

THE AVAILABILITY OF SOCIALLY MARKETED CONDOMS IN URBAN TANZANIA, 1997–99

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Summary. The objective of this study was to evaluate trends in the availability of socially marketed condoms in urban Tanzania, and to assess the effect of changes in the social marketing programme's strategy for distributing condoms to retail outlets. Three retail outlet surveys conducted in urban Tanzania in 1996/97, 1998 and 1999 were analysed. Multiple Classification Analysis (MCA) was used to determine changes in availability of condoms, after adjusting for differences in the composition of the samples. Consistent with the changes in the condom social marketing distribution system, the proportion of condom outlets that were supplied by wholesalers increased from 42% in 1997 to 60% in 1999. The increasing use of wholesalers allowed sales agents to devote more time to opening new outlets. Hence, the percentage of outlets that had been solicited to sell condoms by social marketing condom sales persons increased from 14% in 1997 to 25% in 1999. Following these changes in the distribution system, the percentage of outlets selling socially marketed condoms increased from 25% to 32% between 1997 and 1998, and stabilized at that level. More detailed examination showed that availability of socially marketed condoms increased significantly in most non-traditional outlets, and in all regions of the country. In conclusion, distribution survey data indicate that changes in the distribution system increased the role of wholesalers, and enabled sales teams to allocate more time to soliciting new condom outlets. Concurrent with these changes, the availability of socially marketed condoms in non-traditional retail outlets increased significantly. Regular monitoring of condom availability can ensure that any emerging supply problems are identified and remedied quickly.

Introduction

East and southern Africa is in the midst of a generalized AIDS epidemic that is having a tremendous human and economic impact (UNAIDS, 2000). Consistent

condom use is one of the most effective ways of preventing HIV transmission (Pinkerton & Abramson, 1997) but many barriers to the adoption of condom use remain (Worth, 1989; Ulin, 1992; Ross, 1992; Campbell, 1995; De Zoysa *et al.*, 1996; Kusanthan & Suzuki, 2000; UNAIDS, 2000). The limited availability and high prices of condoms can be important deterrents to consistent condom use (Harvey, 1994; World Bank, 1997; Levin *et al.*, 1999; Cohen *et al.*, 1999; Egger *et al.*, 2000).

The distribution of subsidized condoms through social marketing has been one of the major responses to combat the spread of HIV in Africa (Lamptey & Price, 1998). Since 1993, social marketing has been an important aspect of the Tanzanian government's efforts to control the spread of HIV. An important objective of the Tanzania social marketing intervention was to increase the availability of condoms in Tanzania, by selling affordable (subsidized), high-quality condoms through commercial sector outlets.

Between 1997 and 1999, the socially marketing programme implemented several changes to its distribution system to make the supply of social marketed condoms to retail outlets more efficient. One major change involved shifting the responsibility of supplying outlets from the project's own sales agents to external distributors and wholesalers. This paper uses data from retail outlet surveys conducted in 1996/97, 1998 and 1998 to illustrate the effect of the changes in the distribution system, and to describe trends in the availability of socially marketed condoms in urban Tanzania between 1997 and 1999.

Background

Condom social marketing interventions distribute condoms through both traditional and non-traditional outlets. Traditional outlets are those outlets that conventionally carry contraceptives, such as pharmacies. Non-traditional outlets are outlets that typically do not sell contraceptives, such as retail shops, kiosks and bar/lodgings. Since social marketing interventions target low-income groups, it is important to increase condom availability at these non-traditional outlets (Levin *et al.*, 1999; Agha & Kusanthan, 2000), which not only greatly outnumber traditional outlets, but are also commonly found in low-income residential areas. By contrast, traditional outlets are usually found in central commercial areas, which tend to be located far from low-income residential neighbourhoods.

In Tanzania, Population Services International (PSI) started a condom social marketing project at the end of 1993. The project distributes subsidized *Salama* condoms to traditional outlets and non-traditional outlets that carry health and beauty products. The social marketing programme has used a three-tier distribution system to supply retailers with *Salama* condoms:

- (1) Direct sales to retail outlets by project sales agents.
- (2) Sales to private distributors. These distributors use their own sales force to sell *Salama* condoms to wholesalers. Occasionally, they will also supply retailers (B. Lucas, personal communication.).
- (3) Sales to wholesalers. Unlike distributors, wholesalers do not have their own sales teams. Instead, retailers have to visit the wholesalers to obtain the supplies they need (A. R. Badru, personal communication).

To encourage distributors and wholesalers to sell *Salama* condoms, they are given a profit margin on every condom sold. The project also allows distributors, wholesalers and retailers to purchase condoms on credit. Credit sales facilitate distribution, but require that sales staff devote a lot of effort to debt collection (Social Marketing Update, 1997a).

During the period from 1997 to 1999, which is covered in this study, the social marketing programme implemented a number of changes in its distribution strategy. Three distinct periods can be identified:

The period before 1998. Until 1998, the project relied on its own sales force to encourage retailers to sell *Salama* condoms (i.e. to open new *Salama* outlets) and to provide *Salama* retailers with new supplies. This system had some inherent inefficiencies. Because the *Salama* inventory was centralized at the main warehouse in the capital, a significant proportion of time was spent travelling to outlets all over the country. Rain often made roads inaccessible during the first half of the calendar year. Hence, condom shipments from the warehouse did not always reach retailers, causing stock-outs at the retail level (Social Marketing Update, 1997a, 1998a, 1998b, 1999). Middlemen (town businessmen) took advantage of these distribution problems, and made a profit by distributing condoms to those outlets that project sales agents could not reach (Social Marketing Update, 1997b).

The period from the first quarter to the third quarter of 1998. To facilitate the distribution of *Salama* supplies to retailers (and to allow project sales agents to focus on opening new outlets), the inventory was decentralized (Social Marketing Update, 1998b). The Medical Stores Department (MSD) of the government of Tanzania was subcontracted to transport *Salama* supplies to their regional warehouses and to store them there. Project sales persons obtained condoms from these regional warehouses and supplied distributors and wholesalers in the same region. Retailers were encouraged to obtain supplies directly from wholesalers, rather than from project sales agents or from middlemen.

The period after the third quarter of 1998. After the third quarter of 1998, the project started becoming more reliant on wholesalers and distributors for routinely supplying *Salama* condoms to retailers. PSI contracted about two distributors in each regional capital. Since there was sufficient demand for social marketed condoms, PSI significantly reduced credit sales, in an effort to reduce the outstanding debts that had accumulated over the years. New relationships were developed with distributors and renewed efforts were made to convince retailers to obtain condoms directly from wholesalers (Social Marketing Update, 1999).

This study investigates the effects of these changes in the distribution system on condom availability between 1997 and 1999.

Data and methods

Data

This study uses data from the 1996/97, 1998 and 1999 Tanzania Condom Distribution Surveys (TCDS), which were conducted by Population Services

International (PSI). The surveys were conducted at retail outlets in urban areas in all six regions of Tanzania (Coastal Zone, Northern Highlands, Lake Zone, Central Zone, Southern Highlands and Southern Zone). Interviews were conducted with providers at randomly selected outlets and with wholesalers. All outlets that were part of the social marketing distribution strategy (pharmacies, retail shops, kiosks, salon/barber shops, bar/lodgings, street vendors and wholesalers) were eligible for selection, independent of whether they actually carried contraceptives (Berman *et al.*, 1997; Emanuel *et al.*, 2000). The 1996/97 TCDS includes information on a random sample of 2910 outlets, the 1998 TCDS on 2959 outlets, and the 1999 TCDS on 5000 outlets (Badru *et al.*, 1998; Badru & Nyashalu, 1999). (Some authors have recommended weekly or bi-weekly retail audits at condom outlets to monitor the availability of condoms in developing countries (Andreasen, 1988). However, such audits are often difficult to implement because of limited research budgets.)

The TCDS questionnaire is adapted from a questionnaire that has been used extensively in Kenya (Berman *et al.*, 1997). The questionnaire covers several topics, including information on the condom brands that the outlet currently sells. Providers are also asked where they obtain their supplies and if they have been solicited by a PSI Tanzania sales person.

Interviewer training and fieldwork

For each survey round, the interviewers and supervisors participated in two days of initial in-class training, one day of practice interviews in the field and a fourth day to discuss fieldwork issues/problems.

Most outlets were visited during the day. Because of their different hours of operation, bars were visited during the late afternoon or in the early evening. Interviewers identified themselves as working for an organization interested in the availability of health products in Tanzania. The overall refusal rate was extremely low, varying between 1 and 2%. An outlet that did not want to participate in the survey was replaced by the next eligible outlet.

The data for the 1996/97 survey were collected in four different phases (October–November 1996, February 1997, June–July 1997 and August–September 1997), because limited resources for managing the survey did not allow fieldwork to be completed in a short period of time. Most interviewers used in the first phase of the survey were retained for later phases. A total of eleven interviewers and four supervisors were used for the 1996/97 survey. Refresher training was provided before each phase of data collection (Badru *et al.*, 1998). Data collection for the 1998 TCDS was conducted between July and September 1998. A total of twelve interviewers and four supervisors were used for the 1998 survey (Badru & Nyashalu, 1999). Data collection for the 1999 survey was conducted between July and September 1999. A total of fifteen interviewers and three supervisors were used in 1999.

Sampling

In each region of the country, towns were stratified into three groups based on their population size. One town was randomly selected within each stratum. The

Table 1. Percentage distribution of sample characteristics in 1997, 1998 and 1999

	1997 (n=2910)	1998 (n=2828)	1999 (n=4612)
Region			
Coastal Zone	34.6	28.5	34.1
Northern Highlands	8.4	9.6	8.5
Lake Zone	36.3	29.2	22.5
Central Zone	5.4	10.5	7.5
Southern Highlands	8.1	14.1	14.9
Southern Zone	7.2	7.9	12.5
Neighbourhood type			
Residential	56.5	47.6	46.3
Bus stop	14.3	17.4	14.3
Commercial	29.2	35.1	39.4
Outlet type			
Retail shop	54.6	52.3	46.3
Kiosk	18.7	20.2	14.3
Pharmacy	2.8	8.9	9.8
Salon/barber	7.4	5.1	5.8
Street vendor	3.1	4.6	3.4
Bar/lodging	6.6	4.9	13.2
Other	3.4	1.5	3.2
Wholesaler	3.4	2.5	4.0
Total	100.0	100.0	100.0

number of retail outlets to be drawn per town was selected proportional to the population sizes of the towns in each region, as provided by the Bureau of Statistics of Tanzania.

In each town, neighbourhoods were stratified into three groups: high, middle and low income. After stratification, neighbourhoods were randomly selected in proportion to the total number of neighbourhoods in each stratum. Between six and fifteen neighbourhoods were selected in each town. Subsequently, an equal number of eligible outlets were selected from neighbourhoods in the same town. Within a neighbourhood, every third eligible outlet was systematically sampled after a random start, until the targeted number of outlets was reached.

Characteristics of the sample

There were some differences in the distribution of the three samples by region, neighbourhood type and outlet type (Table 1). The proportion of outlets in the Lake Zone was lower in 1999 than in 1997 because heavy rains forced interviewers to reduce the number of days spent in the Lake Zone. The proportion of residential neighbourhoods was higher in the 1997 survey compared with the other years. Other differences were that the 1997 and 1998 surveys had a higher proportion of retail

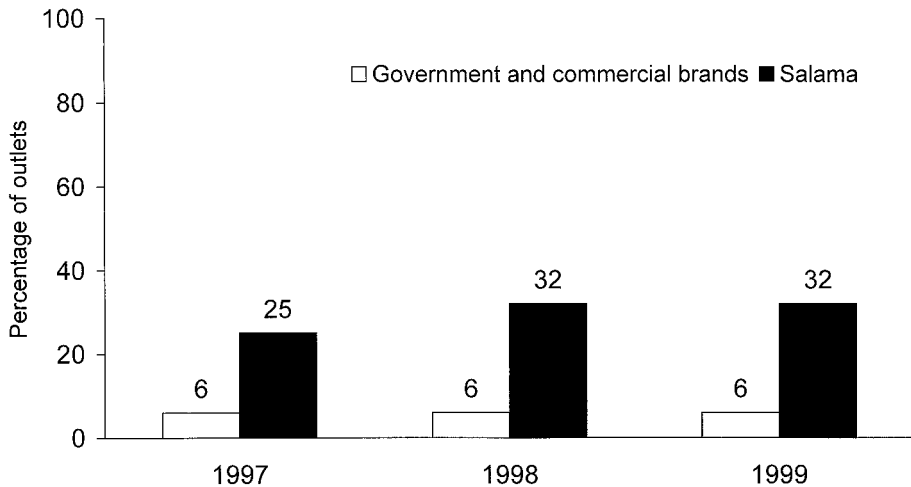


Fig. 1. Percentage of outlets that currently sell male condoms, adjusted for region, type of neighbourhood and type of outlet.

shops than the 1999 survey. There were also differences in the proportion of bar/lodgings and pharmacies. These sample differences were adjusted for during the analysis.

Data analysis

To enable trends in indicators of condom availability to be assessed, the three data sets were merged. Multiple Classification Analysis (MCA) was used to assess trends in the key outcome measures, after adjusting for differences in sample characteristics (region, type of neighbourhood, type of outlet). Specifically, trends in condom availability and in the extent to which project sales agents solicited outlets to sell social marketed condoms were examined. *F* tests were used to test for significance. When performing an *F* test to test whether differences between two survey years were significant, data from the third year were excluded. *t* tests were used to measure differences in the means of continuous variables.

Results

Trends in the percentage of outlets selling condoms

Figure 1 shows the adjusted percentage of urban outlets that carried various condom brands at the time of the survey, after controlling for region, type of neighbourhood and type of outlet. The percentage of outlets reporting that they were distributing (free) government condoms or selling commercial condoms stayed constant at 6% across the three surveys. The percentage of outlets that were selling socially marketed condoms increased from about 25% in 1997 to 32% in 1998 ($p < 0.001$), but did not change between 1998 and 1999.

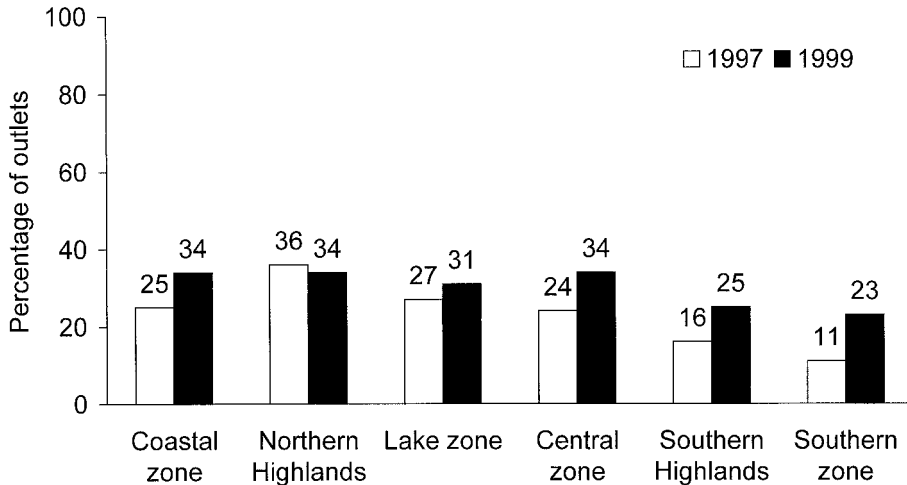


Fig. 2. Percentage of outlets currently selling *Salama* by region, adjusted for type of neighbourhood and type of outlet.

Trends and differentials in availability of socially marketed condoms

For programme planning it is important to know about changes in social marketing condom availability by region, neighbourhood type and outlet type. Figure 2 shows the percentage of outlets selling *Salama* in 1997 and 1999, by region (after adjusting for neighbourhood type and outlet type). The availability of socially marketed condoms increased from 25% to 34% in the Coastal Zone ($p < 0.001$), from 27% to 31% in the Lake Zone ($p < 0.05$), from 24% to 34% in the Central Zone ($p < 0.05$), from 16% to 25% in the Southern Highlands ($p < 0.01$) and from 11% to 23% in the Southern Zone ($p < 0.001$). Although substantial increases occurred in condom availability in the Southern Highlands and in the Southern Zone between 1997 and 1999, by 1999 the availability of socially marketed condoms in these zones had not reached the levels of availability found in other regions.

One of the objectives of the social marketing project was to increase condom availability in non-traditional outlets. Increasing condom availability in non-traditional outlets tends to benefit poor people because they are more likely to shop at such outlets (Agha & Kusanthan, 2000). Changes in *Salama* availability by outlet type are shown in Fig. 3. The availability of socially marketed condoms increased from 69% to 83% in pharmacies ($p < 0.01$). *Salama* availability in non-traditional outlets increased from 25% to 33% in retail shops ($p < 0.001$), from 24% to 31% in kiosks ($p < 0.05$), from 11% to 22% at street vendors ($p < 0.05$) and from 10% to 20% at wholesalers ($p < 0.05$). The increase in availability among wholesalers is particularly important because wholesalers can be an important source of condom supply to retailers. Thus, it appears that the programme efforts to increase *Salama* availability in non-traditional outlets were successful. However, the availability of condoms in bars did not increase between 1997 and 1999. This is an area that may merit further attention since high-risk sexual encounters are often initiated in bars and those bars that sold condoms had a higher sales velocity than the average outlet (about 20 packets per week of *Salama* were sold in bars compared with an average of 17 packets for all outlets).

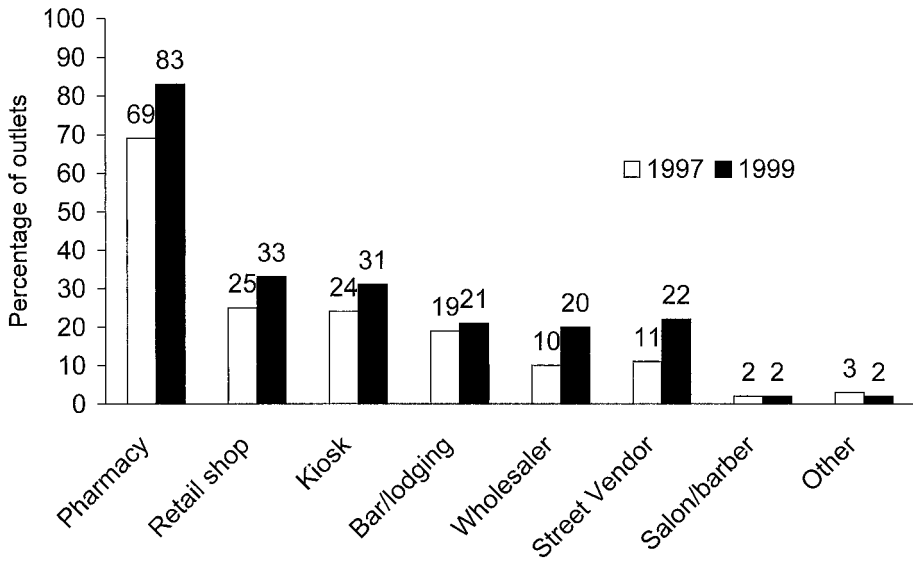


Fig. 3. Percentage of outlets currently selling *Salama* by outlet type, adjusted for region and type of neighbourhood.

Trends in solicitation by social marketing sales agents

Solicitation of outlets by sales persons is important to convince potential condom retailers to sell condoms. Outlets that had been solicited by sales persons were almost three times as likely to be currently selling *Salama* compared with other outlets, even after controlling for region, neighbourhood type and outlet type (not shown).

Figure 4 shows the adjusted percentage of outlets that were solicited by project sales persons for each of the three survey years. Between 1997 and 1999, there were increases in the percentage of outlets that were solicited to sell socially marketed condoms, first from 14% to 20% ($p < 0.001$) and then from 20% to 25% ($p < 0.001$). These increases are consistent with the projects efforts to shift the burden of supplying retailers with *Salama* from project sales agents to wholesalers and distributors, which allowed sales agents to devote more time to soliciting new outlets.

Trends in source of condom supply

Whether the social marketing programme's efforts to shift the task of supplying *Salama* retailers to wholesalers has been effective is now examined. Figure 5 shows the trend in the percentage of providers who report obtaining *Salama* supplies from various sources.

Between 1997 and 1999, the proportion of *Salama* outlets that were supplied by wholesalers increased from 42% to 60%. At the same time, the proportion of outlets that obtained *Salama* from middlemen (local businessmen) decreased from 34% to 15%. The proportion of condoms supplied by sales persons between 1997 and 1998 increased from 24% to 38%, but decreased to 25% in 1999, when the *Salama* inventory

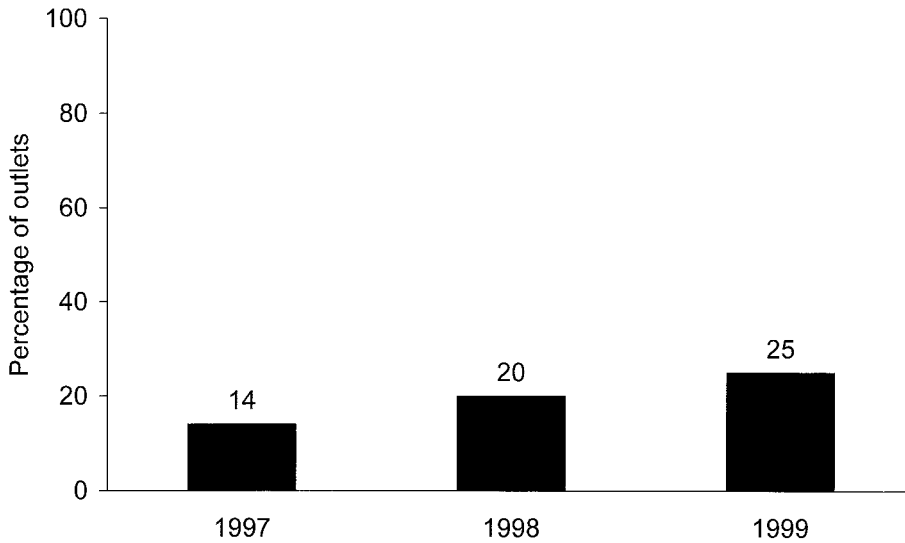


Fig. 4. Percentage of outlets that were solicited by a *Salama* sales person, adjusted for region, type of neighbourhood and type of outlet.

had been decentralized to regional warehouses. In sum, these findings suggest that the social marketing programme succeeded in its efforts to increase the role of wholesalers and to reduce the role of middlemen in supplying *Salama* condoms.

Trends in the percentage of outlets that ever sold Salama

Figure 6 shows the percentage of outlets that ever sold socially marketed condoms. This percentage was constant at 35% between 1997 and 1998, but increased significantly to 40% in 1999.

However, outlets that have sold *Salama* have not necessarily continued to do so. Among outlets that have ever sold *Salama*, the percentage that were still selling it at the time of the survey increased from 71% (25/35) in 1997 to 91% (32/35) in 1998, and then declined to 80% (32/40) in 1999. The initial increase in 'retention' (i.e. the percentage of ever-sellers of *Salama* that were selling *Salama* at the time of the survey) is consistent with the decentralization of the *Salama* inventory to regional warehouses, which improved distribution to retailers. The reasons for the decline in retention between 1998 and 1999 are less obvious, and require further investigation.

Trends in reasons for not selling socially marketed condoms

Providers who were not selling condoms were asked about their reasons for not selling *Salama* condoms (see Fig. 7). This information is useful in understanding why the number of outlets that sold socially marketed condoms increased, and may also give insights into why some outlets stopped selling *Salama*.

Between 1997 and 1999, there was no change in the proportion of retailers who reported that they disliked condoms (9%), had religious objections (12%) or received

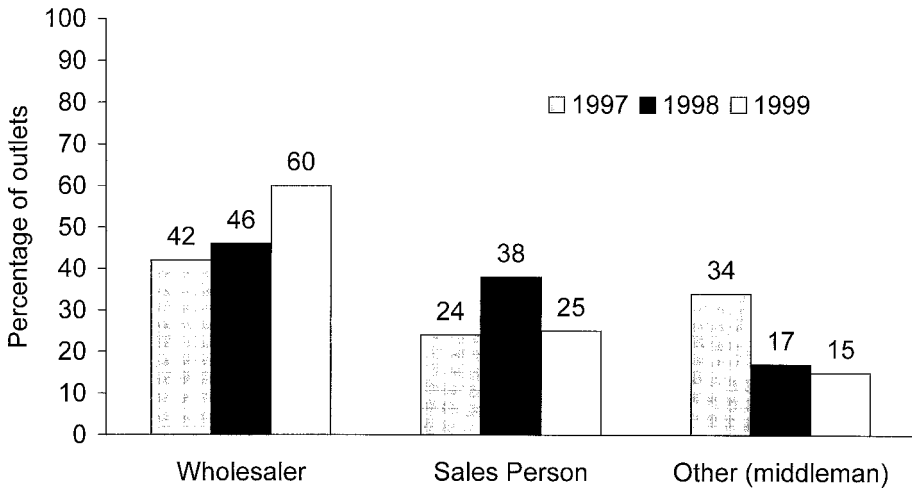


Fig. 5. Sources of *Salama* condoms.

free condom supplies (4%). The percentage of retailers who reported not selling *Salama* due to a stock-out stayed constant at 12%, suggesting that there is a need to inform retailers about a more effective distribution system.

Consistent with increasing levels of HIV/AIDS awareness, the percentage of retailers who reported not selling *Salama* because they believed condoms were not effective at preventing AIDS, declined from 12% in 1997 to only 1% in 1999. Likewise, consistent with the trends in solicitation by project sales agents, the proportion of retailers who were not selling *Salama* because they had not been solicited by sales persons declined from 38% to 32%.

The data also show that the proportion of providers who reported not selling condoms due to a lack of demand increased from 13% in 1997 to 30% in 1999. Demand may have declined due to increases in the number of condom outlets, which increases competition. Reduced demand may also explain why some outlets stopped selling *Salama*.

Discussion

During the period from 1997 to 1999, the Tanzania condom social marketing programme implemented several changes in its distribution system in an effort to improve the supply of condoms to retail outlets. These changes included a shift from a system that supplied retailers through sales agents and wholesalers to one relying predominantly on private distributors and wholesalers. The *Salama* inventory was decentralized from the main warehouse in the capital to regional warehouses. In each regional capital, private distributors were subcontracted to supply *Salama* condoms to retailers. In addition, at the end of 1998 PSI significantly reduced credit sales. During the same period, sales agents gradually reduced the amount of time spent supplying condoms to retail outlets, and increased their efforts to encourage new outlets to start selling *Salama*.

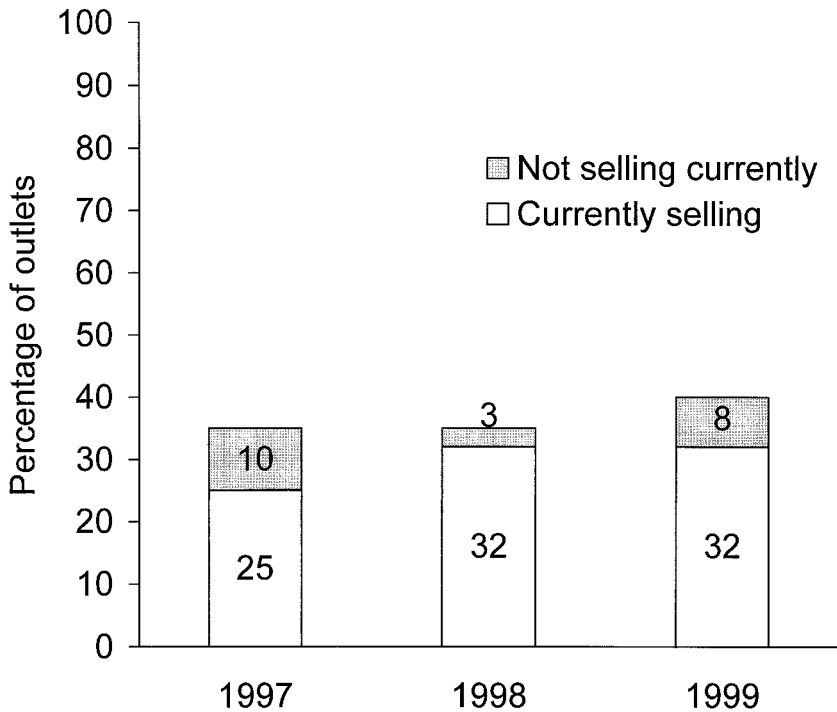


Fig. 6. Percentage of outlets that ever sold *Salama* condoms, adjusted for region, type of neighbourhood and type of outlet.

The data from three rounds of retail outlet distribution surveys in Tanzania show that the availability of socially marketed condoms is much better than the availability of public sector and commercial brands. The data also confirm that the changes in the *Salama* distribution system have increased the role of wholesalers and distributors in supplying *Salama* to retail outlets. These changes are expected to make distribution more efficient and allow project sales agents to devote more time to recruiting new outlets. Indeed, the data confirm that the percentage of *Salama* outlets that were solicited by project sales agents increased steadily during the study period.

Following the initial changes in the distribution system, the percentage of outlets that sell socially marketed condoms increased to 32% by 1998, but stagnated at that level. The stagnation in the percentage of outlets that were selling *Salama* coincides with an increase in the percentage of outlets that stopped selling *Salama*. Although the data are sketchy, it appears that a perceived lack of demand may have been one of the reasons why outlets stopped selling *Salama*. It is important to note that the increasing use of wholesalers (who do not have sales agents) implies that the responsibility of obtaining condoms now increasingly falls on retailers. It may therefore be worthwhile to encourage retailers to continue obtaining condom supplies from wholesalers and/or distributors. It is also possible that the increasing focus of project sales agents on opening new outlets may have caused them to open some

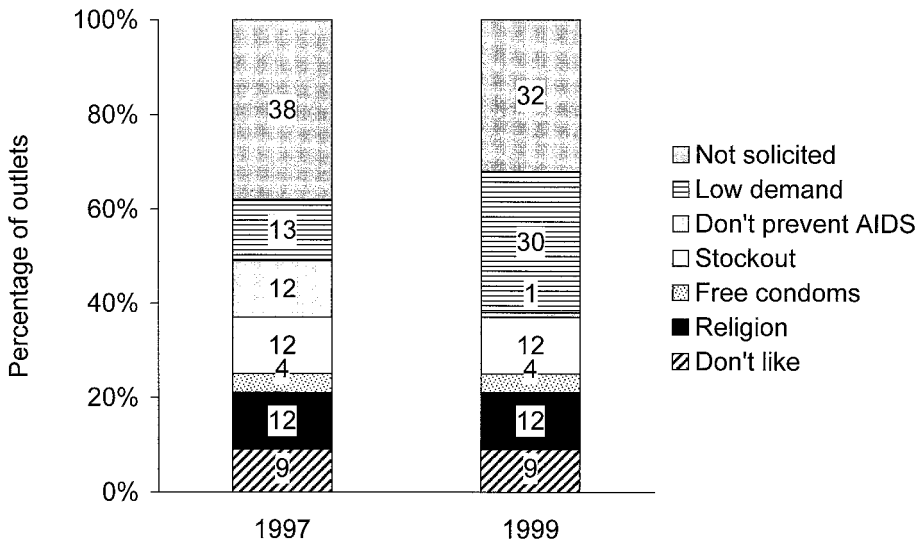


Fig. 7. Reasons for not selling *Salama* condoms.

outlets where condom sales were not viable. If so, it may be necessary to review the criteria for outlets that will be solicited to sell *Salama*.

Consistent with the project's goal to make *Salama* condoms accessible to low-income populations, there was a significant increase in availability at non-traditional outlets, such as retail shops, kiosks, street vendors and wholesalers. The only notable exception to this pattern consists of bars and lodgings. Although availability in bars and lodgings is substantial (about one in five bars or lodgings carried *Salama*), there was no significant increase. Since many high-risk sexual contacts are initiated in bars, and since women at bars are more likely obtain condoms from bars than men at bars (Badru, 2000), it may be worthwhile to step up efforts to increase the availability of socially marketed condoms in bars. Breakdowns by region show that the availability of *Salama* condoms has increased significantly in all regions, although availability in Southern Highlands and the Southern Zone remains somewhat lower than in other regions.

In sum, the changes in the system for supplying retailers with *Salama* socially marketed condoms that were implemented between 1997 and 1999 had a clear impact on condom availability. Regular monitoring of condom availability can ensure that any emerging supply problems can be identified and remedied in a timely fashion.

This study has implications for donor funding of condom supplies. Because social marketing is a subsidy to vulnerable groups, the greater the success of social marketing interventions, the higher the costs of condom donations to donors. During the 1990s there has been no increase in donor support for condom supplies. Of the estimated 8 billion condoms needed to achieve significant reductions in HIV incidence in 2000, donors supplied only 950 million (Chaya & Amen, 2002). Significantly greater donor resources will be needed in the future to reverse the HIV/AIDS pandemic (Stover *et al.*, 2002).

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