Original Article

UNDERSTANDING HEALTH INSURANCE ACCESSIBILITY FOR PEOPLE LIVING WITH HIV/AIDS IN KATHMANDU VALLEY: BARRIERS, ATTITUDES AND POLICY RECOMMENDATIONS

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ABSTRACT

This study explores how accessibility and effectiveness Nepal's free health insurance scheme for people living with HIV/AIDS (PLHIV) in Kathmandu Valley, using a mixed-method approach with both quantitative and qualitative data. A survey of 150 PLHIV, along with 25 in-depth interviews and 4 focus group discussions (FGDs), were conducted to gather insights into participant's experiences, perceptions and the barriers they face. The findings reveal that the health insurance program provides significant financial relief, making healthcare more accessible to PLHIV by reducing out-of-pocket expenses for essential services. However, there are notable gaps in the program's coverage, particularly for mental health, chronic disease management and specialized treatments. These limitations prevent the program from fully meeting the diverse healthcare needs for PLHIV which is essential for improving their long-term well-being.

In addition to coverage gaps, the study identifies several systemic barriers that hinder the program's effectiveness. Social stigma and discrimination remain significant obstacles, with many PLHIV expressing concerns about being identified and facing negative attitudes from healthcare providers for the community. These concerns discourage participation in the program and limit access to care. Furthermore, operational inefficiencies, such as delay in service delivery, breaches of confidentiality during referrals and bureaucratic barriers to enrolment, further undermine the program's impact. The study recommends expanding the insurance coverage to include mental health and chronic disease care, improving service delivery by addressing referral system issues, streamlining enrolment processes and implementing stigma-reduction initiatives to create a more supportive healthcare environment for PLHIV. These measures could significantly enhance the program's accessibility, inclusivity and overall effectiveness.

Key words: Health Insurance, PLHIV,HIV/AIDS, Kathmandu

INTRODUCTION

HIV/AIDS remains a major global health challenge with over 39.9 million cases worldwide as of 2023 and Nepal is no exception, facing significant barriers in providing adequate healthcare and insurance coverage for People Living with HIV (PLHIV) (UNAIDS, 2024). Despite advances in treatment, PLHIV in Nepal continue to experience financial burdens related to healthcare costs, including transportation, medications, diagnostic tests and the management of HIV-related complications. While HIV testing, antiretroviral therapy (ART) and viral load testing are provided free of charge, the lack of comprehensive health insurance coverage exacerbates the challenges faced by PLHIV, particularly in accessing the full spectrum of necessary healthcare services.

As of 2023, there were 1.3 million new infections and 630,000 AIDS-related deaths. Sub-Saharan

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Africa remains the most affected region, accounting for two-thirds of global HIV cases, while Eastern Europe and Central Asia have seen rising infection rates. Women and girls represented 53% of new infections in 2023, with young women in sub-Saharan Africa particularly vulnerable. Additionally, approximately 1.4 million children were living with HIV as of 2021.

Although access to antiretroviral therapy (ART) has increased globally, 5.4 million people in need of ART remain untreated. The Joint UNAIDS aims to eliminate AIDS as a public health threat by 2030, with the goal of ensuring 95% of people living with HIV know their status, 95% of those aware are on treatment and 95% of those on treatment achieve viral suppression. As of 2023, 86% of PLHIV knew their status, 77% were on treatment and 93% achieved viral suppression.

In Nepal, HIV testing, ART and viral load testing are free but PLHIV face financial burdens from the management of HIV-related complications, including opportunistic infections and non-communicable diseases.

The Kathmandu Valley, as the economic and health care hub of Nepal, hosts a significant proportion of the country's PLHIV population. High migration rates, with individuals from rural areas seeking employment and better healthcare, contribute to this concentration. This makes understanding the accessibility of health insurance for PLHIV in the region particularly crucial, as the healthcare system here serves a large and diverse population with specific and complex healthcare needs.

In Nepal, the Government initiated free health insurance scheme for PLHIV from 2020 amid COVID 19 pandemic and so far, there are around 17,000 PLHIV enrolled in the scheme allowing a PLHIV and up to four other family members to be covered under insurance plan. The health insurance coverage includes a range of services such as outpatient department (OPD) services, emergency services, inpatient (hospitalization) services, diagnostic tests (Eg. laboratory tests, X-rays, ultrasounds, MRIs, CT scans), prescribed medications in a convenience bag, surgeries and assistive devices like spectacles, hearing aids, white canes and crutches within specified price limits. However, the coverage excludes cosmetic surgery, basic healthcare, high-cost dental treatments, artificial abortion, artificial insemination services and free drugs provided by Nepal Government.While health insurance coverage in Nepal has expanded, particularly in urban areas like Kathmandu, PLHIV often face difficulties accessing comprehensive coverage that specialized testing services. Stigma, discrimination and financial barriers further limit access to necessary care. Given the high concentration of PLHIV in the Kathmandu Valley, this research aims to identify the barriers they face in accessing health insurance and healthcare services. By exploring the perspectives of both PLHIV and healthcare providers, this study will uncover key issues within the current health insurance system and offer policy recommendations to improve accessibility and inclusivity for this vulnerable group.

Despite Nepal's efforts to provide free antiretroviral therapy (ART) and related healthcare, many PLHIV face barriers to enrolling in and utilizing health insurance. Studies suggest that health insurance can significantly reduce economic burdens among PLHIV (Alvi et al., 2020; Malik et al., 2023). This study aims to examine the effectiveness and challenges of Nepal's free health insurance program for PLHIV in Kathmandu Valley, offering policy recommendations for improving accessibility.

METHODOLOGY

Research Design

This study adopted a mixed-methods approach, integrating both quantitative and qualitative methodologies to comprehensively explore access to health insurance among people living with HIV (PLHIV) in the Kathmandu Valley.

Qualitative Design

Qualitative data were collected through in-depth interviews (IDIs) and focus group discussions (FGDs) with PLHIV, healthcare providers, policymakers, and representatives from the Health Insurance Board of Nepal. Semi-structured interview guides were used to explore participants' perceptions, attitudes, and barriers related to the health insurance scheme. All interviews and FGDs were audio-recorded, transcribed verbatim, and translated into English. A thematic analysis approach was employed using NVivo 12 Pro software for data management and coding.

Quantitative Design

A structured survey was administered to PLHIV to collect socio-demographic and socio-economic data, assess knowledge and attitudes toward health insurance, and identify barriers to enrolment and utilization of the free health insurance scheme provided by the Government of Nepal. The survey was conducted using KoBoCollect, and the data were later analysed in SPSS.

Study Sites

The study was conducted in the Kathmandu Valley, specifically in Kathmandu, Lalitpur, and Bhaktapur districts, which have a high concentration of PLHIV. These urban districts also host diverse populations, making them broadly representative of other urban settings in Nepal. Four ART (antiretroviral therapy) sites were selected for participant recruitment:

SN	Name of ART Site	Province	District
1	Bhaktapur District Hospital	Bagmati	Bhaktapur
2	Sparsha Nepal, Sanepa	Bagmati	Lalitpur
3	Bir Hospital	Bagmati	Kathmandu
4	Sukra Raj Tropical and Infectious Disease Hospital, Teku	Bagmati	Kathmandu

Study Population and Sampling

Study Population

The study population included:

- PLHIV aged 18 years and above residing in the Kathmandu Valley.
- Representatives from government bodies (e.g., Health Insurance Board, NCASC, district health offices).
- Healthcare providers and civil society members involved in HIV/AIDS-related services.

Sampling Techniques

For the quantitative component, a stratified random sampling technique was used to ensure representation across diverse subgroups of PLHIV (by age, gender, socioeconomic status, and location). Within each stratum, participants were randomly selected.

For the qualitative component, purposive sampling was employed to select key informants with relevant knowledge and experience in HIV/AIDS and health insurance service delivery.

Sample Size and Justification

Quantitative Sample

The sample size was calculated using the formula n= z2pq/d2 where z = 1.96 (95% confidence level), p = estimated prevalence of PLHIV (0.088) and d = margin of error (0.05). The calculated sample size was 123. Considering a 20% non-response rate, the final sample included 150 PLHIV, proportionately distributed across the three districts.

Qualitative Sample

A total of four FGDs were conducted at four ART centers, each involving 6–8 PLHIV. Additionally, 25 in-depth interviews (IDIs) were conducted with a diverse group of stakeholders:

- 1 official each from NCASC and Health Insurance Board
- 3 district-level HIV/AIDS focal persons (Kathmandu, Bhaktapur, Lalitpur)
- 1 municipal-level HIV/AIDS focal person
- 6 healthcare providers from ART centres
- 10 representatives from civil society organizations working in HIV/AIDS
- 3 health insurance facilitators

Data Collection Methods

Tools and Techniques

Quantitative data were collected using a structured questionnaire via KoBoCollect. Qualitative data were collected using semi-structured interview guides tailored for both FGDs and IDIs. All qualitative sessions were audio-recorded, and tools were pretested and refined prior to use.

Data Management and Analysis

Quantitative Data

Survey data were cleaned, coded, and exported from KoBoCollect to SPSS and Microsoft Excel for analysis. Descriptive and inferential statistics were computed, and results were presented in frequencies and percentages.

Qualitative Data

Thematic analysis followed a reflexive approach. Transcripts were reviewed, a coding framework was developed, and data were coded and analyzed using NVivo 12 Pro. Themes were iteratively refined and interpreted to extract meaningful insights.

Validity and Reliability

To ensure validity and reliability:

- All tools were derived from existing guidelines and pretested among 15 PLHIV residing outside Kathmandu Valley using snowball sampling.
- Necessary modifications were made post-pretest to ensure clarity and contextual relevance.
- Only those aged 18 years and older who provided written informed consent were included in the study.

RESULTS

Quantitative Findings

Table 1: Age of respondent (n=150)

Characteristics	Frequency(n)	Percentage (%)
18-24	16	10.67
24-30	15	10
30-36	23	15.33
36-43	31	20.67
43-50	32	21.33
50-57	20	13.33
57-64	12	8
64-71	1	0.67
Total	150	100

Table 1 summarizes the age distribution of participants in the research study. Out of a total sample majority of the participant were middle age. It has mean- 40.81 and median- 42.

Table 6: Main Occupation of respondents (n=150)

Characteristics	Frequency(n)	Percentage (%)
Non- government job	37	24.67
Others (Labor, Driver, Dancer, Cook, Security Guard)	34	22.67
Household work	19	12.67
Business	15	10
Self-owned	13	8.67
Unemployment	12	8
Student	8	5.33
Agriculture	7	4.67
Not willing to answer	3	2
Government job	1	0.67
Retired	1	0.67
Total	150	100

Table 6 represents the occupational distribution of the study participants. The largest group, representing 24.67%, reported working in non-government jobs. A significant portion, 22.67%, fell into "others" category. Household work accounted for 12.67%, followed by business activities at 10% and self-owned ventures at 8.67%. Unemployment was reported by 7.33%, while students and those engaged in agriculture each represented 5.33%. 2% of them were unwilling to answer and 1 participant each were government job holders and retirees.

Table 1: Distribution of study participants by gender (n=150)

Characteristics	Frequency(n)	Percentage (%)
Male	91	60.67
Female	59	39.33
Total	150	100

Table 1 summarizes the gender distribution of participants in the research study. Out of a total sample, 60.67% were male, while 39.33% were female. This breakdown highlights the gender composition of the study population, with males representing the majority.

Table 2: Distribution of study participation by religion (n=150)

Characteristics	Frequency(n)	Percentage (%)
Hindu	105	70
Buddhist	27	18
Christian	14	9.33
Muslim	3	2
Other	1	0.67
Total	150	100

Table 2 illustrates the religious composition of participants in the study. Among the total sample, the majority identified as Hindu, comprising 70%.

Buddhists made up 18%, followed by Christians at 9.33%, Muslims at 2% and other religion 0.67%. This distribution reflects the diverse religious affiliation within the study population.

Table 3: Distribution of study population by Ethnicity (n=150)

Characteristics	Frequency(n)	Percentage (%)
Janajati	77	51.33
Bramhin/ Chhetri	60	40
Dalit	6	4
Madhesi	5	3.33
Muslim	2	1.33
Total	150	100

Table 3 illustrates the ethnic composition of the study participants. Of the sampled, the majority were Janajati, comprising 51.33%. Bramhin/ Chhetri followed with 40%, while Dalit participants accounted for 4%. Madhesi participants represented 3.33%, and Muslim participants made up 1.33%. This distribution highlights the diverse ethnic backgrounds of the study population.

Table 4: Distribution of study participation by their Marital Status (n=150)

Characteristics	Frequency(n)	Percentage (%)
Married	91	60.67
Unmarried	34	22.67
Separated	11	7.33
Widow/ Widower	10	6.67
Divorced	2	1.33
Living Together	2	1.33
Total	150	100

Table 4 represents the marital status distribution of the study participants. Out of a total of 150 participants, the majority were married, comprising 60.67%. Unmarried individuals accounted for 22.67%, while 7.33% were separated. Widow/ widower participants made up 6.67% and both divorced and living-together individuals each constituted 1.33%.

Enrolment and Awareness: 92.67% of respondents were enrolled in health insurance, with 94.67% aware of the government scheme.

Table 5: Distribution of study participation who were enrolled in free Health Insurance from Nepal Government. (n=150)

Characteristics	Frequency(n)	Percentage (%)
Yes	139	92.67
No	11	7.33
Total	150	100

Economic Burden: 92% believed the scheme reduced financial burdens, but 40.67% still incurred out-of-pocket expenses for services not covered by insurance.

Table 6: Distribution of study participants who felt that free Health Insurance has reduced the economic burden. (n=150)

Characteristics	Frequency(n)	Percentage (%)
Yes	138	92
No	12	8
Total	150	100

Table 7: Distribution of study participants who had paid the services that were not covered by Insurance. (n=150)

Characteristics	Frequency(n)	Percentage (%)
Yes	61	40.67
No	89	59.33
Total	150	100

Service Utilization: 78.67% had access to services, though 20% sought care from non-covered institutions due to service unavailability.

Table 8: Distribution of study participants by Utilization service through free Health Insurance. (n=150)

Characteristics	Frequency(n)	Percentage (%)
Yes	118	78.67
No	32	21.33
Total	150	100

Table 9: Distribution of study participants by utilization of services from other institution due to unavailability of services. (n=150)

Characteristics	Frequency(n)	Percentage (%)
Yes	30	20
No	120	80
Total	150	100

Challenges: 12% faced difficulties enrolling, often due to documentation issues and long waiting times. Stigma discouraged 11.33% from disclosing their HIV status during enrolment.

Table 10: Distribution of study participants who faced difficulty while being enrolled in free health insurance (n=150)

Characteristics	Frequency(n)	Percentage (%)
Yes	18	12
No	132	88
Total	150	100

Table 11: Distribution of study participants who faced difficulty to identify as PLHIV while being enrolled. (n=150)

Characteristics	Frequency(n)	Percentage (%)
Yes	17	11.33
No	133	88.67
Total	150	100

Table 12: Feels that need to change anything in this policy. (n=150)

Characteristics	Frequency(n)	Percentage (%)
Yes	58	38.67
No	92	61.33
Total	150	100

Table 12 shows that while a majority of participants 61.33% believed that the free health insurance policy does not need any changes, 38.67% still feel that adjustments or improvements are necessary. This indicates that a significant portion of the participants believes there are areas within the policy that could be enhanced which has been presented in the qualitative findings below.

Qualitative Findings

This section presents thematic findings from Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs) conducted with People Living with HIV/AIDS (PLHIV) in Kathmandu Valley. The analysis reveals interlinked domains of awareness, perceived importance, socio-structural barriers, and the perceived impacts of the government-sponsored free health insurance scheme.

Awareness, Perceptions, and Experiences with the Health Insurance Scheme

Most participants were aware of the government-sponsored health insurance scheme for PLHIV. Information about the program was primarily disseminated through ART centers, peer educators, and organizations such as the National Centre for AIDS and STD Control (NCASC) and the National Health Insurance Board. Few of the participants mentioned;

"I received this information from NCASC and the ART Centre where I go for my regular treatment." (KII_PLHIV_HI_11)"

"We were informed during meetings organized by NCASC and by various organizations working with HIV-positive individuals." (KII_PLHIV_HI_13)"

"I found out about the insurance scheme through social media and peers who had already enrolled." (FGD_PLHIV_HI_05)"

Furthermore, the scheme was widely perceived as beneficial. Participants appreciated that it covered routine laboratory tests and medications, offering financial relief and greater access to care as mentioned by the participants below;

"Health insurance gives us a sense of safety. It helps with blood tests and provides free medicines." (KII_PLHIV_HI_02)

"It is a lifeline for us—it reduces our expenses and ensures we can access essential services." (FGD_PLHIV_HI_05)

However, many noted critical gaps in the range of services covered. Participants reported that treatments for opportunistic infections, chronic diseases, surgeries, and specialized diagnostics were not included under the scheme, as mentioned by participants below;

"Opportunistic infections and chronic illnesses like diabetes or heart problems are not covered, which limits its usefulness." (KII_PLHIV_HI_06)

"I had to purchase surgical gowns myself during my operation—the insurance didn't cover them." (KII_PLHIV_HI_13)

"Conditions like dental issues, bone diseases, and mental health problems are left out." (FGD_PLHIV_HI_03)

Structural, Financial, and Social Barriers to Access and Utilization

Despite the program's potential, several barriers constrained effective enrolment and utilization were identified which are described below.

Financial Constraints and Employment Challenges

Though the insurance premium was waived, participants reported out-of-pocket expenses related to transportation, OPD ticketing, and medications not covered under the scheme. These costs were unaffordable for many, particularly those unemployed due to stigma or health-related limitations. Few of the participants mentioned;

"There are expenses for travel, OPD tickets, and some medicines. Even if the insurance is free, we still face financial problems." (KII_PLHIV_HI_08)

"We don't have regular income. For many, even NPR 500 or 1000 is hard to arrange." (KII_PLHIV_HI_20)

"Many PLHIV can't do labor-intensive work and struggle to find employment due to stigma." (KII_PLHIV_HI_03)

Service Limitations and Referral Process

The limited scope of covered services significantly reduced the scheme's utility. Additionally, participants found the referral system burdensome and time-consuming, especially in rural areas, and noted concerns over repeated disclosure of their HIV status during referrals, as mentioned by few of the participants below.

"Diseases like heart, liver, and cancer are excluded. So, even with insurance, we're left vulnerable." (KII_PLHIV_HI_01)

"We must go through a lengthy referral process and our status gets disclosed multiple times." (KII_PLHIV_HI_04)

Delays in medicine availability and long queues were also frequently reported, most of the participants were not happy with the time they needed to spend in the hospital for regular check-up. One of the participants mentioned;

"Even when we reach the hospital, we wait in long lines for registration, stamping, and billing." (KII_PLHIV_HI_07)

Stigma, Discrimination, and Privacy Concerns

Many participants expressed concern about using insurance services near their homes due to fear of being identified as HIV-positive. Stigma within communities and among healthcare providers discouraged service uptake. Few of the participants mentioned;

"We avoid local centers to maintain privacy. There's a fear that people will find out about our status." (KII_PLHIV_HI_05)

"Some health workers treat us differently—they use double gloves and act hesitant." (KII_PLHIV_HI_01)

Furthermore, lack of proper documents (e.g., lack of citizenship cards or birth certificates) was another frequently mentioned barrier. Due to lack of proper documentation PLHIV were facing problems in even getting registered in the system, as mentioned by one of the participants;

"People without proper documents can't register. This leaves many of us out of the insurance system." (KII_PLHIV_HI_09)

Perceived Impact of Health Insurance on PLHIV

Despite the above challenges, participants generally viewed the health insurance scheme as an important step toward improving their health and wellbeing. Those who had successfully enrolled and accessed services reported more regular health check-ups and adherence to treatment. Few of the participants mentioned;

"With insurance, we are more motivated to seek timely medical help and regular check-ups." (FGD_PLHIV_HI_04)

Participants of the study also mentioned about the relief they have felt after being enrolled in health insurance program. They mentioned that scheme also provided mental and financial relief by reducing the unpredictability of medical costs. Few of the participants mentioned;

"Now I don't have to worry about paying for every visit. That reduces my stress a lot." (KII_PLHIV_HI_07)

"It gave me peace of mind and helped me focus on my treatment." (FGD_PLHIV_HI_05)

Recommendations for Policy Improvement

Increase Coverage Limits and Scope

Participants strongly advocated expanding the scope and effectiveness of the current health insurance scheme. A major recommendation was to increase the annual coverage limit, as the existing ceiling was often insufficient to meet the comprehensive health needs of PLHIV, especially for those managing multiple co-morbidities or requiring specialist care. Few of the participants mentioned;

"The amount of NPR 1 lakh should be increased to NPR 5 lakh…" – KII_PLHIV_HI_08

"Include whole family… not just PLHIV. Chronic and costly conditions must be covered." – FGD_PLHIV_HI_02

"Why cover only some diseases? Our needs are bigger than that." – FGD_PLHIV_HI_03

Simplify Access and Expand Service Locations

A recurring recommendation among both individual interviewees and focus group participants was the removal of the current referral system, which was widely perceived as a major procedural barrier to timely and confidential access to care. Participants described the referral requirement as burdensome-particularly for PLHIV residing in remote areas—since it necessitated travel across districts, multiple administrative steps, and, in some cases, public disclosure of their HIV status. Few of the participants mentioned;

"Remove the referral system for convenience." – KII_PLHIV_HI_01

"Patients should be allowed to choose their preferred ART Center." – FGD_PLHIV_HI_01

"Provide services at local levels—health posts and nearby hospitals." – FGD_PLHIV_HI_04

Enhance Awareness and Reduce Stigma

Participants emphasized that despite the existence of a free health insurance scheme for PLHIV, stigma, misinformation, and breaches of confidentiality continue to limit enrolment and utilization. As a response, they strongly advocated for a multi-pronged strategy involving provider sensitization, public awareness efforts, and strengthened privacy protections in service delivery. Few of the participants mentioned;

"There should be orientation… BCC materials for stigma reduction." – KII_PLHIV_HI_03

"We need health workers who treat us with dignity." – FGD_PLHIV_HI_02
"They should maintain confidentiality. Don't call out our names or show forms openly." – FGD_PLHIV_HI_05

DISCUSSION

This study examined the accessibility and effectiveness of Nepal's free health insurance scheme among PLHIV in the Kathmandu valley. The findings reveal a mixed picture of progress and ongoing challenges. While the scheme has provided some financial relief and improved access to healthcare services, it has achieved only partial success. Persistent issues-such as limited benefit coverage, stigma, and operational inefficiencies-continue to hinder its full potential. Many PLHIV still encounter significant barriers that affect their ability to enroll in and effectively utilize the scheme.

Notably, this study adds new evidence to the body of knowledge by specifically focusing on PLHIV-a population that remains underserved and often marginalized within broader health insurance initiatives. Unlike previous studies that explored insurance access among the general population, this research offers targeted insights into the unique barriers experienced by PLHIV. By documenting their lived experiences, it underscores the need to adapt and expand insurance schemes to ensure equitable access to care in line with the principles of Universal Health Coverage (UHC).

The study's mixed-methods design, incorporating both quantitative and qualitative data, enhances the credibility and depth of the findings. Stratified random sampling ensured a diverse and representative sample, providing a more comprehensive understanding of the challenges across different subgroups of PLHIV. However, the study is geographically limited to the Kathmandu valley, and its findings may not fully represent the experiences of PLHIV in other regions of Nepal. Additionally, reliance on self-reported data may introduce bias due to recall errors or social desirability.

The findings resonate with international literature, including studies by Alvi et al. (2020) and Chaumont et al. (2019), which emphasize the positive role of health insurance in reducing financial strain among marginalized communities. However, the study also confirms the observation of Shama et al. (2021), highlighting significant gaps in benefit coverage- particularly in areas such as mental health and chronic disease management- that limit the scheme's overall impact. Persistent social barriers such as stigma and fears of confidentiality breaches align with global findings, including those reported by Malik et al. (2023), suggesting that stigma remains a critical deterrent to insurance uptake.

Given these findings, it is plausible that the program's effectiveness could be significantly enhanced through targeted reforms. Integration of HIV-specific case management, mobile registration units, and digital platforms to streamline enrollment could address current bottlenecks while improving privacy protections. Community-based organizations could play an essential role in facilitating outreach and trust-building among hesitant populations.

The study has important implications for both policy and clinical practice. Clinically, better coordination between the insurance scheme and HIV care services could improve treatment continuity and adherence. At the policy level, expanding benefit coverage, increasing reimbursement ceilings, and implementing stronger safeguards for confidentiality should be prioritized. Although politically the program aligns with Nepal's broader commitment to UHC and social protection, scaling and reforming the scheme to be more inclusive of PLHIV will require sustained political engagement and advocacy.

Operationally, many of the recommended improvements are feasible within Nepal's existing health infrastructure. Streamlining registration, enhancing provider training, and building stronger referral systems could be achieved with targeted capacity- building investments. While these reforms will incur additional costs, they are likely to be cost-effective over time by reducing healthcare expenditures associated with untreated or advanced HIV-related conditions. Donor engagement and strategic allocation of existing resources could help manage these financial requirements.

If implemented effectively, these measures could lead to increased insurance enrollment and improved health outcomes among PLHIV. Furthermore, they would contribute to reducing HIV-related stigma, promoting social inclusion, and strengthening public trust in the health system. Such outcomes would not only improve the quality of life for PLHIV in Nepal but also offer a replicable model for inclusive health insurance design in other low and middle-income settings.

Looking forward, future research should examine the long-term effects of insurance coverage on health outcomes among PLHIV and explore disparities across urban and rural settings. Operational research focused on evaluating stigma-reduction strategies, the use of digital tools, and community engagement models will be crucial in informing the next generation of program improvements.

The study highlights progress and challenges in implementing Nepal's free health insurance for PLHIV. While the program has provided financial relief and improved access to healthcare, it also reveals limitations, including incomplete coverage, stigma and logistical barriers.

Similar studies, such as those by Alvi et al. (2020) and Chaumont et al. (2019), show the positive impact of insurance schemes in reducing economic burdens on marginalized groups. However, this study identifies gaps in coverage, particularly for mental health and chronic conditions, echoing issues found in Sharma et al. (2021) regarding limited benefits.

Social barriers like stigma and privacy concerns persist, aligning with global trends. As noted by Malik et al. (2023), fears of discrimination discourage PLHIV from enrolling, a sentiment echoed in Nepal, where breaches of confidentiality were reported. Targeted education and provider training could improve utilization.

While scheme provides financial relief, hidden costs such as transportation and uncovered medications remain significant challenges, like issues found in other countries. Improving service scope and streamlining operations could help alleviate these burdens.

Service delivery challenges, such delays and breaches of confidentiality in referral systems, further hinder the program's effectiveness. Participants suggested expanding coverage, increasing insurance limits and improving confidentiality and accessibility to enhance the program's impact.

Overall, while the free health insurance program has supported PLHIV, addressing financial barriers, stigma and service delivery inefficiencies is essential for improving healthcare access and effectiveness. Comparisons with studies from India and the Dominican Republic suggest that expanded coverage and anti-stigma initiatives could improve program efficacy (Alvi et al., 2020; Chaumont et al., 2019).

CONCLUSION AND RECOMMENDATIONS

In conclusion, while the free health insurance scheme has made significant strides in alleviating the financial burden of healthcare for PLHIV in Nepal, addressing the identified gaps and barriers is essential to realizing its full potential. By expanding the coverage to include a broader range of health services, simplifying the enrolment process, improving service delivery and referral systems, combating stigma and ensuring sufficient funding and service points, the program can be made more inclusive and efficient. These improvements will enable PLHIV to better manage their condition, improve their quality of life and ultimately achieve better health outcomes. With continued policy reforms and focus on inclusivity Nepal can develop a robust health insurance program that meets the comprehensive healthcare needs of PLHIV, ensuring they receive the support they need to live with dignity.

To enhance accessibility and effectiveness of Nepal's free health insurance scheme for PLHIV, several measures are proposed. First, expanding coverage to include essential services such as mental health care, treatment of chronic disease care and advanced treatments within the insurance package is crucial to address the comprehensive healthcare needs of PLHIV. This would ensure a more comprehensive approach to healthcare, addressing the diverse needs of PLHIV and promoting better long-term health outcomes. Given the high prevalence of mental health challenges and the need for chronic disease management among PLHIV, the inclusion of these services within the insurance package is vital to reducing the overall health burden.

Second, easing enrollment process is necessary to increase participation in the program. By streamlining documentation requirements and providing support for obtaining necessary records, enrollment barriers can be reduced, ensuring that more individuals can access the benefits of the program.

Additionally, combating stigma remains a critical issue that undermines the program's potential. Training healthcare workers in non-discriminatory practices and launching public awareness campaigns can help address the social stigma surrounding HIV. These efforts would foster a more inclusive healthcare environment, where PLHIV feel safe and supported in seeking care. Reducing stigma and discrimination would also encourage greater utilization of healthcare services, ensuring that PLHIV can fully benefit from insurance scheme.

Finally, increasing funding and service points is crucial to ensuring the sustainability and reach of the program. Establishing additional ART centers and ensuring sustained financial backing for insurance claims will improve the program's effectiveness and extend its outreach to underserved areas, particularly remote regions where access to healthcare services is limited. Expanding service points would increase geographical access and reduce travel-related financial burdens, thereby improving participation in the program.

ETHICAL CONSIDERATION

The study was approved by the Nepal Health Research Council (NHRC) (Reference No: 312). Written informed consent was obtained from all participants. Participation was voluntary, and respondents were free to withdraw at any time. Strict confidentiality was maintained. No identifying information was collected, and unique codes were assigned to all datasets to ensure anonymity. For surveys: unique alphanumeric codes (e.g., A1, B1) were used. For interviews: anonymized codes (e.g., IDI_PLHIV_HI_01) were applied during transcription and analysis. Participants were provided with Participant information sheet prior to data collection to enable them to make informed choice.

CONFLICT OF INTEREST

There is no any financial interest or any conflict of interest related to this paper.

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