# Policy options to integrate HIV services into Social Health Insurance (JKN) in Indonesia

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## Abstrak

***Latar Belakang:*** *Setelah sekian tahun bergantung pada sumber pendaaan luar negeri, pembiayaan Program HIV AIDS di Indonesia diharapkan menggunakan sumber pendanaan dalam negeri. Skema Jaminan Kesehatan Semesta atau Jaminan Kesehatan Nasional (JKN) yang dimulai tahun 2014 menanggung pengobatan termasuk infeksi oportunistik. Pertanyaan penelitian apakah paket manfaatnya dapat mencakup intervensi kesehatan masyarakat seperti HIV tanpa menghambat penyediaan pelayanan? Implementasi untuk Program HIV yang selama ini disubsidi Pemerintah memerlukan kehati-hatian. Studi ini bertujuan untuk menganalisis skenario terkait biaya dan utilisasi pada pelayanan HIV guna mendukung kebijakan yang potensial untuk mengintegrasikan intervensi HIV ke dalam paket manfaat JKN.*

***Metode:*** *Penelitian ini menganalisis paket manfaat dan mekanisme pembiayaan terkait pelayanan HIV, keanggotaan JKN, target populasi kunci, serta estimasi premi untuk pelayanan HIV hingga tahun 2019. Studi observasional ini menghasilkan data biaya dan utilisasi dari tingkat nasional dan daerah sebagai data dasar. Peneliti membangun model dan menganalisis skenario proyeksi biaya dan utilisasi dari beragam program aktivitas HIV serta konsekuensinya.*

**Hasil:** *Skenario dikembangkan berdasarkan kelengkapan paket manfaat dan komponen mana yang bisa dijamin dalam JKN.Pelayanan yang terkait HIV saat ini sebagian besar dijamin oleh pemerintah mulai dari Konseling dan Tes HIV Sukarela (KTS) hingga pengobatan Infeksi Oportunistik. Pengobatan dan perawatan kemungkinan dapat dijamin oleh JKN, dengan bantuan pemerintah untuk pencegahan dan pelayanan ART.*

**Kesimpulan:** *Skenario dengan paket manfaat dasar akan membutuhkan biaya medis yang rasional per pasien per bulan, tergantung pada kelengkapan paket manfaat. Sebuah peta jalan yang jelas perlu disusun t untuk memastikan seluruh pelayanan terjangkau dan berkualitas baik.* ***(Health Science Journal of Indonesia 2019;10(1):67-76)***

***Kata Kunci:*** *Jaminan kesehatan semesta, pelayanan HIV, dan Opsi Kebijakan*

## Abstract

**Background:** HIV and AIDS program in Indonesia is planned to be financed by domestic sources after depending on external sources for many years. Indonesia has started its Social Health Insurance scheme so called Jaminan Kesehatan Nasional (JKN) program in 2014, that covers HIV treatment including opportunistic infection. Research question is whether JKN could expand its benefit package to public health interventions without hampering service provision. Converting HIV program that has been subsidizied by the Government needs careful considerations. The study aimed to assess scenarios on cost and utilization to support decision on integration of HIV interventions into the JKN benefit package.

**Methods:** The study assessed the current coverage and funding mechanisms for HIV-related services, JKN membership, key target populations, and estimated premium for HIV services up to 2019. We captured cost and utilization from national and subnational levels as the baseline through an observational study. Researchers developed model and scenarios on the projection of cost and utilization of various HIV program activities and its consequences.

**Results:** We developed scnearios based on benefit covered by JKN. current services mostly covered by government. The Care and treatment could be possibly covered by the JKN, with support from government for prevention and ART.

**Conclusion:** The scenarios show that provision of HIV services within the basic benefits package of JKN would require a reasonable cost per member per month, depending on the comprehensiveness of the benefit. A clear roadmap should be developed to ensure all services provided are affordable and in good quality. ***(Health Science Journal of Indonesia 2019;10(1):67-76)***

**Keywords:** Universal Health Coverage, HIV AIDS, Policy Option

Indonesia has significant number of people living with HIV (PLHIV). The Ministry of Health (MoH) [1] reported the number of new HIV cases in 2014 was 32,711 or increased 12.6% compared with 2013's cases; while the new AIDS cases was 5,494, relievely decrease about 45.9% from the previous year. The National Strategy and Plan mentioned that this country confronts two very distinct epidemics namely a concentrated epidemic among injecting drug users, sex workers, and men-having-sex-with-men outside of Papua, and a low-level generalized epidemic, with transmission among both vulnerable groups and the general population in the provinces of Tanah Papua[2]. From financing point of view, the annual spending for HIV response in Indonesia has increased from USD25 million in 2003 to USD60 million in 2009 to USD87 million in 2012. The trend in 2013 and 2014 also showed increasing spending from USD98 million in 2013 to USD107 million in 2014 [3-4]. In 2006, public funds were contributed only 25% of national spending but the trend is increasing annually up to 40% in 2012 while funding support from the international donor showed a decreasing trend. The latest data on spending for HIV response in the country showed that government contribution has increased to 52% in 2013 and 57% in 2014 [4].

Indonesia should participate and set the target of "ending the AIDS epidemic" by 2030 with three possible sub-targets related to a) reducing new adult HIV infections and eliminating new infections among children; b) reducing stigma and discrimination faced by people living with HIV and key populations; and c) reducing AIDS-related deaths[2]. The World Health Organization (WHO) stated that HIV program have opportunities to be integrated with other priority health areas, in addition to their core business of HIV prevention, diagnosis, treatment and care, and its distinct integration with maternal and child health and tuberculosis [5]. Lesson learned from othercountries shows that Universal Health Coverage (UHC) conceptis effectively ensure that all individual have access to use the promotive, curative, rehabilitative and palliative healthcare services they need, of sufficient quality to be effective, without suffering financial hardship[5-9].

Indonesia has already developed its Social Health Insurance (SHI) scheme called "Jaminan Kesehatan Nasional or JKN" since 2014 with short term goal to achieve Universal health Coverage (UHC) in 2019 [9]. Benefit package of the JKN include mainly treatment for sick people who has membership of the scheme. Typically a public health program such as HIV intervention received high subsidy from central government. Drugs, medical equipment, technical assistance are among support from central government, as well as other support that come from the Global Fund under MOH's coordination. Local government provides support for operational and maintenance of the program to its people, while the JKN scheme covers few components such as incentive for healthcare facility staffs. Currently, initiative to improve effectiveness and eficiency of the service provision has been started by identifying potential integration of financing and provision of services, including for priority programs that have been funded by government and JKN. Substantial increased of HIV AIDS cases, limited domestic resources as well as the need to improve efficiency by integrating sources of fund has lead the need to conduct this study. The policy question on financing part is whether it is possible to inlcude care provision and outlay a vertical program such as HIV and listed as benefit package of the JKN? At least four aspects need to be considered a) coverage of both targeted population and services; b) basic benefit package and the cost calculation; c) the payment methods, and d) the performance measurement. This paper discuss the Indonesian context of the potential integration of HIV program into the JKN scheme, with particular emphasize on cost implication and utilization of services.

This study drew policy options for possible integration of HIV and AIDS intervention into JKN. The objectives of the study were 1. to develop a model based on list of HIV services to be provided and options of the scenarios in the model 2. to calculate costs and its trend based on increased need and demand for HIV services for each option, and 3. to provide recommendation on proposed benefit package option of HIV intervention including per member per month additional premium for its inclusion into the JKN scheme and what would be the role of the Ministry of Health (MOH).

## METHODS

We developed a simulation model to analyze options of integrating HIV program components into benefit package under JKN scheme. The model was derived based on evidence from national level and selected samples from four provinces. Sampling frame was drawn purposively based on coverage and substantial contribution from local government (based on National AIDS Spending Assessment

data, 2015). Three public hospitals from Bali, West Java and Batam as well as two private hospitals from Batam and West Java;were selected to capture program and costs from hospital perspective. In addition, to capture primary care perspective we also collected data from eight primary health centers and two clinics in West Java and Jakarta. Data collection was done for during November-December 2014. Secondary data were analyzed to project coverage and resources used (costs). Future costs were projected based on the estimated epidemic trajectories until the next five years using 2014 data as the baseline. Cost analysis was done to capture baseline costs of current program coverage and cost of additional HIV services inclusion into the existing benefit package. The analysis was done during January-March 2015, followed by serial discussion with stakeholders to verify and confirm the model.

Analysis on the prevention category included Sexual Transmission Infection (STI) services, HIV Counseling and Testing, Harm Reduction, and Prevention of Mother-to-Child Transmission of HIV (PMTCT). Meanwhile, the treatment and care services covered elements such as screening test namely ARV eligibility, prophylaxis drugs, ARV; monitoring test namely CD4 & Viral Load (VL) testing, Opportunistic Infection Hospitalization, OI Drugs, Condoms, and consultation. Cost for each service was determined and analyzed by component, and verification of component to be covered by the JKN or from Government subsidy was conducted.

The study results were discussed in a workshop held by the National AIDS Commission involving various stakeholders involving informants officials from BPJS and program manager and staffs from MOH as well as selected hospital and health centers, and resulted a final model that derived for two scenarios. A model to calculate cost of integration of HIV services into JKN basic benefit package. After reviewing the exisiting benefit package and the nature of provision of HIV program intervention, several options were set up. Various data sources were used for the cost calculation including a rapid survey on HIV services unit cost, utilization and claims data from the JKN program, and HIV epidemic data from MOH. Estimate of coverage and its future trend were derived from analysis using Key Affected Population (KAP) and People Living with HIV (PLHIV) population data from the Ministry of Health. Membership data were estimated from JKN in order to estimate the cost per member per month, and projection analysis was carried out using the Asian Epidemic Model (AEM). Thus, epidemiology and economic scenario model were systematically analyzed and incorporated in the model to show future utilization and cost for each option application.

We consider that ethics approval was not required for this study or “not applicable” because this study used secondary data and not included any detailed, individual patient information.

## RESULTS

Mobilization of domestic resources has increased to sustain HIV program funding after external funding support graduation from Indonesia. In 2014 the Government started the Strategic Use of Anti RetroViral (SUFA) program to gradually scale up ART to all PLHIV regardless of how advanced their HIV infection. [10] It is expected that treating more PLHIV will help reducing new infections. At the same time, the Government has initiated the Comprehensive Continuum of Care (CoC) or *Layanan Komprehensif Berkesinambungan* in several sites, and which will be rolled out to more districts. Under the SUFA, HIV treatment has been expanded and the country has made substantial progress in scaling up ART coverage. MOH has developed a roadmap with clear strategies and implementation plan for (i) expanding HIV diagnostics, (ii) promoting effective enrollment and retention in HIV care, and (iii) building on the LKB. Current coverage and funding mechanism for HIV interventions were available under a mix funding scheme. Some of components, typically the treatment and care services are already paid using money received by healthcare facility through the JKN payment i.e through capitation for health center, while some prevention program activities remain reliant on donor funding. Detail description of coverage scheme of each service can be seen in Annex 1.

### Proposed Basic Benefit Package (BBP)

The proposed options of basic benefit package that includes HIV services are developed based on three considerations (i) the funding source, (ii) who will be managing the fund, and (iii) what service components to be included in the BBP.

Option 1 - Comprehensive Coverage

The first BBP model covers all HIV-related services including counseling and condoms, screening tests (pre-ARV, other basic laboratory tests), ARV treatment, STI screening tests and treatment, Prevention of Mother to Child Transmission services,

HIV (OI) services at ambulatory care and inpatient setting. This option excludes outreach activities, public/mass social behavior change activities and community prevention programs.

This option has two financing scenarios :

- Scenario A: The whole cost of above mentioned services is included (actuarially calculated) in the premium; and paid by all members. For government-assisted recipients (i.e. the poor) premium contribution will be paid by the Government.
- Scenario B: The whole cost paid by the Government.

Option 2 – Basic HIV Services Coverage

The following options describe HIV-related services to be included in the JKN benefit package:

- Option 2 a – Current Basic Benefit Package coverage plus ARV treatment and screening tests.
- Option 2 b – Similar to option 2a but exclude ARV treatment. ARV remains provided through Government vertical channeling mechanism. This option has a slight expansion of the existing package.

Financing scheme for this option will be from premium contributions and government subsidy for ARV. Other HIV-related services will continue to be financed by public (domestic) and external financing that is under the ongoing service provision mechanism.

This option is a potential start for an incremental BBP expansion; over time BBP can be expanded to include more services.

### Cost of HIV-related services

As the baseline data for analysis, data on cost from selected providers were analyzed by component to describe how much cost is actually needed to provide certain benefit package. The baseline data is shown in Table 1.

### Utilization Rate of HIV Services in BBP

The study used the Asian Epidemic Model (AEM) to estimate Key Affected Population (KAP) and PLHIV population. The model estimates 8.5 million KAP in 2014 and will be increased to 9.1 million KAP in 2019. Meanwhile, the number of PLHIV was estimated 272,000 people in 2014 and will be increased to 331,000 people in 2019 (see Annex. 2).

Table 1. Unit Cost of HIV Services

| Components | Benefit Packages | Unit Cost (Rp) |
|---|---|---|
| Counseling | Pre-Counseling | 28,834 |
| | Post-Counseling | 48,944 |
| HIV Test | Screening test | 64,336 |
| | Confirmation test | 67,719 |
| STI Lab Test | Vaginal Discharge | 45,712 |
| | Urethral Discharge | 45,712 |
| | Genital Ulcers | 39,466 |
| | Pelvic Inflammatory disease | 45,712 |
| | Inguinal Bubo | 45,712 |
| | Genital vegetation / genital warts | 191,500 |
| | Scrotum swelling | 45,712 |
| STI Treatment | Drugs | 140,922 |
| Pre-ARV Test | Rontgen | 16,679 |
| | Blood Test | 13,872 |
| | SGOT/SGPT | 15,002 |
| | Creatinin | 14,629 |
| | CD4 | 199,389 |
| | Urine Test | 46,000 |
| | Viral Load | 1,064,125 |
| | HbsAg | 136,000 |
| | Sputum | 18,937 |
| ARV | ARV 1st Line | 379,260 |
| | ARV 2nd Line | 1,389,981 |
| Side Effect Treatment | ARV 1st Line | 22,561 |
| Prophylaxis Therapy | Cotrimoxazol | 13,937 |
| | INH | 30,861 |
| Opportunistic Infection Treatment | Inpatient (Severity I) | 3,689,640 |
| | Inpatient (Severity II) | 5,693,836 |
| | Inpatient (Severity III) | 9,265,506 |
| | Outpatient | 278,178 |

### Cost Projection and Per Member Per Month (PMPM) Cost Estimate

All costs for HIV services which was calculated then multiplied with the number of KAP and this generates the total cost estimate for HIV and AIDS services. Based on this estimate, the cost per member per month is defined. The 2014 per member per month data for the option 2 as the baseline showed that with additional HIV comprehensive services the additional charge per member was approximately IDR466,6 per month or IDR5.599,2 per year (approximately equivalent to USD 0.5 where USD 1 is equivalent with IDR 10,271.64) as seen in the Table 2. Meanwhile, PMPM premium of benefit package of option 1 can be seen in Annex 3. The cost was estimated to cover comprehensive service including counseling, HIV testing, STI laboratory test, STI treatment, diagnostic test for pre-ARV, ARV treatment, side effect treatment, and PMTCT.

Table 2. Summary of the PMPM Cost in 2014

| | | Unit Cost | Utilization | PMPM | | |
|---|---|---|---|---|---|---|
| | | | Scenario 1 | Scenario 1 | Scenario 2 | Scenario 3 |
| | | (Rp) | (/1000) | (Rp) | (Rp) | (Rp) |
| Counseling | Pre counceling | 28,834 | 8.095 | 19.45 | 21.40 | 17.51 |
| | Post counceling | 48,944 | 8.047 | 32.82 | 36.10 | 29.54 |
| | Condom | 96,000 | 8.047 | 64.38 | 70.81 | 57.94 |
| HIV test | Screening test | 64,336 | 8.070 | 43.27 | 47.59 | 38.94 |
| | Confirmation test | 67,719 | 0.241 | 1.36 | 1.50 | 1.22 |
| STI Lab test | vaginal discharge | 45,712 | 0.488 | 1.86 | 2.04 | 1.67 |
| | urethral discharge | 45,712 | 0.075 | 0.29 | 0.32 | 0.26 |
| | Genital ulcers | 39,466 | 0.015 | 0.05 | 0.05 | 0.04 |
| | Pelvic Inflammatory disease | 45,712 | 0.019 | 0.07 | 0.08 | 0.07 |
| | Inguinal Bubo | 45,712 | 0.002 | 0.01 | 0.01 | 0.01 |
| | genital vegetation/ genital warts | 191,500 | 0.027 | 0.42 | 0.47 | 0.38 |
| | Scrotum swelling | 45,712 | 0.003 | 0.01 | 0.01 | 0.01 |
| STI treatment | Drugs | 140,922 | 1.918 | 22.52 | 24.78 | 20.27 |
| Pre ARV test | Rontgen | 16,679 | 0.877 | 1.22 | 1.34 | 1.10 |
| | Blood test | 13,872 | 2.954 | 3.42 | 3.76 | 3.07 |
| | SGOT/SGPT | 15,002 | 3.647 | 4.56 | 5.02 | 4.10 |
| | Creatinin | 14,629 | 1.569 | 1.91 | 2.10 | 1.72 |
| | CD4 | 199,389 | 1.569 | 26.08 | 28.69 | 23.47 |
| | Urinalisa | 46,000 | 0.877 | 3.36 | 3.70 | 3.03 |
| | Viral load | 1,064,125 | 0.877 | 77.78 | 85.55 | 70.00 |
| | HBsAg | 136,000 | 0.877 | 9.94 | 10.93 | 8.95 |
| | sputum | 18,937 | 0.877 | 1.38 | 1.52 | 1.25 |
| ARV | ARV 1st line | 379,260 | 4.350 | 137.47 | 151.21 | 123.72 |
| | ARV 2nd line | 1,389,981 | 0.107 | 12.44 | 13.68 | 11.19 |
| Side effect treatmentt | ARV 1st line | 22,561 | 0.098 | 0.18 | 0.20 | 0.17 |
| Prophilaxis therapy | Cotrimoxazole (CTX) | 13,973 | 0.100 | 0.12 | 0.13 | 0.11 |
| | INH | 30,861 | 0.100 | 0.26 | 0.28 | 0.23 |
| | **Total PMPM - Basic 2 A** | | | **466.6** | **513.3** | **420.0** |
| | **Total PMPM - Basic 2 B (excluding ARV)** | | | **316.7** | **348.4** | **285.0** |

The cost projection between 2015 – 2019 was using inflation rate at 4% and trend of utilization rate was generated after several consultation meetings with HIV-UHC Working Group. The meeting with the working group was aimed to identify factors influencing the use of services after implementation of the national strategic responses, such as expansion of ARV (SUFA) and comprehensive continuum of care (LKB).

The projection illustrates high cost to be covered by the JKN in the next 5 years and potentially will be doubled in 2019, option 1 projection can be seen in Annex 4. The analysis shows an increasing trend not only because of thecosts and increasing utilization, but also increasing number of people joining the JKN. As it was claim in 2014 claims, when UHC had just started, people accessing the healthcare facility were double compared to 2012. Future trend shows that premium (IDR730-1,000 PMPM, depending on chosen scenario) in 2019 will be 2 times higher than in 2014. This higher rate gives idea to the government to expand VCT service which also cover condom provision. Overall premium PMPM in 2019 will be higher in comparison with 2014 premium. The premium will be 3 times higher if condom and counseling service are included in the benefit package and will be 4 times higher if screening for HIV test is included in the benefit package. Other components demonstrate mild effect indicating a slight increased over the years.

Table 3. Summary of PMPM Cost, 2015-2019 (IDR)

| Option | Scenario/Model | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|
| Basic Package 2A | Baseline | 467 | 625 | 711 | 798 | 902 | 1.000 |
| | Upper Bound 10% | 513 | 687 | 782 | 878 | 992 | 1.100 |
| | Lower Bound 10% | 420 | 562 | 640 | 718 | 812 | 900 |
| Basic Package 2B | Baseline | 317 | 468 | 535 | 615 | 714 | 811 |
| | Upper Bound 10% | 348 | 515 | 588 | 676 | 786 | 892 |
| | Lower Bound 10% | 285 | 421 | 481 | 533 | 643 | 730 |

## DISCUSSIONS

The subsidy for HIV and AIDS program was mostly for providing ARV and implementing prevention program. However, financing for other program components remain depend on external support. In the past, spending for HIV response in Indonesia is dominated by three donors – the GFATM, AusAID, and USAID – that together accounted for more than 90% of total international spending in 2011/12 or 58% of total HIV expenditures of US$50.2 million. In 2012, the Global Fund alone funded 28.6% of total national HIV response (or ~ 0.4% of public expenditure on health) in the country. Indonesia will no longer obtain funding support from the Global Fund by 2020 [3]. The national HIV program achievement which substantially influenced by the work of NGOs and other stakeholders' need to be sustained. In fact, increasing funding support from domestic sources is needed, both from public and private sources. From public funding point of view, it is expected that role of central and local government shall be improved, as well as other potential sources for JKN scheme. This study revealed certain option for the JKN scheme to support its inclusion of HIV–related services with careful considerations.

The current situation on provider payment for community health center as primary healthcare provider revealed that capitation payment is one the main source of fund to support public health interventions. However, depending solely on the JKN to support such a vertical or integrated program remain a challenge. Giving a more flexibility to the health center to manage its fund will aid the program to strategically use its multiple sources of fund in implementing planned activities.

The option 2 was proposed with some reasons. Integration of HIV-related services into JKN, requires some efforts and considerations. First, continuum of care of HIV intervention includes prevention, care and treatment also all others should be covered. Procurement and accountability become a challenge the JKN payer. Second, one important issue is financial burden for HIVAIDS in the future can only avoided with a good prevention program, hence the outreach program should be continued to ensure prevention such as condom use and STDs lab and treatment are successfully achieved, which clearly have been funded and managed under Government's source of fund. Nevertheless, dealing with stigma around people, health workers in facilities in particular should be carefully managed. Third, the capacity and quality of health provision should be upgraded in many settings [10]. The next important one is a strict and transparent monitoring mechanism to ensure professionalism of the implementation (particularly for treatment care) and the Ministry of Health (particularly for prevention care) to avoid fragmentation of interventions. Besides, universal coverage context proponents should reforms partnership between government and the public communities as the effort of strengthening community systems to extend services to marginalized and stigmatized populations[10].

In addition, vertical program integration to also include HIV and AIDS issues into social health insurance will impact not only to more services that should be covered, but also to consider all matters related to health system pillars in all levels. In the aspect of human resources among others are (i) increasing work-load of health facility workforce, (ii) preparing the supportive and complementary services for HIV patients, (iii) adding more activities to control the treatment cascade for specific target population groups, (iv) ensuring that services or benefit packages are equal in every region, and (v) other region-based problems, such as fragmented services that discourage patients in getting certain services, for example, diagnostic tests in primary health care while ARV services in many regions only exist in hospital[11-13].

The researchers acknowledged study limitation that mostly because of limited number of samples and rapid changing of policy during the implementation in the country. The sample selection was not intended to represent Indonesia. The difference

between local government capacity was not ideally captured. However, as a vertical program, role of central government is critical and this situation was captured for the model developed. The scenarios and projection of the cost, utilization, and cost per member per month could be seen as input for further steps for strategic purchasing, by carefully looking at the need and demand in the future and stakeholders' acceptance. This challenge to integrate this program into JKN need further careful assessment, especially considering the trend of raising claims for treatment.

Experience from other countries showed that HIV services could possibly be managed by insurance, such as in Thailand and Vietnam[14-17]. Under tax-based system, insurer/payer could play a central role for managing payment and ensuring access for PLHIV, such as Thailand where National Health Security Office (NHSO) is the payer for national HIV program intervention and responsible for procurement and monitoring[14-15]. In other developing countries such as in Zimbabwe, increased funding from other options was suggested, such as increased ''sin taxes''that could decrease HIV related risk behaviours[18]. It was also proposed to seek potential support from social health insurance that could help attract further household resources[18].

This study revealed that the Basic Package would be possibly implemented, where all program components that included in the current package/subsidy remain available. If it is accepted, the government would remain support ART service. In the context of Indonesia, early detection is considered as part of government's role, where VCT services may best be scaled up in community-based clinics[19]. The increasing number of new HIV cases requires increasing demand for ART for adults and children with HIV. In 2009, a million extra people received ART, but 5.5 million of 9.5 million people in need of treatment worldwide did not receive ART [17]. Furthermore, because the WHO guideline recommend earlier initiation of ART, the number of people classified as in need of treatment will increase by almost half [21-22]. Financial constraints were reported to be the most significant barrier to antiretroviral adherence in patients living with HIV and AIDS in Botswana and other countries in sub-saharan Africa prior to the introduction of free treatment[21-23].

In the case of Indonesia, to ensure ART is provided timely at reasonable price is part of the underlying consideration why option 2 is more favorable. In addition, prophylaxis and side effect treatment should be included in option of basic package. Under most reasonable option, the government should seek more fund to support the program.

In conclusion, 1. Although burden of current HIV and AIDS services claims under the SHI scheme is only 1% compared to total claims, without a systematic case prevention the government will be facing potential increase of financial burden to cover treatment in the future. This means the JKN should also take part in prevention. However, this does not mean all tasks will be shifted to JKN. Some of the services are potentially managed under UHC and program that related to public health and outreach programs should remain as government responsibility.

2. Some HIV services integration into the JKN would help improve provision of treatment and care more efficient while it can be done at affordable cost. Choosing option 2 or Basic Benefit Package will increase the premium up to only 2% while Option 1 will increase 3% of the premium.

3. A clear and realistic roadmap for integration of HIV services into the JKN should be developed if it is to be done in an incremental manner in changing the funding mechanism. In addition, monitoring and evaluation plan development and other efforts should be taken into consideration such as handling the sensitive issues due to social stigmatization of PLHIV and targeted population.

4. The integration of HIV services into the JKN should be considered as a part of the efforts to develop the country's transition plan from donor dependency to ensure financial and programmatic sustainability of the National HIV response. The Ministry of Health is responsible for HIV prevention and care program, ARV provision as well as ensuring its availability and accessibility for those who need it.

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## Conflict of Interest

We declare that we have no conflict of interest

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## Annex

**Annex 1. Current Coverage and Funding Mechanism for HIV Services**

| Interventions | Service Component | Service elements | Current Coverage/Funding mechanism |
|---|---|---|---|
| **Prevention** | STI services | Diagnostic : STI tests | **JKN** and Public Financing |
| | | Drugs | **JKN** and Public Financing |
| | | Condom and lubricant | Public - Domestic and External |
| | | IEC materials | Public - Domestic and External |
| | | Consultation (Medical and Lab Technician fee) | **JKN** and Public Financing |
| | HIV Counseling and Testing | Diagnostic tests | Public financing - Central & Sub National |
| | | Condoms | Public - Domestic and External |
| | | Consultation (Medical and LabTechnician fee) | **JKN** and Public Financing |
| | Harm Reduction | NSP | Public - Domestic and External |
| | | MMT | Public financing |
| | | Condoms | Public – Domestic and External |
| | | Consultation (Medical and Lab Technician fee) | Public Financing |
| | PMTCT | Diagnostic tests | Public financing - Central &Sub National |
| | | Condoms | Public - Domestic and External |
| | | ARV | Public - Domestic and External |
| | | C-section | Public - Domestic and External |
| | | IEC materials | Public - Domestic and External |
| | | Consultation (Medical and Lab Technician fee) | **JKN** and Public Financing |
| **Treatment and Care** | Treatment and Care | Screening tests: ARV eligibility | Public financing - Central & Sub National |
| | | Prophylaxis drugs | Public - Domestic and External |
| | | ARV | Public - Domestic and External |
| | | Monitoring tests : CD4 & VL | Public - Domestic and External |
| | | OI Hospitalization | **JKN** |
| | | OI Drugs | **JKN** and Public Financing |
| | | Condoms | Public - Domestic and External |
| | | Consultation (Medical& Lab fee) | **JKN** and Public Financing |

**Annex 2. Key Affected Population Size Estimates - Targeted beneficieries (IDR)**

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| Total Population (all) | 252,073,120 | 255,461,700 | 265,499.840 | 275,537,980 | 285,576,120 | 295,614,260 | 305,652,400 |
| JKN Members (Roadmap Target) | 15% | 39% | 60% | 83% | 90% | 100% | 100% |
| JKN Members (Current & Projection) | 135,700,000 | | | 228,696,523 | 257,018,508 | 295,614,260 | 305,652,400 |
| Key Affected Population (15+) | | | | | | | |
| KAP Total | 8,577,964 | 8,694,356 | 8,809.579 | 8,924,000 | 9,037,279 | 9,148,556 | 9,257,543 |
| Total Population (15+) | 184,131,232 | 186,583,955 | 189,037.263 | 191,482,978 | 193,902,756 | 196,280,239 | 198,609,853 |
| PLHIV Population | | | | | | | |
| Total KAP PLHIV | 272,153 | 282,353 | 293.170 | 304,853 | 317,522 | 331,195 | 345,842 |
| Total PLHIV | 649,884 | 679,736 | 708.048 | 735,297 | 761,786 | 787,795 | |

**Annex 3. Summary of the Premium PMPM 2014 for Option 1 (IDR)**

| Benefit | PMPM 2014 (baseline) |
|---|---|
| Counseling | 117,03 |
| HIV Test | 44,63 |
| STI lab test | 6,84 |
| STI treatment | 25,44 |
| Pre ARV test | 175,41 |
| ARV | 187,34 |
| Prophylaxis and treatment | 1,41 |
| Total PMPM | 558,13 |

**Annex 4. Summary of Cost Projection Option 1, 2015-2019 (IDR)**

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|
| **Basic** | 558 | 747 | 850 | 954 | 1.079 | 1.196 |