Original article

Assessment of the Free Health Care Provision System in Bahir Dar Area, northern Ethiopia

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Abstract

Background: Implementation of waivers and exemptions from user charges in health services are usually very hard to implement in those countries that have adopted them. Poor means testing mechanisms for proper targeting have been the main reasons for this problem.

Objective: To describe the practice of providing free health care in Bahir Dar area (northern Ethiopia) and to assess the presence and extent of under-coverage and leakage in the waiver and exemption systems.

Methods: A cross sectional descriptive study was conducted between May and July 1999 in Bahir Dar area to compare the demographic and socio-economic characteristics of free patients with those paying at the analysis stage using data from household and facility exit interview surveys. In addition, discussions with community leaders, health facility staff and review of health facility records were made.

Results: More than half (52.4%) of the 210 respondents for the public facility exit survey in the study area were found to be free patients. There was no statistically significant association between low income and getting free care among rural household survey respondents in the area. Lack of proper documentation of waivers and exemptions was also observed in rural areas and at lower level health facilities

Conclusion: There are indications for a need to revise the current criteria for granting waivers so that a better mechanism for means testing is developed. In addition, mechanisms should be established to ensure the implementation of waivers and exemptions in a properly documented manner. [*Ethiop. J. Health Dev.* 2002;16(2):173-182]

Introduction

I. Literature Review and Statement of the Problem:

Cost sharing in health and education is neither new nor rare in Sub-Saharan Africa. Both before and during the colonial rule, users bore most or all of the costs of health and education services. With the post-colonial push to provide greater access and improved quality, efforts were initiated to have governments deliver health and education free of charge to users (1). Besides, there are powerful economic and moral grounds on which to avoid user financing for almost all basic social services. Among the reasons that the poor might become absolutely or relatively worse off after the introduction of cost recovery in the absence of means testing is the fact that price without quality change decreases utilization. In addition, service charges might selectively affect the poor whose price elasticity of demand is usually high (2).

On the other hand, although universal access to free basic social services is the ultimate goal, it had become abundantly clear by the 1980s that governments did not have the financial resource, and never would have, to pursue successfully a policy of free universal services for all. Severe resource constraints have forced policy makers to consider user financing as a temporary and pragmatic measure to narrow the gap between supply and demand, especially where budget restructuring and cross-sub-sidization in favor of basic social services was not immediately feasible. Moreover, there are arguments that claim,

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compared to the status quo, cost recovery might benefit the poor and promote quality. Among such arguments are that increased rationing (fee collection) as a basis for distribution could give the poor greater opportunity to benefit from government services because of consequent improvement of access in rural areas and in the quality of services (3).

As cost recovery became more widely used to help finance health services, efforts to identify patients on the basis of ability to pay have become ever more crucial so that the poor can be protected from the adverse consequences of user charges that are enforced to recover at least partial cost of delivering services from those able to pay. One of the most important mechanisms for ensuring this is targeting through means testing. Targeting is a process of channeling resources to certain groups and means testing is a mechanism for making targeting more accurate-in particular, targeting on the basis of income or wealth. Although inequalities in access arise out of factors other than income, means testing focuses on inequalities arising from different abilities to pay. Other targeting tools include price subsidies on selected goods or services known to be consumed by the target population and provision of benefits to people having specific characteristics (characteristics targeting). Direct targeting through means testing is also sometimes called waiver while characteristics targeting through employment or other special group status (such as age, illness type, health service type and geography) is referred to as exemption (automatic excuse from payment) (2).

The determination of someone qualifying for an exemption from fees due to characteristics targeting is straightforward: the patient either has one of the qualifying characteristics and is therefore eligible or is ineligible because he does not have the qualifying characteristics. Direct targeting, however, is more complex and difficult to determine eligibility because it involves assessment and decision concerning the patient's income level or economic status by some external evaluator. There are various administrative issues on achieving equity under cost recovery through direct targeting. These range from identification of responsibilities for certifying and verifying eligibility, designing the means for assessing eligibility and the period of validity of these means to measuring the effectiveness and costs of the waivers granted. The effectiveness or impact of targeting mechanisms are measured by the extent of under-coverage and leakage of the particular program. This is because under-coverage of benefits to those who really deserve (type I error) and leakage of benefits to those who actually are able to pay (type II error) are the major problems of targeting. The other administrative issues are also very important since unless they are properly handled they may result in various unwanted effects. Among these unwanted effects are behavioral effects such as incentives to decrease work effort to qualify for targeting, signaling (for instance, keeping or switching to a thatched roof instead of tin if targeting is based on roof type) and rent seeking as when the non-poor bribes the agent administering the means test to qualify for the targeted program (2, 4).

In comparing the different types of targeting, one expects that coverage would be moderate to high for all types of indirect (characteristics) targeting by proxy (residence, demographic characteristics and health condition), but leakages would be high as well, at least relative to more intrusive, direct income targeting methods. On the other hand, administrative costs should be relatively low for characteristics targeting compared to direct targeting. Compared to a centrally administered means test, a major advantage of a locally administered test is that asymmetries of information between the applicant and the administering agent about the applicant's economic status are likely to be smaller. In addition, local testing may provide better coverage because it is closer to the community. It is also expected that centralized means testing will have higher administrative costs than local means testing. On the other hand, when exemptions are granted at local or a facility level, social pressures on local

leaders or facility personnel to accept bribes or waive fees for acquaintances might make it difficult to prevent leakage (2,5).

With regard to experiences of countries in implementing targeting, empirical evidence shows the presence of favorable environment in industrialized countries for workable means-tested programs (5). These favorable factors of industrialized countries include:

1. A large proportion of the population is engaged in the market economy, and income is relatively constant over the year;
2. Wage information is available through employers and the tax system, and
3. Administrative, communication, and banking infrastructure is well established, allowing centralized certification and verification.

However, these features don't apply in the situation of most developing countries. Moreover, there is such a desperate level of poverty among the poorest groups in developing countries making coverage a higher policy concern than leakage, due to fears that too-stringent means testing will wrongly deny some poor people benefits. This is because, in terms of fair distribution of health services, securing access to the basic package of health care for everyone regardless of economic status takes priority over that of generating more resources from service fees. In the long run, of course, the ideal target would be ensuring that everyone has equal access to exactly the same amount and quality of health care (2).

Constrained by the absence of favorable environment, targeting programs in developing countries simultaneously use more than one approach to targeting - and nearly all employ a self-targeting mechanism, by design or default. In Chile social workers visit geo-graphically identified low-income areas to identify the poorest households and inform them about the services for which they qualify. Public hospitals offer three levels of care that are clinically equivalent but differ in the amenities available and the amount of choice the patient can exercise over her/his pra-ctitioner. In South Korea, a medical care assistance program pays the medical bills of the poor (whether to public or private facilities). In Thailand free medical cards are provided to people below a certain income level. The costs of the card holders will be distributed to the providers by the Free Medical Care Project. In Argentina food supplements are given to low-income groups identified by residence and the incidence of leakage was reported to be very small. In Senegal village committees are authorized to exempt the poor from fees. However, in response to the incidence of leakage, negative fiscal incentives were implemented by making the local organizations pay the local health centers for each patient categorized as indigent. In Philippines and Belize where health facilities are authorized to exempt the poor, the problem of leakage has been seen to be very high (5). Data from Burkina Faso and Niger have shown generally favorable results for informal means testing practices, which do effectively provide financial protection for at least some of the poor who seek health services (6).

In general, the literature on the subject in developing countries suggests that much more work is needed to simply describe existing targeting, means testing and exemption mechanisms and establishing how effective they are (7). Published information on the issue in Ethiopia is particularly scanty.

In Ethiopia, the criterion to grant free health care services is mainly based on the direct monthly income of the individual and the cut-off amount for eligibility has changed from time to time as a consequence of changes in the minimum wage for civil servants. In 1967, for example, anyone with a monthly income of less than 50 birr (US$25) would be eligible for free medical services. In 1977 the monthly income for eligibility was revised and changed to 105 birr (US$52) parallel to the increment in the minimum wage to that amount (8). According to the 1981 proclamation, eligibility of an applicant was determined by the kebele (village) administration (9). A committee of people from Kebele administration (former Ferd Shengo or now Mahberawi Ferd Bet) would examine, in detail, the means of

livelihood of an applicant and would grant a certificate that allows the individual to get free health care from public facilities. This eligibility certificate would usually be valid for three to six months.

However, there were no accessible formal assessments up to now whether the free health care provision system is operating efficiently or not. There were only circumstantial evidences that it may sometimes be abused by those who are able to pay (leakage) while most people in the rural areas might not even be aware of the existence of the system (under-coverage). This implies that describing the pattern of free health care provision system, even in some part of the country, may generate information that might be helpful in understanding the important factors for the efficient functioning of the cost recovery and targeting mechanisms.

Therefore, the objective of the present study was to describe the practice of providing free health care in Bahir Dar area (northern Ethiopia) and to assess the presence and extent of under-coverage and leakage in the waiver and exemption systems.

II. Study Area:

The study was carried out between the months of May and July 1999 in the urban and rural areas of Bahir-Dar town and Bahir-Dar Zuria Wereda (sub-district) respectively. The study area is part of a region in northern Ethiopia and is located at 110 35'N latitude and 370 23'E longitude. The projected population of Bahir-Dar, and Bahir-Dar Zuria Wereda in 1998 were 112,009 and178,468 respectively (10). Bahir-Dar town is divided into two Weredas and 17 kebeles while Bahir-dar Zuria Wereda has 38 farmers associations.

At the time of the study, the town had one hospital, one health center, one health station and a total of 21 private clinics. There were five health stations and six health posts in the Zuria wereda. The population in the town is within a walking distance from health institutions while very few of the peasant associations in the Zuria Wereda were located within 10 Kilometers* radius of the available health institutions.

Methods

This was a cross sectional descriptive study that compared the characteristics of free patients with those paying at the analysis stage. The study subjects included heads of households for the household survey and health services utilizers for the exit interview survey. In addition, key informant interviews were conducted with members of the Kebele administrations that determine eligibility for free health care and with health institution officials in the study area.

The household survey was conducted among 300 households in 10 kebeles selected by multi-stage systematic sampling. The sample size was determined by power calculation on the basis of estimated proportion (the single proportion method) of free patients in the local health institutions. Initially five urban Kebeles out of the total of 17 in Bahir Dar town and five peasants' association Kebeles from the total of 38 in the Zuria Wereda were randomly selected by the lottery method. Then using house numbers for the town and lists of heads of households for the rural areas as sampling frames, 300 households were selected using a table of random numbers. Hundred and fifty households were from 5 kebeles of the town while the rest were from rural areas. Even though the population in the Zuria Wereda was proportionally higher than the town population (178,468 versus 112,009), equal numbers of households were selected from the urban and the rural areas. This was purposively made in order to maximize the number of people who have the geographic access to the health services in the area since the main information sought was the effect of the waiver and exemption system on the health seeking behavior of those with access to the facilities in the area.

Even though the household survey was done only in those sites where people have access to the facilities in the areas, it also to some extent

* A radius of 10 kilometers is the standar used for measuring geographic accessibility of health institutions in the country

ensured (in relation to the exit interview survey) that information was obtained from not only those individuals using the health services but also those who did not show up at the health facility for care. The survey also assessed the household respondents' knowledge and experiences in using and accessing the waiver and exemption systems, the source of knowledge, their knowledge of the experiences of other people in seeking care, and the reasons for any access barriers they may have experienced.

The facility exit survey was conducted with 210 respondents attending the hospital, the health center and three of the six health stations in the area. The size of the sample was limited by the study's time frame and the number or enumerators that can be deployed at a facility. The respondents were selected by systematic sampling interviewing every fifth patient from the outpatient chart register during the two weeks period of data collection. The number five was selected since it was thought that this would give a reasonable interval for properly interviewing the selected individuals while they are still at the health facility. Based on this the number of patients interviewed were 77 in the hospital, 44 in the health center, and 89 in the health stations.

The exit interviews were done to substantiate how the system works in practice. The information obtained included the respondents' knowledge and experiences of the waiver and exemption system, how people were excused from payment, and how they obtained the information they had about the system even if they had not used it themselves or were non-poor. Patients were also asked about other people's experiences in seeking care and about any access barriers they might have experienced.

The interviews also obtained data about distance patients had traveled to receive care, how long they had waited after onset of illness before seeking care; whether they had paid for services and about their use of waivers and exemptions.

In addition to the exit interviews, the records of the health institutions were reviewed for information relevant for the study. Such data included the magnitude, socio-demographic and morbidity characteristics of those granted waivers and exemptions during the previous year.

All the interviews with subjects were made with strict privacy after getting informed consent form the respondents and assuring the confidential nature of the responses.

For the purpose of determining whether a household's income status falls below or above the poverty cut-off for getting free health services privilege it was necessary to get responses on level of household income. Different cut off points were used to determine poverty line in urban and rural areas. In the urban areas, those households whose reported monthly income is < 105 birr/month were considered poor (according to the official guideline) for the purpose of getting free service privilege while in the rural areas those households who reported to have no ox (a criterion used in the locality) were considered poor for getting free service privilege. This was used by the local peasant association committees that grant free service privileges because it is difficult to apply the monthly salary criterion in the rural areas.

The collected data was entered and processed using EPI-INFO version 6 statistical software. After organizing and cleaning the data, frequencies and percentages were calculated on all variables that are related to the objectives of the study. Regression analysis was done using STATA software for control of confounding so that the separate effects of the various factors associated with eligibility for free health care privilege could be assessed.

Results

I. Determining eligibility at the kebele administration level:

In all the villages studied, free service privilege was granted by local committees. The committee that determines eligibility at the kebele level comprised of two to three

individuals in all the surveyed kebleles. According to the guidelines, an applicant, for getting the privilege, should have to be a resident of the kebele at least for the previous six months and should not earn a monthly income of more than 105 birr then US$16.2 at local exchange rate). In rural kebeles a person of a household with no ox for farming would be considered eligible for the privilege. In addition, this information has to be verified by a written testimony of three other individuals who are residents of the particular kebele. In almost all the kebeles, a free privilege would be valid for only three months.

All committees in the urban area had special registration books to keep records of the waivers they granted. On the other hand, all the rural committees had no records of the waivers they granted and could not properly answer the number of waivers they had granted within the previous year.

All the committee members interviewed claimed to have faced no problems in the process of granting free health care privileges and denied any possibility of leakage or under-coverage.

II. Experiences with Targeting mechanisms at the level of Health Facilities:

Out of the total patients seen in the hospital in 1998, 66% were free patients. On the other hand, the number of patients that got free services in the year 1998 in the health center and the three health stations were not properly documented.

In addition to waivers based on free treatment paper, all the government facilities that were included in the study exempted certain category of patients from paying fees (as a national policy). These were patients with tuberculosis and leprosy, those attending family planning and antenatal care services. Eligibility for automatic exemption for these clients was determined at the health institutions and would not require any formal process. Of course, one had to pay required fees for visit and investigations until diseases are confirmed as being within the exemption category. The local health workers were also exempted from paying fees at government facilities.

All the officials at these health facilities claimed the possibility of leakage or under-coverage to be minimal and insignificant even though they couldn't produce documents to substantiate these claims. Emergency cases and people who do not have permanent residency in the area were reasons mentioned for the likelihood of these problems.

III.Findings from patient exit interviews:

The study subjects for exit interviews (n=210) consisted of 95 (45%) males and 115 (55%) females. The ages of the study subjects ranged from 15-85 years.

Only about 52% of these respondents were literate. Only 8.6% were below the poverty cut-off point (earning less than or equal to birr 105 for urban and not having a farming ox for rural as mentioned earlier). Table 1 shows the distribution of paying and free patients among the exit survey respondents. Accordingly, out of the 210 respondents only 47.6% were paying patients while the others were either exempted or got waivers. Therefore, more than half (52.4%) of the facility exit respondents in the area were free patients.

Table 1: **Reported prevalence of paying and free patients at public health facilities (Exit survey, northern Ethiopia, 1999)**

	Urban N (%)	Rural N (%)	Total
Paying	70 (46.6%)	30 (50%)	100 (47.6%)
No paying	80 (53.4%)	30 (50%)	110 (52.4%)
Exempted	20 (13.4%)	10 (17%)	30 (27.7%)
Got waiver	60 (40%)	20 (33%)	80 (72.7%)
Total	150(71%)	60 (29%)	210 (100%)

With regard to educational status of the exit survey respondents, those who were utilizing free services in urban areas were more likely to be illiterate while the reverse was true in the rural areas. On the other hand, it was only in urban areas that there was a statistically significant association between consuming free care and having income below the designated poverty line among the exit survey respondents (see Table 2). In rural areas, even though the association between getting free

Table 2: **Comparison of socio-economic status of those who got waivers with those who paid for services (exit survey, Northern Ethiopia, 1999)**

Variable	Got Waiver	Paid for services	Odds Ratio	95% CI for OR
Gender				
Females	35	55	1.57	(0.83, 2.99)
Males	45	45		
Family Size				
<=5	58	58	1.86	(0.94, 3.17)
>5	22	41		
Reported Household Income*				
Designated poverty line and below (for rural)	10	8	2.75	(0.83, 9.07)
Above designated poverty line (for rural)	10	22		
Designated poverty line and below (for urban)	39	21	4.33	(2.07, 9.05*)
Above designate poverty line (for urban)	21	49		
Educational status				
Illiterate	45	44	1.63	(0.90, 2.96)
Literate	35	56		

*P<0.05

*Different cut off points were used to determine poverty line in urban and rural areas. In the urban areas, those households whose reported monthly income is <105 birr/month were considered poor (according to the official guideline) for the purpose of getting free service privilege while in the rural areas those households who reported to have no ox (a criterion used in the locality) were considered poor for getting free service privilege).

care and low income was positive, it was not statistically significant. Family size, house ownership and number of rooms had no association with getting free service privilege among exit survey respondents.

To determine whether the public was familiar with the existence and policy on waiver, respondents were asked whether they knew about the presence of this privilege. Most of the urban (93%) as well as the rural (91%) respondents in the exit interview reported as having knowledge of this fact. Of those who were aware of the privilege, 81.7% of the urban and 60.7% of rural respondents claimed that they learned this from friends and acquaintances followed by discussion with health institution staff.

Of the total 210 exit survey respondents, 87.6% claimed that there was no difficulty in obtaining free certificates except the fact that the process was time consuming. On the other hand, only 8% of the urban and 6.7% of the rural exit respondents reported that leakage was a possibility while 20% for urban and 15% for the rural respondents reported the possibility of under-coverage.

IV. Findings from the household survey:

As mentioned in the methodology, this part of the survey included 300 households (150 from urban and 150 from the rural area). The socio-economic characteristics of the household survey respondents are shown in Table 3.

Table 3: **Socio-economic characteristics of respondent heads of households (household survey, northern Ethiopia, 1999)**

Variable	Urban	Rural
Age categories		
15-24	14 (9.3%)	26 (17.4%)
25-34	32 (21.3%)	44 (29.3%)
35-44	37 (24.7%)	30 (20.0%)
45-54	34 (22.6%)	33 (22.0%)
>=55	33 (22.0%)	17 (11.3%)
Occupation		
Government employees	26 (17.3%)	1 (0.7%)
Farmers	-	118 (78.7%)
Housewives	63 (42%)	29 (19.3%)
Daily laborers	12 (8%)	2 (1.3%)
Merchants	8 (5.3%)	-
Others	41 (27%)	-

With regard to level of awareness and source of information, 82.7% of the rural and 94% of the urban respondents knew about exemption and waiver privileges in the utilization of health services. Again majority of the respondents (64.7% of the urban and 63.3% of the rural) learned about the policy from friends and acquaintances while only 13.3% of the urban 19.3% of the rural respondents were informed about it by health institution staff.

Table 4: **sources of information about waivers (Household survey, northern Ethiopia, 1999)**

Source of Information	Rural respondents	Urban Respondents
Friends and acquaintances	95 (63.3%)	97 (64.3%)
Health Institution staff	29 (19.3%)	20 (13.3%)
Other patients	5 (3.3%)	9 (6%)
Kebele officials	-	9 (6%)
Posters at health facilities	5 (3.3%)	9 (6%)
Could not tell	16 (10.7%)	6 94%)
As witness for others	-	1 (0.7%)
Total	150 (100%)	150 (100%)

Thirty nine percent of the urban and 10% of the rural households reported having faced problems to get free certificates. Those who reported to have faced problems in this regard were said to be people who move from place to place so frequently that their permanent residency could not be established in a given kebele. In addition, kebele officials were also blamed for giving lengthy appointments to give certificates and for denying the privilege for those who did not participate in village environmental sanitation campaigns.

Few of the household respondents (4.7% of the urban and 2% of the rural) have also reported as knowing people who got the free service privilege when they did not deserve it. Reported conditions for such occurrences were being relatives to kebele officials and presenting false witnesses.

To assess knowledge about exemption, households were asked if they knew that certain categories of patients or people with specific diseases were exempted from paying for health services. As depicted in Table 5, the proportion of those aware about the exemption policy on specific disease conditions was higher in the urban than the rural areas.

Table 5: **Respondents knowing about exempted diseases categories (household survey, northern Ethiopia, 1999)**

Diseases Category	Respondents having knowledge of exemption	
	Urban	Rural
Childhood conditions	38 (28.3%)	25 (16.7%)
Tuberculosis	31 (14%)	21 (14%)
Leprosy	18 (29.7%)	5 (3.3%)
AIDS	16 (10.7%)	15 (10%)
Family Planning	19 (12%)	18 (12%)
Total	122 (81.3%)	62 (41.3%)

Discussion

This cross sectional study has attempted to compare the characteristics of patients getting fee waivers based on income with those paying in Bahir Dar town and the Zuria Wereda (northern part of Ethiopia). Even though the result cannot be considered fully representative of the situation in the area, it has brought some insight on an issue that is relatively less documented so far.

Despite the fact that more than half of the respondents in the exit interview were free patients, the criterion for granting free health care service privilege hasn't been critically revised since its adoption. There were only minor changes that accompanied redefinitions of the minimum wage in the country. In addition, the adopted criterion doesn't seem to take into consideration the rural part of the population (that is actually the majority in the country). Even in the urban areas, it is only a small proportion of the population that is in formal employment. Therefore, the use of monthly salary as a criterion for comparing socio-economic status needs serious reconsi-deration.

Even though the fact that the targeting system uses local (Kebele level) structure for determining eligibility is an encouraging attribute, there should also be some mechanism to improve the record keeping and management capability of kebele and health institution officials at the local level. Record keeping was found to be poorly practiced by rural kebele officials compared to the urban ones and by health centers and health stations compared to the hospital. This lack of records might make it difficult to evaluate the waiver system for the poor since the effectiveness and the cost of the system cannot be known without such information. Lack of records has also been shown to make it difficult for the Ministry of Health in Tanzania to evaluate the waiver and exemption system (12).

The proportion of respondents that were aware of the presence of exemption and waiver policy was also higher in the urban than the rural area. Similar trends were also reported in studies done in Kenya and Tanzania where lack of knowledge about waivers for the poor was shown, with a majority of the poor indicating they must pay for services at government facilities (11, 12). For households in the current study that responded as knowing about waivers, the most important source of information were friends or relatives. In the Kenyan study information from health staff was the most important source (11). This shows that there is no active communication between health facilities and patients on the existence of the waiver system and the process of obtaining waivers and exemptions. Even though their schedule is very busy, it should not be impossible for health workers to disseminate information about waivers and exemptions during health education sessions to individual patients or groups. The fact that most of the exempted disease categories are those with "public good nature" makes this activity worth the additional effort.

The proportion of exit survey respondents that reported as knowing cases of under-coverage was 20% in the urban and 15% in the rural government health institutions. With regard to leakage, it was 8% for urban and 6.7% for rural health institutions. In addition, among the urban household respondents, 16% reported as knowing cases of under-coverage while only 4.7% reported as knowing cases of leakage. Similarly, studies in other African countries have found minimizing under-coverage as being poorly handled than preventing leakage (13). In view of the fact that the main objective of health financing options is maintaining equity, mechanisms should be created for addressing the problems of under-coverage.

Comparison of average income of rural patients who have got waivers with those who paid for their services at public health institutions showed that there was no statistically significant association between the designated low income and free health services utilization. This finding is supported by an earlier study in central Ethiopia that indicated no significant difference between the income levels of paying patients and those who got services for free

(14). However, in the case of urban exit respondents, those who got waivers had a statistically significantly lower average income than those who were paying. This may be because those who could afford to pay in urban areas might have alternative options of visiting private practitioners. In addition, urban officials might be relatively strict in enforcing the rules and regulations for granting the waiver privilege. The practice of proper registration and recording, which was seen to be more prevalent in the urban areas, might also have helped in this regard. The absence of clear income level cut-off for granting fee waivers in the rural area might, therefore, contribute to the difficulty of controlling leakage in these areas.

It is known that eliciting information on household income is a sensitive issue and getting accurate response would usually be difficult. Even though this can be considered as a limitation for studies like ours in Ethiopia, it would not have affected our main finding on the issue of interest for the present study. The expected direction of information bias in this regard would be towards under-reporting of income. However, according to our findings, comparison of average income of rural patients who have got waivers with those who paid for their services at public health institutions showed that there was no statistically significant association between the designated low income and free health services utilization in the rural areas. If under-reporting of household income is assumed to be uniform across all the respondents, then most of the respondents would in reality be above the cut-off point used for poverty, indicating even higher proportion of people as getting free service privilege when they should not have.

In conclusion, the effectiveness of targeting mechanisms in the study area seemed to have been compromised by problems that are amenable to corrective measures. Improving the registration and recording systems at ***kebele*** and health facility levels are the most important measures that can be taken. In addition, health workers should play active role in raising the awareness of the public about the presence of and the mechanisms for properly utilizing these measures. Periodic monitoring of the functioning and effectiveness of targeting mechanisms by regional and district officials is also necessary. As mentioned above, revising the current guideline for the urban areas and establishing a clear guideline for the rural areas should be an undertaking that needs policy level attention.

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