Condom social marketing in sub-Saharan Africa and the Total Market Approach

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Abstract. Background: Social marketing interventions are important in developing nations. Both increasing use and shifting users from receiving subsidised condoms need to be pursued using a Total Market Approach (TMA). This paper reviews the performance of social marketing through a cross-country comparison of condom use, equity and market share, plus a case study illustrating how TMA can be applied. Methods: Demographic and Health Survey data (1998–2007) provide condom use trends, concentration indices and sources of supply by gender for 11 African countries. Service delivery information and market research provide market share data for the same period. For the case study, two-yearly surveys (2001–09) are the source of condom trends, and retail audit data (2007–09) provide sustainability data. Results: Among women, condom use with a non-marital, non-cohabiting partner increased significantly in 7 of 11 countries. For men, 5 of 11 countries showed an increase in condom use. Equity improved for men in five countries and was achieved in two; for women, equity improved in three. Most obtained condoms from shops and pharmacies; social marketing was the dominant source of supply. Data from Kenya were informative for TMA, showing improvements in condom use over time, but sustainability results were mixed and equity was not measured. Overall market value and number of brands increased; however, subsidies increased over time. Conclusions: Condom social marketing interventions have advanced and achieved the goals of improving use and making condoms available in the private sector. It is time to manage interventions and influence markets to improve equity and sustainability.

Additional keywords: condom use, equity, Kenya, market share.

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Introduction

Condom social marketing interventions deliver risk reduction messages and more than two billion condoms per year (about one-quarter of all condoms used worldwide) in 71 countries in Africa, Asia, Eastern Europe, Latin America and the Caribbean, making these interventions one of the most important components of sexual health programs in the developing world.1–3 As interventions have grown, markets have segmented, pricing has varied and the agencies managing them have strengthened. The primary challenge today is for these agencies and their stakeholders, public and commercial sector supply sources, to implement a Total Market Approach (TMA), defined as management actions across supply sources to achieve universal coverage of condoms among the vulnerable while increasing cost-effectiveness and equity, as well as to monitor potential unintended consequences on markets.

Origins of condom social marketing

Condom social marketing traces its history to a suggestion in the 1950s that one could sell ‘brotherhood like soap’.4 Standard product marketing had started adopting rigorous approaches, using a scientific set of tools to persuade large population segments that specific product brands had benefits that no other could deliver. Marketers used social, psychological and operations research to tailor new products and brands to consumers’ identified needs and desires, and to promote them using packaging and the growing number of available channels, particularly television. Wiebe and others envisioned applying those same approaches and tools on social issues to enable populations to adopt and maintain behaviours that had both individual and social benefits.5

Condoms provided a good opportunity to test these new social marketing approaches. Beginning in India in the 1960s, condoms were offered as part of national family planning programs, distributed as branded goods in pharmacies and other private sector outlets, and advertised through multiple communication channels, just like other commercial products.6 Consumers were not asked to pay the full cost of the product, and most marketing costs were paid by international donors and, in some cases, local governments.

By the end of the 1980s, the expansion of condom social marketing in family planning made these interventions the
dominant private sector source of condoms in the developing world, delivering 500 million condoms a year, an amount that had begun to rival public sector distribution volumes.5

**Indian and Indonesian models**

Two types of condom social marketing interventions emerged during this period. The first, based on the Indian example, aimed to increase overall condom use and change health behaviours, delivering condoms through the private sector simply as a way to expand the public health system. The second type—the Indonesian model—aimed not to increase use, but to change the means of obtaining condoms, shifting users from receiving free condoms through the private sector to paying the full cost of them from commercial suppliers. The Blue Circle program in Indonesia branded and promoted commercially supplied contraceptives, offering high quality products on a sliding scale based on ability to pay, all while increasing availability.7 Steadily, market share shifted towards private sector provision at commercial prices. The result today is that 70% of condoms are delivered through the private sector, 55% of which are in the form of commercial brands, with the remaining 15% being subsidised.8

While advocates for these two models agreed on the need to subsidise promotion and distribution costs, they disagreed primarily on how to price condoms. Pricing policy also separated advocates for social marketing from its detractors. At issue was whether to put a consumer price on condoms at all, price them positively but as low as possible, or price them at a cost-recovery or higher level. When Harvey established a clear, negative correlation between condom prices and sales using data from 24 social marketing interventions, social marketing critics argued that providing condoms free of charge would increase distribution and use.9 They cited data from Uganda demonstrating that the substitution of free condom distribution with condom sales reduced distribution of condoms to less than 10% of their former total.10 In response, social marketing advocates countered that payment for condoms actually improved distribution, as retailers were given an incentive to carry the product, resulting in improved access for consumers and lower rates of wastage than found in the public sector. Others suggested that the longer condoms were promoted using social marketing methods, the more people of lower socioeconomic status would adopt their use.11,12

With the startling discovery and rise of HIV/AIDS in the mid-1980s, this debate over the primary purpose of condom social marketing was sidelined. Condom use in Africa was very low, condom availability in the public sector was inconsistent and condoms were very expensive in the private sector. Thus, nearly every sub-Saharan African country started condom social marketing over the next 15 years.6 By 1997, condom social marketing for HIV/AIDS had the exclusive objective of increasing use. Three years later, in 2000, condom distribution had increased in most African countries by 10- to 100-fold over mid-1980 levels.13 The Indian model had prevailed.

**Condom use**

Evidence over the past decade suggests that the Indian model has been effective in increasing condom use among populations vulnerable to HIV infection in Africa. In a study reviewing trends in condom use from 1993 to 2001 among single African women aged 15–24 from 13 African countries, Cleland and Ali found that consistent condom use and condom use at last sex steadily increased at a rate of 1.4% per year.14 Between 35% and 79% of women used condoms as contraceptives (the median was 58.8%), indicating that a substantial minority used condoms primarily to prevent sexually transmissible infections (STI). Use levels for dual protection purposes were unknown.

Cleland, Ali and Shah also noted that condom availability had increased, with more than 70% of women in 18 countries identifying pharmacies and shops as the main sources of supply.15 Thus, the authors suggested that condom social marketing campaigns had improved condom availability and were leading to increases in use. Additional studies have reached similar conclusions, showing that exposure to social marketing campaigns has increased condom use for HIV prevention.16–20

Today, condom social marketing interventions have expanded beyond primarily selling subsidised condoms and communicating using mass media or other strategies.21,22 Many programs combine sales programs with initiatives to deliver condoms for free. An emphasis on mass media, which is wholly appropriate for large-scale family planning campaigns and condom promotion in the context of generalised HIV, has broadened to other channels including the use of peers.18 Condom social marketing initiatives have blossomed into multbehaviour interventions, including campaigns to increase abstinence, treatment for STI and circumcision among males.29,30 This success has spawned additional social marketing initiatives, including in malaria control, water treatment and other areas.

**A Total Market Approach**

Growth in condom social marketing, continued debates about appropriate pricing and very high condom market share among social marketing agencies led to the development of TMA for condom social marketing initiatives.31 Aiming to increase condom use equitably and sustainably through actions undertaken in all supply sectors, this approach responds to concerns that pricing subsidies are insufficient for ensuring equitable access by the poor and for developing commercial sources of supply for those willing to pay for condoms. In effect, TMA blends the Indian and Indonesian models, even extending them to include closer coordination with the public sector to ensure equity. This article provides an overview of the performance of condom social marketing through a cross-country comparison in sub-Saharan Africa that examines condom use, equity and market share. It then uses a case study to illustrate how TMA merits use for evaluating and improving social marketing initiatives.
Methods

For the cross-country comparison, countries were selected if the Demographic and Health Surveys (DHS) had administered two rounds of the men’s and women’s questionnaires (completed in the same year), and if they had an existing condom social marketing program operated by Population Services International (PSI), a non-governmental social marketing organisation, during the survey time period. Eleven countries met those criteria: Benin, Cameroon, Guinea, Kenya, Malawi, Mali, Namibia, Rwanda, Uganda, Zambia and Zimbabwe. Only African countries are included because they administer men’s questionnaires.

For each of these countries, DHS data for women and men were analysed separately for the same time period. Condom use was defined as use at last sex with a non-marital, non-cohabiting partner. The concentration index was used to measure equity in condom use for men and women, using respondents’ reported income or asset ownership as a proxy for socioeconomic status (SES). B

Sustainability was measured through two proxy variables. The first was the source of supply for the condom used at last sex, while the second was PSI’s estimated market share for the 11 countries at the time of the second DHS survey. These estimates were drawn from PSI condom market research conducted in these countries, as well as service delivery information and quantitative surveys. Data were analysed in SPSS (SPSS Inc., Chicago, IL, USA) using χ²-tests to determine if there were significant changes (P < 0.05) in the variables of interest between the first and second rounds of the surveys.

For the case study, Kenya is profiled. From 2001 to 2009, PSI Kenya measured the proportion of sexually active males aged 15–24 who reported using a condom at last sex with a non-marital, non-cohabiting partner in twice-yearly population-based surveys. χ²-tests were used to identify significant changes (P < 0.05) in condom use over time.

Sustainability is defined as the market’s ability to decrease subsidies, increase market value and increase the number of private sector brands on the market. The timeframe for this part of the analysis was 2007–09. PSI Kenya purchased monthly condom retail audit data from TNS Research International to inform the analysis. Three categories of male condoms were used: those distributed free of charge, those sold through social marketing programs and those sold by the private sector. The size and value of the total market was estimated by examining the number of condom units distributed and the retail price per unit. Subsidy per condom unit was calculated as the difference between the price that donors or the Government of Kenya paid to procure condoms, and the price at which condoms were sold to traders. Total market subsidy calculations were based on total condoms procured.

Results

Table 1 presents the cross-country comparison data for 1998–2007. Among men, condom use at last sex with a non-marital, non-cohabiting partner increased significantly in 5 of 11 countries. Endline surveys noted a range of reported use between 39% and 68%. Concentration indices for 5 of the 11 countries – Benin, Guinea, Rwanda, Uganda and Zimbabwe – demonstrate significant improvement over time: men of lower SES reported condom use with non-marital, non-cohabiting, partners over time than men of higher SES. In three countries – Cameroon, Malawi and Zambia – equity was achieved, whereby condom use was practiced equally among the lower and higher SES groups.

Among women, condom use at last sex with a non-marital, non-cohabiting partner increased significantly in 7 of 11 countries. Endline surveys from 2003 to 2007 found a range of reported condom use between 17% and 48%. Condom use decreased significantly and by more than half in Uganda between 2000 and 2006. Significant improvement in equity was apparent for only 3 of the 11 countries. In Guinea, Mali and Uganda, more women of lower SES reported condom use with non-cohabiting, non-marital partners over time than women of higher SES. Equity was not achieved in any country.

Table 1 also shows the supply sources for condoms, including shops and pharmacies that social marketing interventions designate as outlets. Most men sourced their condoms from shops and pharmacies, with Zambia as an exception, where a nearly equal proportion of men obtained their condoms from the public sector. Most women also obtained their condoms from shops and pharmacies in all but two countries, Namibia and Zambia. Shops increasingly were the preferred source of supply. Market shares for social marketing interventions managed by PSI ranged from less than 10% in Namibia and Uganda to more than 80% in five countries (Benin, Cameroon, Guinea, Mali and Rwanda).

Overall, this cross-country comparison demonstrates the factors that prompted the call for TMA, including condom use rates that increased significantly among both men and women, and the increasing shift of condom supply to the private sector – a shift that is likely to do so in settings where condom social marketing interventions hold dominant market shares. The lack of data on the commercial market share, market value, number of condom brands available and levels of subsidy leaves open questions whether markets are evolving in ways that increase sustainability.

The Total Market Approach: Kenya case study

Background

PSI Kenya launched its male condom social marketing program in 1993, in partnership with the Government of Kenya and the Kenya National AIDS and STI Control Programme. PSI Kenya currently distributes free public sector condoms in rural areas to populations at risk for HIV infection, and includes free condoms in its basic care packages for people living with HIV. PSI Kenya also sells one lower-priced male...
Table 1. Condom use, concentration index and source, and PSI market share in 11 sub-Saharan African nations according to the PSI surveys 1998–2007

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Used condom at last sex</th>
<th>Concentration Index for used condom Source PSI Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benin</td>
<td>2001</td>
<td>31.4</td>
<td>39.7***</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>44.8***</td>
<td></td>
</tr>
<tr>
<td>Cameroon</td>
<td>1998</td>
<td>NA</td>
<td>53.4</td>
</tr>
<tr>
<td></td>
<td>2004</td>
<td>NA</td>
<td>0.05</td>
</tr>
<tr>
<td>Guinea</td>
<td>1999</td>
<td>29.4</td>
<td>38.9***</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td>38.9***</td>
<td></td>
</tr>
<tr>
<td>Kenya</td>
<td>1998</td>
<td>53.7</td>
<td>47.4***</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>74.7</td>
<td></td>
</tr>
<tr>
<td>Malawi</td>
<td>2000</td>
<td>38.6</td>
<td>44.8*</td>
</tr>
<tr>
<td></td>
<td>2004</td>
<td>66.4</td>
<td></td>
</tr>
<tr>
<td>Mali</td>
<td>2001</td>
<td>31.4</td>
<td>44.8***</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>44.8***</td>
<td></td>
</tr>
<tr>
<td>Namibia</td>
<td>2000</td>
<td>66.4</td>
<td>67.7</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>67.7</td>
<td></td>
</tr>
<tr>
<td>Rwanda</td>
<td>2000</td>
<td>62.4</td>
<td>42.2***</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td>62.4</td>
<td></td>
</tr>
<tr>
<td>Uganda</td>
<td>2000</td>
<td>63.1</td>
<td>47.2***</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>47.2***</td>
<td></td>
</tr>
<tr>
<td>Zambia</td>
<td>2001</td>
<td>39.7</td>
<td>47.8**</td>
</tr>
<tr>
<td></td>
<td>2007</td>
<td>47.8**</td>
<td></td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>1999</td>
<td>66.5</td>
<td>66.8</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>66.8</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Condom use at last sex with NMNC partner, spouse or cohabiting partner was only asked of men and women who stated they had such a partner. Therefore, the analysis is restricted to those with such partners. Respondents were then asked if they used a condom at last sex, and those who responded affirmatively were asked where they obtained the condom used at last sex. Initial places were then reduced to six categories. The data were then merged and sorted on year, condom use at last sex and where last condom was obtained. The data were then used to determine significance for the two samples using 2-tests run to determine significance between the two survey rounds. Certain DHS surveys prior to 2000 did not include questions on condom source or did not include condom source questions in all surveys. Where this was the case, 'NA' is shown. If a condom source was listed but no respondents answered affirmatively, '0%' is given.
condom (Trust) and two mid-priced male condoms (Trust Studded and Femiplan).

Results
Among sexually active men aged 15–24, condom use at last sex with a non-marital, non-cohabiting partner steadily increased from 2001 to 2009, with statistically significant increases in 2007 ($P<0.01$) and 2009 ($P<0.001$) compared with 2001–05 data (Fig. 1).

Data for sustainability indicators are available only for 2007–09. During those years, total market subsidy for condoms increased from US$0.0191 to US$0.0207 per condom distributed. Of all condoms supplied, 3% in 2007 and 15% in 2009 were not used by the target population. The proportion of condoms not used was much higher for condoms distributed free of charge (11% in 2007 and 36% in 2009) than for those sold through social marketing programs as well as those sold through the private sector. Total market value increased 38% from US$2,287,196 to US$3,160,449, and the number of commercial brands grew from 39 to 51. While the absolute size of the condom market increased 73% from 109,967,106 condoms in 2007 to 190,086,072 condoms in 2009, the proportion contributed by the condoms sold through social marketing programs and the private sector decreased, while the proportion contributed by the condoms distributed free of charge increased (Fig. 2).

Discussion
Performance on three of the four TMA indicators that were measured was positive: condom use, total market value and the number of condom brands on the market. One indicator, however, requires additional work: subsidies increased when they ideally should have decreased.

Of additional concern is the large increase in free condoms and the increasing proportion of public sector condoms that were not used. Wastage could be due to users’ perceptions of inferior product quality, or commodity or logistics management issues. These issues should be investigated and addressed.

The decrease in the relative market share of higher-priced private sector brands is also of concern. One factor could be the number of mid-priced condoms that entered the market during 2007–09. PSI Kenya plans to work with the private sector to segment the Kenyan market and price condoms accordingly, and to launch campaigns that promote all condoms as a category rather than a specific brand. PSI Kenya has also encouraged private sector condom suppliers to advertise their brands. Another possible factor for the decrease in market share for private sector brands is product leakage from one market to another; currency and price differences encourage the entry of lower-priced condoms from Tanzania into Kenya.
through the private sector. PSI Tanzania recently increased the condom price to traders, but this may likely have a limited effect in reducing cross-border trade in condoms due to the financial advantages of purchasing goods from Tanzania for sale in Kenya.

Conclusions

Condom social marketing has evolved tremendously since its inception in the 1960s as a family planning intervention. It is now being used to promote multiple aspects of reproductive health, having expanded from an experiment in India to a recognised intervention that has permeated the developing world. Based on the data presented here from the DHS data, condom social marketing interventions based on the Indian model have worked in sub-Saharan Africa. Condom use has significantly increased among men and women, and the majority of users have obtained these condoms from the private sector, with shops, in particular, growing in importance.

Despite this, condom social marketing still has room to improve. Use levels need to increase further in settings where HIV prevalence is high, and new approaches to measuring use and breaking down barriers to use are needed. Equity has not improved in tandem with condom use. In some countries, particularly among women, a higher proportion of condom users are from higher SES populations than lower SES groups. Sustainability can also be improved with the private commercial sector assuming greater market share, thus reducing public subsidies.

Kenya, profiled here, has demonstrated that it is on the right track to establishing an effective and sustainable marketing program. However, it needs to expand its reach among lower income populations and measure equity indicators. The absence of SES data within the twice-yearly surveys and the inability to calculate concentration indices was a shortcoming of this study.

The number of commercially available brands available in Kenya has increased, but commercial market share has not; thus, public subsidies are estimated to have increased and product leakage of cheaper PSI condoms over the Kenya–Tanzania border is a problem. Condom social marketing managers have responded with actions to help private sector suppliers and have increased the price of socially marketed condoms in Tanzania.

Taken together, the cross-country comparison and the Kenyan case study demonstrate the need for a broader approach for evaluating and improving condom social marketing initiatives. The TMA incorporates management actions into its product promotion and distribution efforts, to ensure that condom use increases, that equity is maintained and that sustainability is established. Social marketing agencies and their stakeholders should collect TMA indicators over time to actively manage interventions in the market. Doing so will ensure that that social marketing benefits vulnerable groups and that markets develop to serve all segments of the population.

Conflicts of interest

None declared.

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Condom social marketing in sub-Saharan Africa


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