

# Health insurance status of female caregivers and its effect on the utilization of oral healthcare for children with HIV/AIDS in Nairobi, Kenya

Masiga Mary Atieno, Wandibba Simiyu

## ABSTRACT

**Aims:** Health spending through out-of-pocket payment is not always easy to cope with. It poses a challenge to easy access to healthcare in most developing countries. Notwithstanding other social determinants, health insurance is an important objective that increases utilization of healthcare services particularly for low-income populations. The aim of the present study was to determine the health insurance status among female caregivers and its effect on the utilization of oral healthcare for children with HIV/AIDS in Nairobi, Kenya. **Methods:** This was a hospital-based mixed methods cross-sectional study carried out at the out-patient HIV-care clinics at Getrude Children's hospital (GCH), Kenyatta National Hospital (KNH) and Mbagathi County and Referral Hospital (MCRH) in Nairobi City County, Kenya. The study involved 221 female caregivers of children with HIV/AIDS and their health workers at the HIV-care clinics. **Results:** More than two-thirds (68%) of the respondents did not have any form of health insurance to facilitate access to medical and/or dental healthcare. More than three quarters (76%) of those who had utilized oral healthcare services for their children paid from out-of-pocket (OOP)

expenses. There was gross underutilization of the National Health Insurance Fund, NHIF, with only 18% of the respondents having been enrolled. **Conclusion:** Underutilization of social health insurance by caregivers, compounded by OOP spending for health services imposes limitations on the utilization of oral healthcare for children with HIV/AIDS.

**Keywords:** Health insurance oral healthcare, Children with HIV/AIDS

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Masiga Mary Atieno<sup>1</sup>, Wandibba Simiyu<sup>2</sup>

**Affiliations:** <sup>1</sup>Associate Professor, Department of Pediatric Dentistry and Orthodontics, College of Health Sciences, University of Nairobi, Nairobi, Kenya; <sup>2</sup>Professor, Institute of Anthropology, Gender and African Studies, University of Nairobi, Nairobi, Kenya.

**Corresponding Author:** Mary Atieno Masiga, P.O. Box 48792 00100, Nairobi, Kenya; Email: ati\_masiga@yahoo.com

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## INTRODUCTION

Dental visits are largely determined by the ability to pay for services. There is adequate empirical evidence to show that individuals with low socioeconomic status utilize dental services less often than those of higher socioeconomic status and incomes, especially for preventive care which is elective [1–4]. It is also reported that, members of lower socioeconomic groups have poorer dental health than individuals belonging to more affluent groups [1, 4]. Miller and Locker [5] found that income and health insurance are important determinants of a person's decision to visit a dentist over the course of the year; other factors being equal, the less affluent uninsured

individuals are markedly less likely to receive regular dental care than affluent insured counterparts. According to the same authors [5], the odds that individuals with insurance would visit a dentist in the past year were 2.76 times higher than those in the uninsured group. This implies that, in itself, health insurance can have a mediating effect on other socio-economic variables on access to healthcare. Other analysts have reported similar results [6].

Health insurance is particularly recognized as being critical in reducing financial barriers to dental healthcare for children. Whilst this relationship is not causal, several studies using quasi-experimental designs to assess the impact of dental coverage on access and utilization of oral healthcare for children indicate that a child's dental insurance status, particularly low-income children, is a significant determinant of their having visited a dentist. In America, for instance, children who have dental coverage through public health programs such as Medicaid or the Child Health Insurance Program (CHIP) were reported to use preventive dental care visits more routinely than their counterparts who lack coverage [7–12]. Equally, the unmet oral healthcare needs amongst adolescents were found to decline [13], whilst children with special healthcare needs had significantly improved access to a broad range of health services, including dental care [14]. Lave et al. [15] evaluated the impact of dental coverage through a state health insurance program for low-income children in western Pennsylvania and reported that the proportion of children with regular source of dental care increased by 42% after enrollment; those who had a preventive care dental visit increased by 50%, while those reporting unmet and/or delayed cares for services fell from 43–10%. While health insurance may not remove all financial barriers to needed services, it enables people to obtain some amount of healthcare. According to Bhatti et al. [16], the insurance effect appears to operate through a reduction in price paid at the point of service, and not a decision by those with high anticipatory need for dental care to selectively purchase insurance.

The ability to take up health insurance is, to a great extent, tied to having a regular source of income. Individuals with irregular or low-income muscle are unlikely to have health insurance and/or dental coverage. Ultimately, they utilize healthcare less often and, when they do so, it is likely to be imposed by limitations in the type of treatment and facility from which they access care. This paper reports on the health insurance status of female caregivers, and its effect on the utilization of oral healthcare for children with HIV/AIDS in Nairobi City County, Kenya.

## **MATERIALS AND METHODS**

The study was carried out in the populous Nairobi City County, located within the Greater Nairobi Metropolitan Region in Kenya. The specific research sites were the

outpatient HIV-care clinics at Getrude Children's Hospital (GCH), Kenyatta National Hospital (KNH), and Mbagathi County and Referral Hospital (MCRH). The study population comprised 221 female caregivers attending the HIV-care clinics during the period between November 2015 and April, 2016. The inclusion criteria were; female caregivers aged 18 years and above, who were biological parents, foster parents, or guardians to children with HIV/AIDS.

The study was hospital-based, both exploratory and cross-sectional in design, employing a mixed methods approach. The sample size was calculated based on the reported prevalence of the utilization of oral healthcare by children with HIV/AIDS [17], with an allowance of 5% margin of error at 95% confidence interval. Proportionate stratification was adopted to assign respondent numbers to each hospital category according to the population of children enrolled and active in care at the facilities. All female caregivers who attended the HIV-care clinics during the study period and satisfied the inclusion criteria were purposively recruited on a daily basis until the sample size was achieved for each hospital category.

The first phase of the study consisted of a survey that was conducted by the principle investigator (PI) in face-to-face interviews with the selected respondents, using a pre-tested survey instrument. The purpose of the survey was to collect socio-demographic information and other quantitative data relevant to the research objectives. In the second phase, qualitative data was collected through focus group discussions (FGDs) with alternative randomly selected caregivers, the rationale being, to revisit issues emerging from the survey without going back to the same respondents. Subsequently, key informant interviews (KIIs) were conducted with health workers who attend to the caregivers at the HIV-care facilities. These comprised doctors, clinical officers, nurses, counselors and social workers who were selected for their professional expertise and perceived likelihood to provide comprehensive information relevant to the study objectives. The study was guided by Andersen and Newman's health services utilization model. Approval to conduct the study was obtained from the Kenyatta National Hospital and University of Nairobi Ethics and Research Committee.

Following data collection, quantitative data were entered into a computer and analyzed using the Statistical Package for Social Sciences Version 19.0. Where fitting, bivariate statistical tests were undertaken and the results presented in tables and charts to provide an overview of the study findings. Qualitative data were labeled and keyed in using codes assigned to open-ended questions and analyzed through text searching and content analysis aided by ATLAS ti software, to obtain replicable and valid inferences on the caregivers' insights on the utilization of oral healthcare for children with HIV/AIDS.

## RESULTS

### Socio-demographical characteristics of respondents

The mean age of the respondents was 37.48 years (SD±26.48). On categorization of age, the largest category (41.8%) had respondents aged between 34–41 years. The majorities (76%) were biological mothers of the children; others being grandmothers (17%) and aunts (5%), while the remaining 2% were unrelated. The respondents were mostly (59%) in stable marriages; others, 14% were widowed, 12%, were separated or divorced while 15% were single mothers. The highest percentage (43%) of respondents had only attained primary-level education, followed by 33% who had attained secondary-level education; those that had attained tertiary education or other post-secondary school training were much fewer (18%), whilst 5% had not attended school at all. Nearly half (49%) of respondents were engaged in non-formal activities for income generation. Those in formal employment were only 28%, while 6% were in casual labor and 17% were unemployed. About two-fifths (41.9%) of the respondents reported average monthly incomes of less than, or equal to, KES 10,000. The differences in age, marital status and household income between respondents at the three hospital categories were not significant ( $p = 0.52$ ,  $p = 0.54$  and  $p = 0.58$  respectively), hence, the subsequent data was analyzed collectively.

### Respondents' health insurance status

About two-thirds (68%) of the respondents in the study reported not to have any kind of health insurance to facilitate access to medical and /or dental services. On the other hand, 21% were covered by employer or spouse's health insurance, while 8% had private health insurance (Figure 1). Cross tabulation of the data did not establish an association between having health insurance and utilization of oral healthcare ( $p > 0.05$ ). This might seem to suggest that lack of health insurance among the caregivers was not a limiting factor in the utilization of oral healthcare for children with HIV/AIDS, nonetheless, it must be noted that variance was greatly narrowed down by the fact that most respondents did not have health insurance in the first place, therefore, it may not be the correct interpretation.

### Mode of payment for child's oral health services

More than three-quarters (76%) of the respondents who accessed oral health services for their child paid from out-of-pocket (OOP) expenses for consultation and treatment procedures. Those who paid through employer insurance were 11%, personal insurance 7%, while 4% paid through donor/charitable aid (Figure 2). Having to pay for oral health services contrasted with free medical services that the caregivers accessed at the

HIV-care facilities. It was apparent from the discussions that out-of-pocket payment was an obstacle to utilizing oral healthcare for children with HIV/AIDS. One key informant gave his views on how this may impact the utilization of oral healthcare for children: This is what he stated:

The patients who come to the HIV-care clinics are attended to free of charge, inclusive of consultation, lab tests and drugs. The caregivers are used to free services. It is likely that they shy away from seeking dental services because of having to pay for services from their pockets (Pharmacist, KNH).

### Affordability of oral healthcare services

About 31.5% of the respondents rated the user-cost of oral health services as very expensive, 46% rated the services as expensive, whilst only 17.5% rated them as affordable (Figure 3). During the focus group discussions, participants were in agreement that the high cost of oral healthcare frequently delayed their child's timely visits to the oral health provider; additionally, tooth extraction was often the preferred treatment for the child because it was perceived to be the most affordable. A key informant

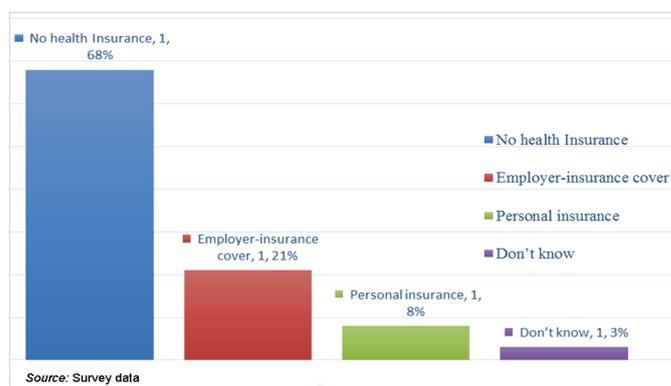


Figure 1: Respondents' health insurance status.

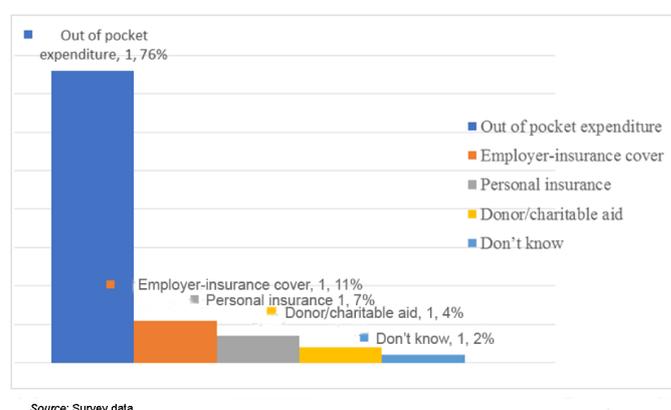
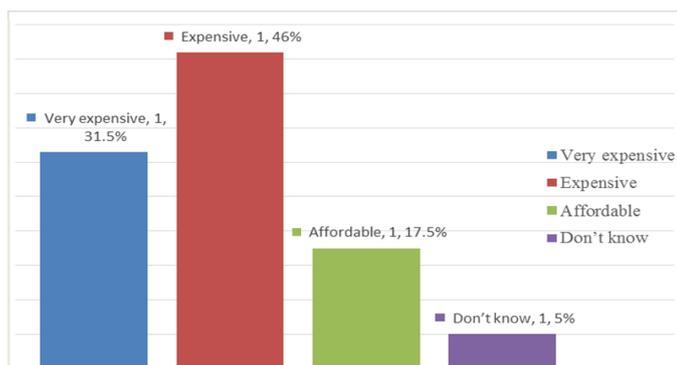


Figure 2: Mode of payment for child's oral health services.



Source: Survey data

Figure 3: Affordability of oral healthcare services.

who empathized with the caregivers gave her views as follows: “The cadres of women who come here find dental care to be very expensive. It is made worse because most health insurances do not pay for dental treatment; so the women have to pay from their pockets which often, they can barely afford” (Counselor, GCH).

### Reasons for not having social health insurance

There was gross underutilization of social health insurance (SHI) by the respondents with only 18% of them having been registered with the National Health Insurance Fund (NHIF). The respondents gave reasons for this low enrollment which suggested that they have insufficient knowledge and sensitization on how the social insurance operates, as well as self-doubt on their own abilities to meet the required premiums, which they attribute to irregular incomes from their occupations. “I don’t know about it” was the most recurring response at 31.3%. The other frequently cited responses were:

- “I cannot afford it” 29.1%
- “Payment is too high” 27.5%
- “I am not working” 23.1%.

These responses are summarized in Table 1. Participants in the focus group discussions concurred that whilst they were aware of the benefits of the NHIF, they had concerns about its cumbersome operations which included penalties for default on payment, and limited coverage for dental and other specialized services. There were also the inconveniences of having to utilize only accredited facilities and finding oral health providers who would accept to treat them on the NHIF cover. This is what discussants at the FGD in KNH stated regarding these concerns:

Health insurance is good and we know it can help us when our children fall ill. The problem

Table 1: Respondent’s reasons for not having National Health Insurance Fund health insurance

Reasons	Frequency	Percentage
I don’t know about it	57	31.3
I cannot afford it	53	29.1
Payment is too high	50	27.5
My husband has refused	27	13.7
It covers only civil servants	29	15.9
Does it cover dental treatment?	23	12.6
I am not working	42	23.1
I need more information	25	13.7
I don’t know	14	7.7

Source: Survey data

†Sum is more than 100% due to multiple responses

is that when someone skips payment for even a single month, they can not get the services they need and they end up losing everything. Another thing, NHIF does not cover for dental treatment unless you are a civil servant, and often, when we seek treatment we are turned away (FGD, KNH).

### DISCUSSION

The information presented in this paper is part of a larger study on determinants of the utilization of oral healthcare among female caregivers of children with HIV/AIDS. The study employed a mixed method research design with integration of both quantitative and qualitative results, which allowed the researcher to provide rich data sets as well as gain in-depth information and knowledge of the respondents’ insights.

According to literature, children with HIV/AIDS are more likely to have oral manifestations and decay in their dentition than their unaffected siblings. They are less likely to be caries-free and more likely to have an increased burden of oral diseases [18, 19]. Notwithstanding, these children continue to face limited access to oral healthcare. In Kenya, for example, several studies have reported unmet needs and low rates of uptake of dental healthcare among children with HIV/AIDS [17, 20–22]. Whilst low socioeconomic status of caregivers and low family income are considered to be contributory [22], evidence from the current study suggests that poor utilization of oral healthcare by the children is exacerbated by the lack of health insurance among their caregivers, compounded by reliance on out-of-pocket spending for oral health services. In general the cost of dental care is often the responsibility of the

individual; as a result, when caregivers perceived oral health services to be unaffordable, they either avoided using it altogether, and/or, they identify cheaper alternatives. Being in mostly in informal employment, only a small number of caregivers in this study benefited from private dental care coverage available through formal employment. According to So and Schwartz [23], coverage per se, has no apparent effect on demand for dental services, however, those who are aware of their dental benefit coverage report a significantly higher demand than those who are not aware.

In the last decade or so, Social Health Insurance (SHI) has emerged as the preferred form of financing healthcare costs in most countries. It is by having SHI that people can access healthcare based on need, and not ability to pay for health services. In Kenya, social health insurance is obtainable through the National Health Insurance Fund (NHIF), governed by the National Health Insurance Fund Act (1998). The NHIF provides health insurance mainly for workers in the formal sector albeit recently, this coverage has been expanded to have limited inclusion to those outside the formal sector, in an effort to increase access to healthcare for all. Membership of NHIF is compulsory for all salaried employees whose premium payments, calculated on a graduated scale based on income is deducted from their payrolls. For the self-employed and others in the non-formal sector, membership is contributory (voluntary), and available at a fixed premium which, of late, has been revised to a minimum monthly fee of KES 500. A recent case study on the status of NHIF reports that, whilst coverage is high (98%) for the formal sector, that of the informal sector which accounts for above 80% of the Kenyan workforce has proven to be more challenging, and remains at only 16% [24].

In the current study, there was underutilization of the SHI among the caregivers which was manifest by a paltry 18% of respondents who reported to have been registered with the NHIF. The reasons given by the respondents for non-enrollment were varied, among them, lack of information about operations of the scheme and perception of limited coverage for workers who are in informal employment, or not deployed in the civil service. In addition, the caregivers were concerned that coverage did not include important procedures such as X-rays, dental services and cancer treatments (this has since been revised and these services are now available on the NHIF cover); and moreover, there were the inconveniences of travel to accredited facilities and limitation in the number of dentists and/or other oral health providers who agree to offer oral health services on the NHIF scheme. Additionally, the caregivers are uncertain about their own abilities to meet the required monthly premium payments, as a result of having irregular incomes. The views from the caregivers reverberate with those of Egesah [25], who similarly established that informal sector populations in Kenya underutilize the NHIF. In

his report he states that, whilst a majority of people in the informal sector are willing to use the NHIF scheme to access health services, there are multiple burdensome issues, inter alia low levels of knowledge about functions of the medical cover, unclear access strategies and participation in the scheme being stymied by rigid design. Universal coverage is defined as physical and financial access to necessary healthcare of good quality for all persons. It implies protection against the risk that if expensive (relative to an individual's or family's means) healthcare services are needed, services of adequate quality will be physically accessible, and these services will not prevent persons from using them or impoverish their families [26]. Therefore, a policy objective for healthcare systems should be to strengthen, or enhance, the insurance function of the population through some form of government action, such as, greater subsidy and pro-poor payment plans for low-income earners, which appears not to have been the case with the caregivers in this study.

## CONCLUSION

In conclusion, this study reports that caregivers attending the HIV-care clinics in NCC underutilize the national social health insurance and, compounded with their reliance on out-of-pocket spending for oral health services, they face limitations in timely utilization of oral healthcare for their children. It is incumbent upon the National government to provide robust public health insurance for children, inclusive of dental coverage, to enhance access and utilization of oral healthcare by children with HIV/AIDS.

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## Author Contributions

Mary Atieno Masiga – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Simiyu Wandibba – Substantial contributions to conception and design, Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

## Guarantor

The corresponding author is the guarantor of submission.

## Conflict of Interest

Authors declare no conflict of interest.

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