as a result of CDI. They came to view community implementers as partners and involved them in additional outreach activities, such as the prevention of sexually transmitted infections. Health workers also reported that they enjoyed training and monitoring community implementers.

Discussion

The ultimate aim of the CDI strategy is to improve the delivery of public health interventions and to ensure that they reach the populations that need them. The ultimate test of the effectiveness of the strategy is, therefore, improved and sustained coverage of the target populations with specific interventions over time. During the study years, the CDI approach was shown to be much more effective than the other delivery approaches in use for all studied interventions except short-course, directly-observed treatment. The effect of CDI delivery was especially dramatic for malaria interventions: coverage with insecticide-treated nets and the percentage of febrile children appropriately treated for malaria more than doubled. Annual ivermectin treatment coverage also improved, possibly because of greater community commitment to the total CDI package.

In terms of costs to the health system, the CDI strategy also appeared more efficient than conventional delivery systems. It achieved greater coverage of health interventions of varying complexity with cost savings at the district level and no increase in implementation costs at the first-line health facility level.

When given the necessary training and support, community implementers...
demonstrated that they could effectively implement each of the five study interventions, regardless of their level of complexity, and were eager to apply the strategy and sustain it over a period of time. Although they expressed a desire for financial incentives, community implementers perceived intrinsic incentives as being more decisive in the delivery of the CDI approach. The major observed constraints were due to social factors (e.g., the acceptability and appropriateness of the intervention) and system factors (e.g., shortage of supplies, reluctance to abandon vertical delivery, reluctance of health workers to empower community implementers for administration of short-course, directly-observed treatment and, in a few isolated cases, health policies restricting the distribution of antimarialy by anyone other than certified health services staff).

Integrated delivery of different interventions through the CDI strategy proved feasible and cost-effective where adequate supplies of drugs and other intervention materials were made available. Communities, health workers, policy-makers and other stakeholders were quite supportive and their buy-in to the CDI approach increased significantly over time. Since intervention coverage also increased as more interventions were gradually included in CDI delivery, the results of the study are promising in terms of the sustainability of the CDI approach.

Based on the findings of the study, the board of APOC has recommended that CDI approaches be adopted for integrated, community-level delivery of appropriate health interventions in the 16 African countries with experience in community-directed treatment for onchocerciasis control. This may comprise the interventions tested in this study, especially for malaria, or other intervention packages chosen on the basis of the lessons learnt. This APOC endorsement represents significant potential for extending CDI programmes elsewhere, since programmes for community-directed treatment with ivermectin cover some 75 million people to date and are projected to cover 100 million by 2010. The evidence from our large scale study shows that the CDI process provides an effective platform for integrated delivery of health interventions in a model that builds upon core principles of primary health care, namely active community participation in the organization and delivery of interventions and a structured and systematic partnership of communities and health systems.

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Intervenciones dirigidas por la comunidad para problemas sanitarios prioritarios en África: resultados de un estudio multipais

Objetivo Determinar en qué medida el enfoque de dirección por la comunidad utilizado para combatir la oncocercosis en África podría aprovecharse para implantar efectiva y eficientemente otras intervenciones sanitarias.

Métodos Se llevó a cabo un estudio experimental de tres años en 35 distritos sanitarios repartidos en sept sitios de investigación en Camerún, Nigeria y Uganda. En cada sitio, los distritos seleccionaron cuatro distritos de estudio y un distrito de comparación. Todos los distritos habían establecido programas de intervención con una intervención y en los distritos de intervención se incorporaron progresivamente otras cuatro intervenciones de reconocida eficacia -suplementos de vitamina A, uso de mosquiteros tratados con insecticida, tratamiento domiciliario de la malaria y tratamiento breve bajo observación directa. La cobertura de las intervenciones contra la tuberculosis en un proceso de intervenciones dirigido por la comunidad (IDC) se comparó con la cobertura en un proceso de intervenciones dirigido por la comunidad (IDC).

Resultados Mediante la estrategia de IDC se logró una cobertura significativamente mayor que con otras fórmulas de prestación de servicios en todas las intervenciones a excepción del tratamiento de la malaria, pero no se hallaron diferencias de costos en el nivel de los servicios de salud de primera línea. La evaluación del proceso reveló que: (i) el aspecto participativo era importante, (ii) los problemas que afectaron el progreso del proceso de intervención fueron un gran obstáculo para la implementación; (iii) los comunidades y los ejecutores de cada distrito mostraron un firme compromiso con el proceso de IDC; y (iv) los ejecutores de las comunidades estaban más motivados por incentivos financieros externos.

Conclusión La estrategia IDC, basada en los principios básicos de la atención primaria, es un modelo eficaz y eficiente para la prestación integrada de determinadas intervenciones sanitarias a nivel comunitario en África.


