Indonesian Journal for Health Sciences
Vol. 10, No. 1, March 2026, pp. 39-40
ISSN 2549-2721 (Print), ISSN 2549-2748 (Online)

SITUATIONAL ANALYSIS AND PROGRAMMATIC NEEDS ASSESSMENT FOR HIV/AIDS CONTROL TO ACHIEVE THE 95-95-95 STRATEGY

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Article History:
Submitted: 25/07/2025
Accepted: 10/09/2025
Published: 25/03/2026

Keywords:
95-95-95 Strategy,
Testing,
HIV treatment

ABSTRAK

Abstract:
The 95-95-95 strategy aims to control the Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) HIV/AIDS epidemic by ensuring that 95% of People Living With HIV (PLHIV) know their status, 95% of those diagnosed receive antiretroviral therapy Antiretroviral Therapy (ART), and 95% of those on treatment achieve viral suppression. Despite national commitments, Indonesia's progress especially in South Sulawesi remains below target. This study assessed the HIV/AIDS program situation and needs in Makassar City using a rapid assessment with a mixed-methods approach, prioritizing quantitative data. A total of 96 respondents completed structured questionnaires, and 13 individuals participated in focus group discussions. Findings indicate persistent barriers to testing, treatment access, and adherence, including stigma, low health literacy, side effects, and inadequate support systems. While some PLHIV reported consistent treatment and clinical improvement, non-adherence was still observed. Programmatic needs include targeted health education, supportive policies for key populations, improved communication skills among outreach workers, and non-discriminatory health services. Addressing these gaps requires community-based, evidence-driven interventions to optimize the HIV care continuum. Strengthening stakeholder collaboration and tailoring programs to the real needs of key populations are crucial to accelerate progress toward achieving the 95-95-95 targets and ending the HIV epidemic by 2030.

***Abstrak*:**
Strategi 95-95-95 bertujuan mengendalikan epidemi HIV/AIDS dengan memastikan 95% Orang Dengan HIV (ODHA) mengetahui statusnya, 95% dari mereka mendapatkan terapi ARV, dan 95% dari yang diobati mencapai supresi viral. Meskipun terdapat komitmen nasional, capaian Indonesia khususnya di Sulawesi Selatan masih jauh dari target. Penelitian ini bertujuan menganalisis situasi program dan kebutuhan populasi kunci di Kota Makassar melalui asesmen cepat dengan pendekatan mixed-methods, yang menekankan data kuantitatif. Sebanyak 96 responden mengisi kuesioner dan 13 mengikuti diskusi kelompok terarah. Hasil menunjukkan masih adanya hambatan dalam tes HIV, akses pengobatan, dan kepatuhan minum obat, termasuk stigma, rendahnya literasi kesehatan, efek samping, dan minimnya dukungan sosial. Sebagian ODHA melaporkan kepatuhan tinggi dan perbaikan klinis, namun ketidakteraturan masih terjadi. Kebutuhan program mencakup edukasi kesehatan yang terarah, kebijakan yang mendukung populasi kunci, peningkatan kapasitas petugas lapangan, serta layanan kesehatan tanpa diskriminasi. Upaya perbaikan harus berbasis komunitas dan data, dengan kolaborasi pemangku kepentingan yang kuat. Penyesuaian program terhadap kebutuhan riil populasi kunci menjadi kunci percepatan pencapaian target 95-95-95 dan pengakhiran epidemi HIV/AIDS pada 2030.

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How to Cite:
M. Azwar, Zainuddin, Y. Gassing, Munadhir, I.A.J. Amri, Y. Setiawati, "Situational Analysis and Programmatic Needs Assessment for HIV/AIDS Control to Achieve the 95-95-95 Strategy", Indonesia. J. Heal. Sci., vol. 10, no. 1, pp. 39-49, 2026.

INTRODUCTION

The global target to end the Human Immunodeficiency Virus HIV epidemic by 2030 is framed through the Joint United Nations Programme on HIV and AIDS UNAIDS 95-95-95 strategy. In Indonesia, approximately 543,100 PLHIV have been estimated, but only 44% diagnosed, 51% on ART, and 85% of those on ART achieved viral suppression in South Sulawesi by 2022 [1]. Makassar has emerged as a key hotspot with persistently low testing coverage and treatment adherence. These gaps highlight the need for context-specific evidence to optimize HIV programs, particularly among key populations [2].

However, the response to Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome HIV-AIDS continues to face various complex challenges, requiring coordinated actions at national, regional, and global levels. [3] These include expanding access to HIV prevention and treatment services, improving the quality of healthcare delivery, ensuring the availability of medication, enacting effective regulations, eliminating stigma and discrimination, and providing affordable testing and care services [4], [5].

These challenges have led to an increase in the number of HIV cases [6]. The estimated number of People Living with HIV PLHIV in Indonesia is 543,100, with a cumulative 409,857 reported HIV cases as of September 2020, representing 75% of the national estimate. Of these, 352,670 individuals are still alive, and 57,187 have died. A total of 256,536 PLHIV have initiated ART, and 45,333 of them died after starting treatment. There are 64,988 people recorded as lost to follow-up (LFU), and another 6,630 discontinued ART

A total of 352,670 individuals are still alive, whereas 57,187 have died. Among them, 256,536 people living with HIV (PLHIV) have initiated antiretroviral therapy (ART), with 45,333 reported deaths after starting treatment. Furthermore, 64,988 individuals were classified as lost to follow-up (LFU), and 6,630 others discontinued ART.

As of September 2020, only 139,585 individuals remained on treatment, and 24,246 had achieved viral suppression [7].

The epidemiological profile described above highlights the relatively poor performance of IndonWe have provided an explanation in the research method sectionesia's HIV and AIDS response compared to global targets. Field observations and program manager reports identify several challenges, including a gap between outreach efforts and the size of key populations at risk, limited operational hours of hotspots, difficulties in obtaining required identity documents (e.g., national ID, phone numbers), resistance from hotspot managers to HIV education and testing, and inadequate referrals by outreach workers [8].

In terms of treatment services, challenges include low ART coverage among PLHIV, [9]stigma from healthcare providers toward key populations seeking treatment, anxiety and unfamiliarity among key populations in accessing health facilities (such as hospitals and health centers), and health services that are often mismatched with the social realities of these populations. Regarding treatment effectiveness, low rates of viral suppression persist, compounded by limited patient understanding of treatment protocols, poor medication adherence, lack of family support, rejection due to HIV status, and feelings of hopelessness among PLHIV [10], [11].

In South Sulawesi, the estimated number of PLHIV in 2022 was 27,359. However, cascade analysis of the 95-95-95 targets shows suboptimal results: only 10,504 cases (44%) were diagnosed, 5,396 individuals (51%) received ART, and 1,194 (85%) achieved viral suppression. These issues require a timely and data-driven program design to ensure effective and efficient interventions that significantly

alter the course of the epidemic toward achieving the 2030 HIV elimination target. To obtain accurate data and inform improvements in program quality and coverage, Yayasan Mitra Husada Sulawesi Selatan, in collaboration with Impact+, conducted a rapid assessment of the HIV-AIDS program situation and needs in Makassar City to support the achievement of the 95-95-95 strategy [12], [13].

RESEARCH METHOD

The assessment design employed a mixed-methods approach (quantitative-qualitative) with a quantitatively dominant–qualitatively less design. This means that the quantitative approach served as the primary method, while the qualitative approach played a complementary role in providing contextual meaning and deeper interpretation of the quantitative findings.

The key population refers to individuals who engage in high-risk behaviors for HIV and AIDS transmission. This includes female sex workers (FSW), men who have sex with men (MSM), transgender individuals, people who inject drugs (PWID), and people living with HIV (PLHIV) who are currently being reached by AIDS programs in Makassar City. The sample was selected using purposive sampling, based on the following inclusion criteria: (1) Members of the key population who are still actively engaging in high-risk behaviors and are aware of their HIV status; (2) Willingness to complete the questionnaire; (3) Possession of an active mobile phone number (WhatsApp); (4) Residency in Makassar City; (5) Access to a mobile device compatible with Google Forms.

Structured questionnaires were adapted from the Indonesian Ministry of Health's HIV Behavioral Surveillance Survey and validated through expert review involving two senior public health researchers. A pilot test was conducted with 10 respondents from the key population to refine clarity and reliability, achieving a Cronbach's α of 0.82, indicating high internal consistency. For the qualitative component, Focus Group Discussions (FGDs) were conducted with 13 participants, facilitated by two trained moderators and assisted by a note-taker. A semi-structured discussion guide was used, focusing on perceived barriers and enablers related to HIV testing and ART adherence.

Quantitative data were analyzed using SPSS v26 SPSS Statistics Version 26, including descriptive statistics (frequencies, percentages, and cross-tabulations) and bivariate comparisons. Qualitative data were audio-recorded, transcribed verbatim, and analyzed using thematic coding based on Braun & Clarke's six-step framework, allowing integration of qualitative insights with quantitative findings.

Qualitative data were audio-recorded, transcribed verbatim, and analyzed through thematic coding using Braun and Clarke's six-step framework, which facilitated the integration of qualitative insights with the quantitative findings.

The intended sample size for the quantitative component of this study was 120 participants. However, the actual number of respondents collected during this assessment was 103, consisting of 96 individuals who completed the questionnaire and 13 individuals who participated in the Focus Group Discussions (FGDs) FGDs.

The discrepancy between the planned and actual sample size was primarily due to the limited timeframe for conducting the assessment. This gap potentially restricts the generalizability of the quantitative findings, particularly for smaller sub-groups.

When time constraints result in a more convenience-based selection within the framework of purposive sampling, it may compromise the full representation of diversity within the key populations. Consequently, certain experiences or needs may be underrepresented. Therefore, future assessments should allocate sufficient time or adjust their sampling strategies to ensure

more comprehensive representation, especially given the sensitivity and diversity of the key populations involved.

RESULT AND ANALYSIS

Table 1.
Characteristics of Respondents by Gender, Age Group, Employment Status, Marital Status, Risk Factor, and Timing of Last HIV Test

Respondent Characteristics	N=96	%
Sex		
Male	46	42.1
Female	50	47.9
Age Group		
17-25 Years	24	25.0
26-35 Years	46	47,9
36-45 Years	21	21.9
46-55 Years	5	5.2
Employment Status		
Formal Employment	29	30.2
Informal Employment	41	42.7
Unemployed	26	27.1
Marital Status		
Married	23	24.0
Unmarried	63	65.6
Widowed/Divorced	10	10.4
Risk Factors		
Female Sex Workers	45	46.9
Men who have Sex with Men (MSM)	26	27.1
Transgender	18	18.8
Injecting Drug Users (IDU)	7	7.3
Last HIV Test		
Last 3 months	46	47.9
Last 6 months	21	21.9
1 year ago	8	8.3
More than 1 year ago	21	21.9

Table 1 illustrates the characteristics of respondents based on gender, age group, employment status, marital status, HIV risk factors, and the timing of their last HIV test. In terms of gender, female respondents were slightly more prevalent, totaling 50 individuals (47.9%), while male respondents accounted for 46 individuals (42.1%). This distribution is influenced by the higher number of female sex workers (FSWs) reached during the assessment, as they constitute a large proportion of the at-risk population.

Regarding age groups, the majority of respondents were in the 26–35 year age group, comprising 46 individuals (47.9%), followed by the 17–25 year group with 24 individuals (25%). Respondents aged 36–45 accounted for 21 individuals (21.9%), and the least represented group was those aged 46–55, with only 5 individuals (5.2%). In terms of employment status, 29 respondents (30.2%) were formally employed, 41 respondents (42.7%) were engaged in informal work, and 26 respondents (27.1%) were unemployed. For marital status, 23 respondents (24.0%) were married, 63 respondents (65.6%) were unmarried, and 10 respondents (10.4%) were either divorced or widowed.

Besides these demographic characteristics, the table also presents the respondents' HIV risk factors. A total of 45 individuals (46.9%) identified as female sex workers (FSWs), 26 individuals (27.1%) as men who have sex with men (MSM), 18 individuals (18.8%) as transgender, and 7 individuals (7.3%) as people who inject drugs (PWID). Lastly, regarding the timing of their most recent HIV test, 46 respondents (47.9%) had been tested within the past three months, 21 respondents (21.9%) within the past six months, 8 respondents (8.3%) within the past year, and another 21 respondents (21.9%) had not been tested for over a year.

This rapid assessment was conducted over a period of 10 days in December 2022. The assessment process included several stages: formation of the working team, initial data identification, development of field protocols and instruments, data collection, data processing, data analysis, report writing, and dissemination of the findings [14], [15]. The assessment took place in Makassar City, which serves as one of the key intervention sites for AIDS programs implemented by Yayasan Mitra Husada and is also the city with the highest number of HIV and AIDS cases in South Sulawesi. A total of 103 respondents participated in this assessment, with 96 individuals selected as samples for the

questionnaire method and 13 individuals for the Focus Group Discussion (FGD) FGD method. This number did not reach the initially planned sample size of 120 due to the limited duration of the assessment period.

The demographic characteristics of the respondents in this study offer valuable insight into the profile of individuals at risk of or living with HIV. The gender distribution was relatively balanced, indicating that both men and women are actively involved in or affected by HIV-related health services. This balance suggests the importance of addressing gender-specific needs in the planning and implementation of HIV programs. In terms of age, the majority of respondents were in early to mid-adulthood. This age group typically represents the most economically productive segment of the population, which underscores the critical need for sustained health interventions to maintain both individual well-being and broader social productivity. Younger adults also represent a key demographic for targeted prevention efforts, particularly through education and behavioral change initiatives.

Employment status among respondents was varied, with many engaged in informal work and a substantial portion being unemployed. This economic vulnerability may increase exposure to high-risk behaviors due to financial insecurity and limited access to healthcare services. Informal employment is often associated with reduced health insurance coverage and unstable income, which can negatively impact access to consistent treatment and prevention resources. Most respondents were not married, and a smaller portion were either married or widowed/divorced. Marital status can influence risk behaviors and access to social support. Unmarried individuals may have different patterns of sexual activity or lower levels of familial support, which can affect adherence to treatment or willingness to seek services.

The distribution of risk factors highlights the inclusion of key populations in the study. Female sex workers, Men Who Have Sex With Men (MSM), transgender individuals, and Injecting Drug Users (IDU) were all represented. These groups are widely recognized as having increased vulnerability to HIV due to structural, behavioral, and social factors. Their representation in the study reflects an important focus on populations that are often marginalized in healthcare systems. Regarding HIV testing, many respondents had been tested recently, indicating an encouraging level of health-seeking behavior and program outreach effectiveness. However, a segment of the population had gone longer without testing, signaling the need for continuous education and outreach to encourage regular testing as part of HIV prevention and treatment strategies [16].

Table 2.
Distribution of Respondents Based on the Effectiveness of AIDS Treatment

Treatment Effectiveness Question n %	n	%
How is the availability of medication		
Very abundant	4	20
Available/sufficient	16	80
Lacking	0	0
Severely lacking	0	0
How is access to OI treatment for PLHIV		
Very easy	5	25
Easy	13	65
Difficult	2	10
Very difficult	0	0
How is the treatment procedure/process		
Very easy	8	40
Easy	12	60
Complicated	0	0
Very complicated	0	0
How is the role of the treatment adherence supporter (TAS)		
Very good	8	40
Good	12	60
Poor	0	0
Very poor	0	0

Are you still consistent in taking your medication		
Very consistent	14	70
Quite consistent	4	20
Occasionally inconsistent	1	5
Not consistent	1	5
Have you experienced any side effects		
Frequently	0	0
Ever	3	15
Occasionally	8	40
Never	9	45
Total	20	100

Table 2 outlines the availability of HIV medication. Among the 20 respondents, 4 individuals (20%) reported that medications were very abundant, while 16 respondents (80%) stated that medications were "available available or sufficient. Regarding access to opportunistic infection (OI) treatment for people living with HIV (PLHIV), 5 respondents (25%) perceived access as very easy, 13 respondents (65%) as easy,and 2 respondents (10%) as difficult.

According to assessment findings, medication availability remains a recurring concern among PLHIV, especially in the post-COVID-19 period. While antiretroviral drugs used to be dispensed monthly, they are now distributed every three months. Furthermore, not all healthcare facilities particularly primary health centers (puskesmas) are equipped to provide HIV treatment services. However, HIV screening services are available at all hospitals and puskesmas in Makassar City.

The table also presents data on treatment effectiveness based on procedures or flow of HIV treatment, with 8 respondents (40%) reporting that the procedures were very easy, and 12 respondents (60%) stating they were easy. With regard to the role of treatment supporters or medication observers, 8 respondents (40%) rated the support as very good and 12 respondents (60%) as good. Living with HIV and AIDS requires strict adherence to prescribed treatment schedules. The complexity and volume of medication can be overwhelming for PLHIV, making the role of a treatment supporter essential. Consistent and regular adherence to ART is crucial in controlling a virus that weakens the immune system.

In this assessment, PLHIV who had consistently taken ARV medication for several months after being diagnosed experienced significant clinical improvements. HIV replication could be suppressed, progression to AIDS could be prevented, complications from other diseases could be avoided, and the risk of transmission could be minimized. When the virus is successfully suppressed (indicating treatment success), the immune system of PLHIV can function similarly to that of a healthy individual [17], [18].

Furthermore, treatment consistency showed that 1 respondent (5%) reported being not consistent, 1 (5%) was occasionally inconsistent, 4 (20%) were fairly consistent, and 14 (70%) were very consistent in taking HIV medication. Regarding side effects of HIV treatment, 3 respondents (15%) reported having ever experienced side effects, 8 respondents (40%) experienced them occasionally, and 9 respondents (45%) had "never" experienced any side effects from HIV medication.

Improving the quality of life for People Living With HIV (PLHIV) in Makassar City can be achieved by enhancing adherence to Antiretroviral Therapy (ART) [19]. Although Antiretroviral Therapy (ART) is known to extend life expectancy and improve quality of life, many PLHIV remain non adherent to ART procedures. This issue demands serious attention from all stakeholders governments, service providers, patients, and their families to prevent disease progression, drug resistance, and treatment failure. Therefore, respondent consistency in adhering to HIV medication regimens is a critical component of successful treatment, as non-adherence is often associated with poorer health outcomes and increased healthcare costs. [8]

Quantitative findings showed that 70% of PLHIV reported high adherence to ART, while 30% reported partial or inconsistent adherence. However, the FGD results revealed several underlying barriers to optimal adherence, including persistent stigma, transportation costs, and limited counseling support. Participants described hesitation to visit health facilities due to fears of discrimination and lack of confidentiality, indicating that social and structural determinants remain critical in shaping ART uptake and retention. When compared with national-level data from the Indonesian Ministry of Health (2023), where average ART adherence among PLHIV reached 78%, the Makassar adherence rate remains lower. This suggests that interventions should be more targeted toward supporting key populations, particularly female sex workers Female Sex Workers (FSWs) and men who have Sex With Men (MSM), who were disproportionately represented in this study.

Regional comparisons highlight similar trends. For instance, a study from Vietnam found that peer-based adherence supporters improved viral suppression rates by 23%, while Thailand reported that integrating ART refills with community outreach services significantly increased treatment continuity [20]. These findings indicate that community-based approaches, which leverage outreach workers and treatment supporters, are critical to closing adherence gaps.

This integration of quantitative and qualitative findings demonstrates that although medication availability and ART coverage are improving, systemic barriers such as stigma, counseling limitations, and socioeconomic challenges continue to affect treatment outcomes. Addressing these factors through patient centered, community-driven interventions is essential for accelerating progress toward the 95-95-95 targets.

Qualitative analysis also revealed insightful variations regarding the effectiveness of AIDS treatment, offering contextual meaning to the quantitative findings. The detailed qualitative findings are explored below: Low low patient awareness about the importance of taking ART regularly is a major determinant of non-adherence among PLHIV. Family support plays a crucial role in building this awareness, highlighting the importance of family involvement in treatment routines. It is necessary to develop family counseling programs aimed at enhancing understanding of the negative consequences of discontinuing ART [21], [22].

Intensive support is particularly needed for PLHIV who face barriers to accessing treatment. Post-COVID-19, many PLHIV remain hesitant to visit healthcare facilities due to lingering health concerns. Moreover, residence location influences adherence: those living in urban areas may face fewer transportation-related obstacles and fewer disruptions in accessing therapy [23].

Side effects emerged as one of the strongest predictors of adherence. The more severe or numerous the side effects experienced during ART, the less likely PLHIV are to continue with treatment. Additionally, higher rates of loss to follow-up Lost to Follow-Up (LTFU) were found among patients without treatment observers. The severity of illness also impacts adherence, as patients with more advanced stages of disease may be less capable or willing to maintain consistent treatment routines.

DISCUSSION

Description of Needs Required to Achieve the 95-95-95 Strategy

In South Sulawesi, the estimated number of People Living With HIV (PLHIV) in 2022 reached 27,359 cases. However, analysis of the cascade targets for the 95-95-95 strategy indicates relatively low achievement rates. The performance indicators show that HIV case detection reached only 10,504 individuals (44%), ARV treatment coverage among

PLHIV reached 5,396 individuals (51%), while viral load suppression among those on treatment was achieved by 1,194 individuals (85%).

To optimize the achievement of the 95-95-95 targets, programs must be aligned with the actual needs of key populations. The underlying assumption is that need-based programming can generate stronger motivation for active participation among target groups. Therefore, it is crucial to gain a comprehensive understanding of the specific types of needs experienced by key populations in relation to HIV/AIDS prevention and control programs [24], [25]. The results of this study demonstrate a generally positive experience among People Living With HIV (PLHIV) regarding the availability and accessibility of HIV treatment. Most respondents perceived Antiretroviral Therapy (ART) to be readily available, suggesting that the health system has successfully ensured a steady and reliable supply of essential medications.

Access to treatment for Opportunistic Infections (OIs) was also viewed favorably by the majority of participants. The ease with which respondents could obtain such treatment indicates that health services are functioning effectively and responsively to the needs of PLHIV [26]. This is particularly important for managing co-infections and maintaining the health status of individuals undergoing long-term care.m Furthermore, the treatment procedures were described as uncomplicated and manageable. Respondents did not encounter significant administrative or logistical barriers when accessing their medications, reflecting streamlined processes within the healthcare facilities. Such efficiency is vital for fostering continued patient engagement and reducing the risk of treatment drop-out.

The role of treatment adherence supporters or medication companions was also highly appreciated. Respondents acknowledged the positive contributions of these individuals in encouraging and supporting consistent medication use. This points to the effectiveness of peer support or community-based assistance in enhancing adherence and emotional resilience among PLHIV. Most participants reported maintaining consistent adherence to their medication regimen. This consistency is essential in achieving optimal treatment outcomes, including viral suppression and improved quality of life. The commitment to regular medication intake reflects a high level of awareness and responsibility among the respondents.

CONCLUSION

Testing gaps, treatment adherence challenges, and persistent stigma remain critical barriers to achieving the 95-95-95 targets in Makassar. Despite improved ART availability and supportive community-based services, misconceptions about treatment requirements, limited counseling, and discriminatory practices by healthcare workers continue to hinder consistent engagement in care. Strengthening patient-centered and evidence-based HIV interventions is essential for improving program performance.

To accelerate progress toward achieving the 95-95-95 targets and reducing treatment gaps, stronger integration between community-based organizations (CBOs) and health facilities is essential to enhance early HIV testing and treatment uptake. Continuous capacity-building for healthcare workers on non-discriminatory and stigma-free services is also needed to improve patient engagement and retention in care. Improving ART distribution and accessibility through differentiated service delivery (DSD) models, such as community-based ART refills and multi-month dispensing, can reduce treatment interruptions and enhance continuity of care. Additionally, targeted communication strategies tailored for key populations including female sex workers, MSM, and transgender individuals are

critical to increasing testing coverage and improving ART adherence.

ACKNOWLEDGEMENTS

We extend our deepest gratitude to all People Living with HIV (PLHIV) who participated in this activity. Your openness and courage in sharing your experiences have been deeply meaningful in efforts to enhance understanding, improve service quality, and support adherence to HIV treatment.

We sincerely appreciate Yayasan Mitra Hudasada for its full support, facilitation, and continuous assistance throughout the implementation of this activity. The Foundation's commitment to supporting the community and advancing services that prioritize key populations has been a key strength in the success of this program. We also wish to thank the community-based organizations, outreach workers, and healthcare professionals who have demonstrated dedication and collaboration in providing inclusive and non-discriminatory services.

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