

# **Health Systems' Supply and Demand Side Factors that Influence Access to Continuum of HIV Care Services among the General Population in Papua, Indonesia**

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# **Health Systems' Supply and Demand Side Factors that Influence Access to Continuum of HIV Care Services among the General Population in Papua, Indonesia**

A thesis submitted in partial fulfillment of the requirement for the degree of Master of Public Health

By

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Indonesia

Declaration:

Where other people's work has been used (either from a printed source, internet or other any source) this has been carefully acknowledged and referenced in accordance with departmental requirements

This thesis Health Systems' Supply and Demand Side Factors that Influence Access to Continuum of HIV Care Services among the General Population in Papua, Indonesia is my own work



Signature:

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## Abbreviations

AIDS	: Acquired Immune Deficiency Syndrome
ARC	: AIDS Research Center
ART	: Antiretroviral Therapy
ARV	: Antiretroviral
BPS	: Badan Pusat Statistik/Central Bureau of Statistics
CHW	: Community Health Workers
COC	: Continuum of Care
DFAT	: Department of Foreign Affairs and Trade
DFSW	: Direct Female Sex Worker
DHO	: District Health Office
FHI360	: Family Health International
FSW	: Female Sex Workers
GDP	: Gross Domestic Product
GF	: Global Fund
HIV	: Human Immunodeficiency Virus
IBBS	: Integrated Behavioral and Biological Survey
IFSW	: Indirect Female Sex Worker
KF	: Kimia Farma/drug factory
Litbang	: Penelitian dan Pembangunan/research and development institution
LKB	: Layanan Koprehensif Berkesinambungan/COC
MOH	: Ministry of Health
MSM	: Men who like sex with Men
NAC	: National AIDS Commission
NGO	: Non-Government Organization
NHI	: National Health Insurance
MHIS	: Health Management Information System
P2P	: Pembrantasan Penyakit Menular/Infectious Diseases Department
P2TP2A	: Pusat Pelayanan Terpadu Pemberdayaan Perempuan dan Anak/Central for Child and Women Empowerment.
PAC	: Provincial Health Commission
PEPFAR	: President's Emergency Plan for AIDS Relief

PHO	: Provincial Health Office
PLHIV	: People Living with HIV
PWID	: People with Injection Drug
SES	: Social economy status
SIHA	: Sistem Infromasi HIV dan AIDS/HIV Nation Health Information System
SGVB	: Sexual and Gender Base Violence
STIs	: Sexual Transmission Infections
SUFA	: Strategic for Use ARV
TG	: Transgender
UNAIDS	: United Nations Programme on HIV and AIDS
UNDP	: United Nations Development Programme
UNICEF	: United Nations Children's Fund
USAID	: United State Agency for International Development
WHO	: World Health Organization



## Abstract

### **Background**

The generalized epidemic occurred in Papua, Indonesia, with prevalence of 2.4% compared to 0.4% at national level. The government has a challenge in access of the HIV Continuum of Care (CoC) services. PLHIV who were diagnosed were 33%, 17% enrolled on ART and 7% was adhere. This study identify the influence factors from supply and demand side that contribute access to CoC services in Papua and provide recommendations on effective interventions.

### **Method**

Literature and desk review were used for this study. Ecological and WHO health system building blocks were also used as part of methodology.

### **Result**

It was identified that many Papuan has low HIV knowledge and high traditional beliefs about sickness and HIV treatment. Patriarchy culture, stigma and discrimination from family, community and health workers still exist and affected Papuan to access of COC services. Lack capacity of HIV care and limited number of health give contribution to the low number of COC attendance. The dissolution of NAC and discontinue of the international fund by 2017 become a big challenge for the GOI to respond HIV epidemic in the future. Four intervention was identified to respond the main barrier of COC: gender and stigma response, capacity building for health workers, community health worker involvement, and increase local HIV budget allocation at district level.

### **Conclusion and Recommendation**

The low access of CoC in Papua were influenced by two factors, 1) demand side: low knowledge and attitude about HIV, stigma and discrimination, and 2) supply side: lack of HR capacity and resource allocation. Integrate the SGBV component into the HIV program, increase capacity CHW through church, increasing local budget allocation for the HIV program, research access and effectiveness, anthropological study.

**Key word:** HIV, ART, testing, treatment, adherent.

## Introduction

My name is Meytha Nurani Supriyadi, before coming to Amsterdam, I am working as a National Partnership Officer Training Resource Group (TRG) for Delivering Expanded Response for AIDS Program in Indonesia (DERAP). DERAP is HIV response program which implemented in 3 province in Indonesia and one of it was Papua. My latest responsibility is working closely with GOI to strengthening HIV program in developing strategic plan and strengthening local NGOs in their organization performance.

I have spent 19 years working in community development and advocacy program. In 2013, I have been successful in working with the Government of Surabaya to increase budget allocation for HIV. Papua is a 2<sup>nd</sup> home for me. My first experience working was in Papua and I have spent 10 years of my experiences working in those Province.

Papua is unique for me, culture and natural is very difference with other province in Indonesia. Polygamy, stigma and discrimination often occur in Papua. HIV is a big problem. In 2000, HIV prevalence was concentrated at high-risk group population, and in 2010 it started to shift into the general population. Financial support for HIV program have been given for Papua from National government and Donor Aid for almost 25 years, but there has been no significant change in number of cases. The prevalence increases and people who access HIV services are still low.

As person who are concern about HIV epidemic situation in Papua, I am motivated to identify the factor that lead to low access of Continuum of Care (COC). After I learned about public health then I use public health perspective to understand the health systems supply and demand side factors that may influence access to services along the COC in Papua. And to provide recommendations for the government and NGOs to develop an effective interventions.

I believe the result that I get from the study will give positive contribution for the Papuan Government and community in increasing access to COC center.

# Chapter 1: Country Background

## A. Indonesia

Indonesia is a country located in South East Asia with a population of approximately 255 million in 2016, and it is the fourth biggest population in the world. This country consists of 17,500 islands (6,000 inhabited) separated by the equator, a location between the Pacific Ocean and India Ocean (Ananta et al. 2016). The density of the population is around 135 per Km<sup>2</sup>, 57% of the population is living on the island of Java. The GDP per capita in 2015 is around 3,346 USD with people living under the poverty lines is 11,3% (BPS-Indo 2016). The significant challenges in Indonesia are now, urban employment, irregular development infrastructure, and an unequal resource distribution among regions particularly in the eastern part of the country (Ananta et al. 2016)

Indonesia consists of 34 provinces, and four unique regions (Jakarta, Papua, Aceh, and Jogjakarta). Local governments have the authority to manage and are responsible for the provision and budgeting of public services, when the government of Indonesia began decentralization in 2001. The largest Province in Indonesia is Papua, placed in the east of Indonesia, and is bordered by Papua New Guinea (BPS-Indo 2016).

Figure1: Indonesia Map



Source: (Munro 2015, page: 337)

## B. Papua

### B.1 Demography.

Papua contributes to 1.2 percent of the total population of Indonesia that is around 3 million people. The population density is low compared to the national level, at about nine people per km<sup>2</sup>, while national density is 133 people per km<sup>2</sup> in Indonesia as a whole. Male population is 53% and 47% are women. Papua has a young aged population, almost 45% of the population is aged 0-18, and 45% is 19 – 44, and only 10% who are aged at 45+. Life expectation of the Papuan

is 65 lower than the National average of 72 years. The Papuan women have a higher life expectancy than males, age 67 for women and 63 for males (BPS-Indo 2016).

Half of Papua are Melanesia and are mostly living in the highland. Melanesia is a group of indigenous people who are residing on the Pacific Island such as Papua New Guinea and Salomon Island. The other half of the population is non-Melanesia, Indonesia settler, and they are the offspring, who live in urban and coastal areas of the province. The region is heterogeneous in culture, ethnics and linguistics. There are about 315 distinct tribal groups, and 250 local languages among the indigenous people. The majority of Papuan is Christian (84%), predominant Protestant and Catholic, while Muslim, Hindus, and Buddhist form 16% (BPS-Papua 2015).

## B.2 Education.

Despite lower than the national level, the figure of Papuan children who enroll the primary school increased significantly from 50% in 2010 to 80% in 2016, while the national scale in 2016 reached 98%. However more children in urban 97% participate in primary schools than in rural areas 76%, It is common for children to return home without getting any knowledge because the teachers were not present (BPS-Papua 2015)(kompasiana 2009) (Ananta et al. 2016). Literacy rate in Indonesia has improved over time where male literacy with 98% is slightly higher than the women with 96%, but Papua is different; males are more literate with 76% than women with 63%.

## B.3 Poverty and Income per capita.

Papua's natural-resource endowed provinces are in a paradox. In 2016, Papua was richer in terms of per capita regional GDP \$ 3.9 than the national GDP of \$ 3.6. At the same time, they were poorer than in the whole of Indonesia. The annual per capita household in Papua was the lowest in Indonesia around \$ 2,500, while the national per capita is \$ 5,987 per year. The poverty rates in Papua are also the highest in the country (28.4%) compared to the poverty rate in Indonesia 10.8%. Most of the poverty in Papua was found in rural areas, 37 percent and in urban 4.4 percent (BPS Papua 2016).

## B.4 Gender Equality

The subordination that women in Papua experience is multi-levelled and has meant that many are unable to access services and justice. A study reveals that the Highlands's women are less educated and less mobile and, therefore, have little access to information (Simonin et al. 2011). Gender mainstreaming has been implemented since 1999 and it has succeeded to reduce the gap between girls and boys at the level of elementary school, but the level of education degree, males have greater degree than women. Women have less opportunity to stay longer in school than men with the low level of education. Papuan girls are staying 1.5 years shorter in education than boys (BPS Papua 2016). The labor force in Papua is dominated by men, 56% compared to 35% Papuan women (BPS-Papua 2015). Women participation in public-decision is also low, less than 10% of women are represented in provincial parliament, at district level 12 out of 28 districts are without women in the district level-parliament (UNDP-USAID 2016).

Early marriage and dowry among Papuan girls was moderately common. One of three girls (30%) in Papua are married or in a union at an age below 18 years, while at National level, 1 of 5 girls are married at the same age (BPS-Indo 2016). The existing dowry reinforces the notion of the ownership and creates a barrier to women seeking to leave a violent relation, and some of the women are encountering violence their entire life (UNDP-USAID 2016).

## B5. Health Status

In 2015, Maternal Mortality Rate in Papua was one of the highest in Indonesia. The MMR of Papua was 362 per 100,000 while National data indicated the country overall MMR was 190 per 100,000. The infant mortality rate (IMR) for Papua was higher two times more than IMR at national level 54 compared to 23 per 1000. Under five mortality rate was high as compared to national level. The National IMR was 29 per 1000 population while Papua it was significantly higher which 115 per 1000 live birth. Mortality rate due to TB cases in Papua (25 per 100,000) was similar to national figures (26 per 100,000). Malaria incidence rate was 214 per 1000 for malaria in Papua (BPS-Indo 2016)(BPS-Papua 2015)

## B.6 Health System

Availability and readiness of health care services is a problem in Indonesia, including Papua. A National village survey in 2011 found that the 430 sub-districts (6.3%) in Indonesia did not provide primary health care and most of these were located in Papua. About 4.2% of primary health care does not have a physician in place. Lack of staff in rural areas is caused by inadequate housing facilities where around 12,000 of doctors and nurses houses were damaged (Sparrow 2012). The ratio of health workers in Papua varies, in some coastal areas the number of health staff can be higher than the national standard, while there was no doctor and/or midwife in the Highlands. In the Central Highlands, with a population around 400,000, it is only covered with 70 beds and 15 health centers with a doctor in the 13 sub-districts covering an area of 53,000 km<sup>2</sup> (Mahendradhata et al. 2017).

The participation in the National Health Insurance (NHI) in Papua is very small, less than 1% of NHI and 20% of whom are civil servants uses it as mandatory. The National Survey of 2014 reveals that 2% of the insured in Indonesia are experiencing a catastrophic expenditure on health financing and this is likely to occur in the developed provinces in Indonesia. In less developed provinces such as Papua, the catastrophic expenditure on health was very low, not due to the low morbidity but caused by the limited health care services and the difficulties in accessing the health facilities (BPS-Papua 2015) (Mahendradhata et al. 2017).

## B.7. HIV and AIDS

Indonesia has a dual HIV epidemic, a generalized and a concentrated epidemic. The first epidemic is the generalized epidemic that occurs in Papua and West Papua Province with a prevalence of 2.4% and 3.2 respectively, while the national prevalence among adults was estimated at 0.4% (IBBS-MoH 2011)(IBBS-MoH 2013). The concentrated epidemic was found in five high-risk groups: Direct Female Sex Workers (DFSW) –FSWs who directly offer the sex services such as FSW in brothels and are street based-, Indirect Female Sex Workers (IFSW) –who work in brothels or on the street-, Transgender People (TG), Men Who are having Sex with Men (MSM) and People who Inject Drugs (PWID). The two highest concentrated epidemics were 56% of the female sex workers (WPS) in the central highland of Papua and up to 55% of people who inject drugs (PWID) in Jakarta (IBBS-MoH 2011) (IBBS-MoH 2013).

## Chapter 2: Problem Statement, Justification, Objective, and Methodology

### 2.1 Problem Statement

HIV is still a serious public health challenge in Indonesia. In 2015, by the time, the HIV incident had fallen in the Asia Pacific by 5% from 2010 to 2015, Indonesia has increased a new incident in more than 40% from 2008 to 2016, And it also contributes to the new infection in the Asia Pacific region as it reached 30% in 2013, second only to India (UNAIDS 2016b).

With a population of only 1.5% of Indonesia's population, Papua contributes over 10 percent of new cases, prior to East Java (13%) and Jakarta (21%), while the rest was contributed by other 31 provinces of Indonesia (P2P- MoH 2016). In Contrast with other parts of Indonesia, Papua has the highest HIV prevalence among the general population (15-49 years age group), at 2.4% (IBBS-MoH 2013). The estimated PLHIV in Papua is 80,035, and it represents 12% of the national HIV burden (PEPFAR 2016). The new HIV cases per year in Papua from 2009 to 2016 are almost the same, around 1.000 cases (PAC-Papua 2016). In 2016 PAC-Papua reported that HIV cases among women in Papua are higher than males, 57%, and 43% respectively while at National level males are dominating at 64% compared to 35% of women (P2P- MoH 2016).

In 2014, the Government of Indonesia has responded to a global strategy to improve the quality of life of PLHIV by encouraging them to take ART in getting the viral suppression, meaning that the amount of HIV in the body is very low or undetectable, and it will prolong their life. Early diagnose, and treatment is a global program to get on the Fast Track to end AIDS by 2020. All the countries have been encouraged to establish a comprehensive package of HIV care to reach "The Triple 90' global target, meaning by 2020, 90% of all people living with HIV will know their HIV status, 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy, and 90% of all people who are receiving antiretroviral therapy will have viral suppression (UNAIDS 2016a). The Continuum of Care framework, which consists of 1) Prevention, 2) testing, 3) link to care, 4) treatment and 5) Chronic care, has been used to provide services in order to achieve universal health coverage (WHO 2016).

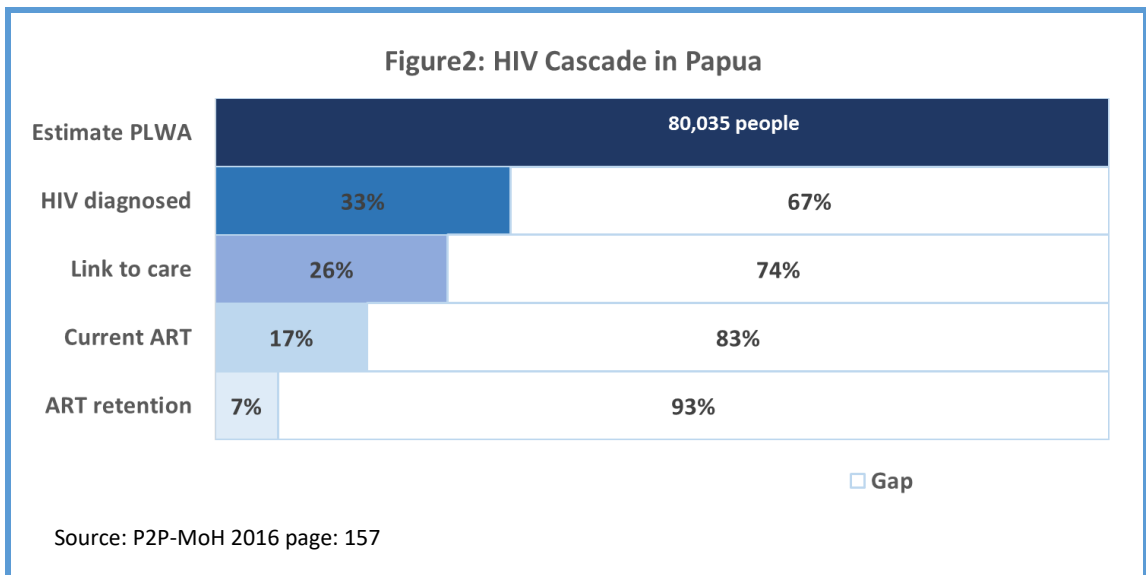
At the same time, the Continuum of Care framework, which is used as a treatment strategy, was scaled up as a prevention strategy to respond to people who are living with HIV that need ARV regardless of the CD4 count. Prior, to only people with a CD4 less than 350 were eligible, will enroll in to ART. Early diagnose is the not the only measure to stop the progression of the virus and the increase of the quality of life of PLWA but it also is crucial to condense the chance to transmit the virus to other people. Strategy for using ARV as prevention is called SUFA (WHO 2016). In 2013, the government of Indonesia namely SUFA as "*Layanan Komprehensif Berkesinambungan (LKB)*". It is a population approach program that involves the community, local NGOs, and the health service in order to find the cases, early testing and treatment, and ARV adherence (SUFA Indonesian MoH 2014). The cascade framework is used by the WHO to monitor the progress implementation of SUFA with 6 indicators (box1) below.

**Box1: Six Indicator of Cascade**

1. Estimated number of people who are living with HIV.
2. People who have been diagnosed living with HIV and received their results.
3. HIV care coverage is a number of PLWA’s who have received HIV care in the past 12 months, or CD4 count, or viral load testing, or currently receiving ART.
4. Currently with ART are people living with HIV who are currently receiving ART.
5. ART retention and the suspension, are ART patients alive and on ART at least 12 months after initiating ART.
6. Viral suppression (not adopted by the Indonesian Government, due to a high cost of the Viral Load test)

Source: (WHO 2016, page 314-315)

The achievement of SUFA/LKB is a challenge in Papua. From the total estimated PLHIV, 33% of them has been diagnosed HIV. And 26% out of estimate PLHIV have taken at least one of the HIV care such as CD4 test or viral load test. The ARV treatment was just followed by 17%. The HIV retention was low, and only 7% of people out of estimated PLHIV was adhere to at least 1 of the ARV treatments (P2P-MoH 2016).



There are several health system problems related to CoC. Generally health systems factors related to access to CoC, can be categorized in demand and supply side factors (Mikkelsen et al. 2017). In term of supply side factors, a number of health facilities that are currently initiating ART in Papua are limited, as initiation on ART is still primary provided at the hospital, which is only in the central city. Health care services do not always function optimally, as staff distribution and allocation are not based on community needs (Mahendradhata et al. 2017) (Riyarto et al. 2010).

In term of the demand side factor of the health system, there are only 9% of Papuan who know about HIV knowledge. Intervention prevention has been done, almost more than 17 years, but has not significantly changed in terms of health seeking behavior, the big gap is still present until

now (IBBS-MoH 2013)(NAC-UNAIDS 2014) (P2P- MoH 2016). Overall, the exact demand and supply side factors, are generally unknown in the context of access to CoC in Papua.

## 2.2 Justification

Despite many attempts over the past two decades, the increasing incidence of HIV and the gaps in HIV services in Papua is still a problem. By 2025, the Indonesian government has committed to reducing the HIV incidence by reaching a triple 90's global target. Meanwhile there are very limited evidence on the current condition of health care facility and HIV education on HIV are low, less than 10% (IBBS-MoH 2013). On the other hand, the Government believes that the HIV can be responded by effective interventions, which it should be developed with adequate evidence. A study is needed to explore and analyze the challenges faced by Papuans, by looking at the factors that affect demand and supply side factors in order to motivate people to access CoC.

## 2.4 General Objective

To study the health systems supply and demand side factors, that influence access to services along the continuum of HIV care in Papua, Indonesia and to provide recommendations for the government on effective interventions.

## 2.5 Specific objective:

1. To identify the demand side health system factors that affect people in Papua to access HIV services along the continuum of care.
2. To identify the supply side health system factors that influence people in Papua to access HIV services along the continuum of care.
3. To identify health systems interventions to reduce the barriers for Papua to access HIV services along the continuum of care.
4. To provide a recommendation for Indonesia policy makers, practitioners and researchers to strengthen the health system in relation to HIV services in Papua.

## 2.6 Methodology

Literature review and desk study methods were used for this study, to complete and support the study. Reference lists and academics such as Google Scholar, Pub Med and VU Library data base have been used, to find articles, and books. Several reports of information publication from the Indonesian Ministry of Health, International Organization such as UNAIDS, USAID, WHO, UNICEF and local Institution/organization such as NAC, PAC of Papua, Atma Jaya University, the University of Indonesia and personal experience with HIV, gender and SGBV researchers at universities and NGOs, have been used to complement information for this study. Several reports were used in this study, such as Indonesian IBBS report, progress report of SUFA, and a country report of UNAIDS. Personal observations due to the working experience in HIV areas are also used to complete the data.

The inclusion and exclusion criteria that were used for this study are:

Objective 1: The inclusion used to address this objective is researches published in English and Bahasa Indonesia from 2002 to 2017. The research used only studies on factors affecting the use of HIV testing and care, and the impact of gender equality and violence associate with access to COC services. The inclusion criteria used were studies conducted in low and middle income countries with the similar type of HIV prevalence such as "generalized epidemic". Publications that are not for open access were not used for this study because it requires payment. The study on risk behavior, type of gender equity, cause and impact of violence are excluded.



Objective 2: The inclusion used in this study were only published in English and Bahasa Indonesia from 2002 to 2017. To identify the health care system barriers, studies from other cities in Indonesia were also used. This is because health systems and policies in Indonesia are the same as being developed at the national level and are representative of the whole country.

Objective 3: The inclusion used for this objective were the studies published only in English and Bahasa Indonesia from 2002 to 2017. The effective interventions were searched based on four key findings identified from this study: 1) low HIV knowledge, 2) stigma and discrimination, 3) lack of capacity of health workers and 4) budget sustainability. The articles outside the HIV issue, were also used to identify the effective interventions, such as the role of the supervising health worker after the counseling's training, which has been successful in decreasing the number of maternal mortalities in Sub-Saharan Africa. The report from the government, NACs and donor agencies were also used to identify the gap of the existing intervention in order to provide better recommendations for improvement of interventions.

Study Limitations. Due to the limited published studies, in terms of access to HIV service and health system in Papua, most of the literature that was used in this study are from other cities in Indonesia or abroad. It raises a publication bias due that some of the studies were not representative of Papua. Limited language of the research can also contribute to the bias that occurred during the process selection of the literatures. The limitations of the NGOs report were also one of the limitations of this study.

The key words that were used for this study are: HIV, AIDS, ART, barrier, health system, care, access, utilization and other key words will be explained in table below. Those keywords are categorize into 3 categories: 1) HIV, 2) Continuum of Care 3) supply and demand side factors and geographic areas. In order to identify proper information, the searching process was conducted by combining two or three key words. Those key words are combined with "AND" and "OR". For example: HIV AND testing AND Indonesia, or HIV AND ART AND retention.

Table 1: Search Strategy

		Category 1: HIV	Category 2: Continuum of Care	Category 3: Supply and demand side health system factors	Category 4: Geographic areas
		AND			
Sub- objective 1: demand side factors	OR	<ul style="list-style-type: none"> <li>• HIV</li> <li>• AIDS</li> </ul>	<ul style="list-style-type: none"> <li>• Testing</li> <li>• Antiretroviral</li> <li>• ARV</li> <li>• ART</li> <li>• Care</li> <li>• Treatment</li> <li>• (ART) Adherence</li> <li>• (ART) Retention</li> </ul>	<ul style="list-style-type: none"> <li>• Age, level education, and economic status</li> <li>• knowledge</li> <li>• Perception</li> <li>• Belief</li> <li>• Relation with husband/partner/boyfriend</li> <li>• Family</li> <li>• Relation power</li> <li>• Equity</li> <li>• Equality</li> <li>• Social support</li> <li>• Community</li> <li>• Gender</li> <li>• Religious</li> <li>• Cultural</li> <li>• Norms</li> <li>• Barrier</li> <li>• Barrier</li> <li>• Supply</li> <li>• Access</li> </ul>	<ul style="list-style-type: none"> <li>• Papua,</li> <li>• Papua New Guinea</li> <li>• Indonesia</li> <li>• Africa</li> </ul>
Sub-objective2: supply side factors	OR	<ul style="list-style-type: none"> <li>• HIV</li> <li>• AIDS</li> </ul>	<ul style="list-style-type: none"> <li>• Testing</li> <li>• Antiretroviral</li> <li>• ARV</li> </ul>	<ul style="list-style-type: none"> <li>• Service delivery</li> <li>• Health workforce</li> <li>• Referral system,</li> <li>• Cost of services,</li> </ul>	<ul style="list-style-type: none"> <li>• Papua,</li> <li>• Papua New Guinea</li> <li>• Indonesia</li> </ul>

			<ul style="list-style-type: none"> <li>• ART</li> <li>• Care</li> <li>• Treatment</li> <li>• (ART) Adherence</li> <li>• (ART) Retention</li> </ul>	<ul style="list-style-type: none"> <li>• Drug</li> <li>• Health system</li> <li>• Policy</li> </ul>	
Sub-objective3: interventions	OR	<ul style="list-style-type: none"> <li>• HIV</li> <li>• AIDS</li> </ul>	<ul style="list-style-type: none"> <li>• Testing</li> <li>• Antiretroviral</li> <li>• ARV</li> <li>• ART</li> <li>• Care</li> <li>• Treatment</li> <li>• (ART) Adherence</li> <li>• (ART) Retention</li> </ul>	<ul style="list-style-type: none"> <li>• Approach</li> <li>• Intervention</li> <li>• Education</li> </ul>	<ul style="list-style-type: none"> <li>• Papua,</li> <li>• Papua New Guinea</li> <li>• Indonesia</li> <li>• Africa</li> </ul>

## 2.7 Conceptual Framework

It is essential to have a framework that can analyze the problem in a more holistic approach. This study was conducted with the help of an adapted conceptual framework, from the ecological model and the WHO health system building blocks. It has looked into the components, which describe the factors, that include the understanding of the supply and demand side. The WHO health system building blocks have been associated only with the supply side, mainly due to its affiliation with the health system.

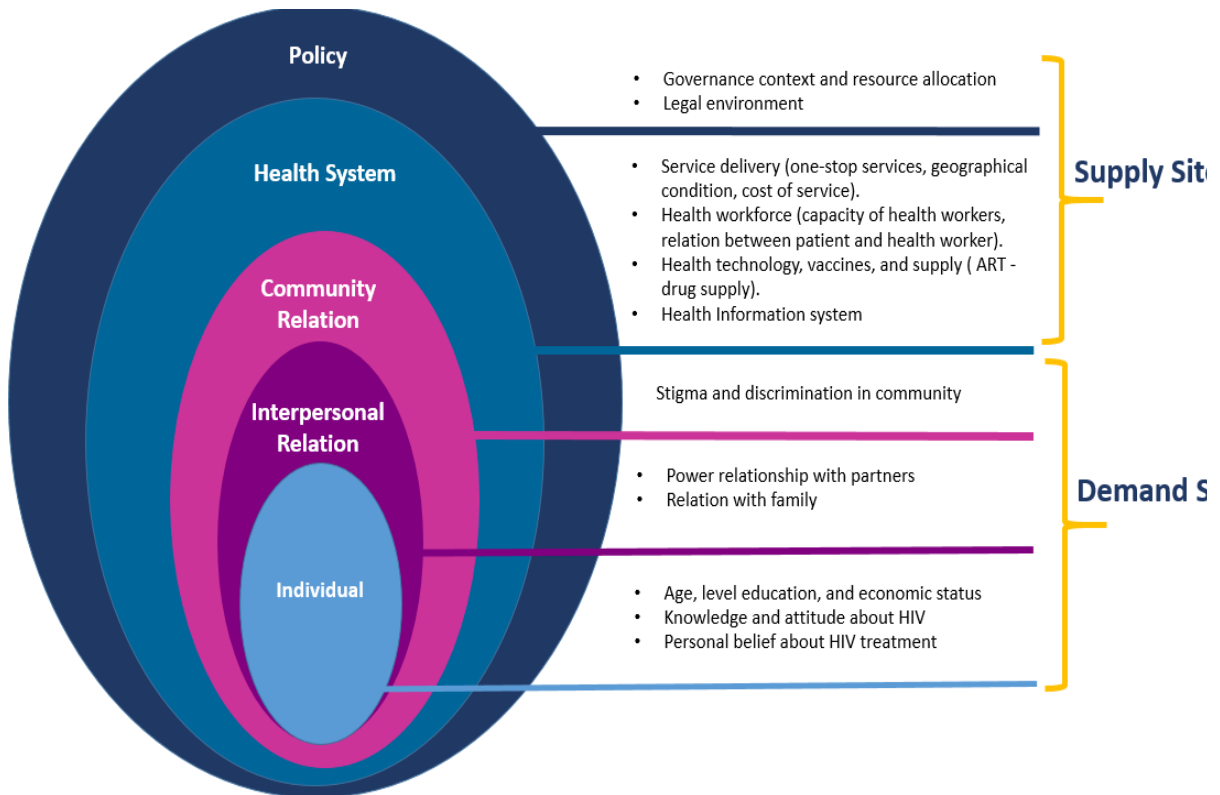
The Ecological model framework consists of five related factors. This factor is grouped into two categories; the demand and the supply side. The demand side includes: 1) individual level, 2) interpersonal relation, and 3) community relation. The Supply side covers: 1) institution-health system (health workforce, service delivery, HMIS, technology, vaccines, and medical supply, and 2) Policy that consists of government context, resource allocation and legal environmental (Baral et al. 2013)(Kaufman et al. 2014)(WHO 2014).

To analyze the demand side, this study uses the first three level of the ecological framework. And each level was used to identify the several related factors. These factors were mainly categorized into 1) individual level (age, level of education, economic status, knowledge about HIV and personal belief about HIV treatment) 2) An interpersonal relation (power relationship with partners and the family) 3) Interpersonal relation (stigma and discrimination in community) (Wellings et al. 2006)(Baral et al. 2013)

The supply side factor was used to identify issues on assessing integrated HIV services. It looked further into the service delivery (referral system, geographical condition and cost of services), health force (capacity of the health worker and relation between patient and health worker). Due to the study design, the availability of existing modern technology, vaccines were not studied. However the lack of ARV in the health centers instigated to look more thoroughly into the medical supply factor.

Overall the adapted Conceptual framework attempted to dichotomize the problem that was used to understand and find knowledge gaps, to explain the difficulties faced by the health care system of Papua Indonesia. Meanwhile, The interventions in this study have been identified based on the four main findings in this study.

Figure 3: Conceptual Framework – Ecological and WHO Health System Building Blocks



## Chapter 3: Key Findings

Regarding the analytical framework that was used in this study, several findings, that influenced the demand and supply side, in order to achieve coverage of CoC, have been identified. The findings are categorized by demand and supply side and grouped, based on five factors of the ecological framework: individual, interpersonal relation, community, institutional-health system and policy.

### 3.1 Demand side

Access of HIV care services from the demand side is influenced by three levels of the ecological model: Individual, interpersonal relation and community relation.

#### 3.1.1 Individual side

This study indicates 3 factors that influenced the Papuan Populations in accessing the HIV care center: 1) age, level of education, and Social Economic Status (SES), 2) Knowledge and attitude about HIV, and 3) personal belief about HIV prevention and treatment.

##### 3.1.1.1 Age, level of education, and social economic status.

Since there is no data that relates to age and access for HIV testing in Papua, this study uses a study from Kenya where there was a HIV prevalence in the general population (6%). The study mentioned that younger people (less than 30 years of age) are more likely to report to a HIV test, either they are active or inactive to utilize HIV care. However the social economic status (SES) did not influence people to utilize HIV care services, including HIV testing. Half of the people, who accessed the HIV testing were of middle and low social economic status (SES), compared to 50% at high SES. The study also claimed that males were less likely to attend the HIV care center than women, 40% compared to 59% respectively. The most given reason not to attend the HIV care was that it was unnecessary and too busy (61%) and lack of a HIV test site (20%) (Ackers et al. 2014)

In terms of ARV retention, age is not of influence in the Papuan population, to be more adhered on ART enrollment. A study in Mimika, Papua, among 74 PLHIV indicated people, in the age >33, are only 0.57 % adherent than respondents at < 33, OR=0.57. (Ubra 2012) Having job has no a significant relation with adherent, patients with a job is only 0.12 time more adhere than without job,  $p = 0.0005$  (95% CI: 0.02 – 0.49); OR= 0.12. The most stated reason why they were not adherent was because of working which limited them to access the health care center for a refill of ART (Riyarto et al. 2010). Retention has a significant relation with the level of education, people are more adherent when they have a high education, OR= 11.66,  $p = 0.0000$  (95% CI: 3.36 – 43.06) (Ubra 2012). The data identified is that age and level of education influence the Papuan population to access the HIV care center (for HIV testing, enroll on ART) and adhere on ART, while SES was not a contribution in accessing HIV care and ART retention.

### 3.1.1.2 Knowledge and attitude about HIV

IBBS 2013 explained that people in Papua, who can define all the HIV dimensions of the HIV knowledge, were only around 9.2%. The level of understanding of dimensions of HIV knowledge is varied. The higher the level of knowledge was found in prevention and transmission, i.e. changing sex partner, sharing needles, mother to child transmission, (66%-74%), having knowledge about treatment, i.e. early diagnoses and HIV treatment is known only by around 33% respondents (IBBS-MoH 2013)

The survey also indicated that women in Papua have a lower level of knowledge of all dimensions of HIV transmission and care than males (Table 2). Only women know more than males about HIV transmissions from mother to child, 57.9% for women and 55.7% respectively (IBBS-MoH 2013).

A study in Mimika, Papua, mentioned that knowledge about HIV included in therapy has a significant relation with the ARV adherence. People with better knowledge about the HIV treatment are six times more adherent than people who have a lesser knowledge of HIV, OR=6.4, CL95%, (1.53-37.25) (Ubra 2012). It is clearly defined that the low access of CoC in Papua is influenced by a low knowledge of HIV especially knowledge about the treatment.

Table 2: percentage of dimension knowledge of HIV transmission between men and women in Papua 2013

Other HIV related knowledge	Men (n=2884)	Women (n=2977)	Total (n=5861)
AIDS is caused by a virus called HIV	55.2	43.2	49.1
Changing sex partners can pose a high risk of HIV infection	77.8	69.5	73.6
Circumcision can reduce risk of HIV transmission	16.8	15.2	16.0
HIV can be transmitted by using needles that have been used others	73.4	68.2	70.7
A baby can be infected by his/her mother if the mother is HIV-infected	69.2	63.3	66.2
There are medicines to help people living with HIV-AIDS improve and maintain their health	34.8	31.2	33.0
Using condom does not cause bad luck if semen goes out of the vagina	39.1	25.3	32.1
HIV can be transmitted from a mother to her baby through breast feeding	55.7	57.9	56.8
The risk of mother to child transmission of HIV can be reduced by taking antiretroviral drugs during pregnancy	35.9	28.9	32.3

Source: (IBBS-MoH 2013)

### 3.1.1.4 Personal belief about HIV treatment

Beliefs about sickness may affect some Papuans who do not access the health care. Even some of them make women the victim of the violence. It is mentioned by three respondents from three difference tribes from three difference studies –Dani, Mee, Nduga tribes-:

Dani tribe (Simonin et al. 2011).

“Sickness results from the introduction of a ‘foreign agent’ in the body: yet the idea of a contagious or communicable disease is alien to them. Instead, the foreign agents are usually supernatural forces caused through sorcery or curses, which are often vengeance-based”.

Mee tribe (Kayame et al. 2014)

“Death experienced by all beings..... Akiyaa Akikida Doutow means your body guard itself..

Nduga tribe (Nurani et al. 2016).

“Any case of severe illness of the male members of the family is the result of witchcraft by the female members of the family/mother, the female members deserve to die”.

Since there was limited data from Papua to identify beliefs that may influence the Papuan population, to refuse HIV testing and stop the ART, this study used a qualitative study in Ethiopia, were three of respondents mentioned that:

“I refused to give blood for testing [CD4 cell count] ... because I did not want to lose my already depleted blood. (II 8, 35-year-old man, stopped ART)” (Yakob & Ncama 2016)

“that the virus had depleted their blood to the extent that drawing even a small blood sample for laboratory investigations adversely affected their health” (Yakob & Ncama 2016)

“Currently, the drug they are giving ... I tell you! ...It’s very strong and burns your stomach ... It makes you lose all your energy. ... That is why I stopped the drugs. (II 6, 31-year-old woman, stopped ART)” .....(Yakob & Ncama 2016).

Western Dani believes that “HIV is brought on by the Government of Indonesia in an attempt to genocide, some arguments are that HIV is injected at medical facilities where most of the staff is non-Papuan, while others argue that HIV-positive sex workers were brought from other islands of Indonesia as carriers to infect the Papuan. There is a consensus that HIV has been imported expressly to eliminate communities” (Simonin et al. 2011).

The negative perceptions about the treatment were raised from a study among 74 PLHIV in Timika Papua. It was mentioned by 40% of the respondents that they did not believe that ART could reduce mortality and morbidity caused by AIDS, antiretroviral drugs could not boost the immune system (52%), irregular medication would not lead to resistance (40%), incorrect doses does not cause drug resistance (36%), timeliness is not essential for antiretroviral therapy (42%), non-adherent does not lead the patient into the AIDS stage (54%) (Ubra 2012).

A study conducted by O'Connor et al. quoted by Latif in 2014, suggests that the positive perception among PLHIV’s, about antiretroviral drugs, makes them 3-4 times more adherent of ART than those who have negative perceptions. It obviously shows that negative perception about the HIV treatment creates a barrier for the Papuan population to access COC and stay in compliance with ARVs.

### 3.12 Interpersonal relation

An interpersonal relation in this study was recognized that two factors affect the Papuan population to access COC center: 1) Power relation with partners and relation and power and equity in family.

#### 3.1.2.1 Power relationship with partners

Polygamy and adultery are common places in Papua. It is regarded as prestigious in having many wives, a demonstrate privilege, increased power and wealth (UNDP-USAID 2016). Males have a privileged status, with regard to property ownership and education, while women have domestic responsibilities. Males are more likely to be mobile and can visit distant towns without suspicion, whereas women have less freedom of movement and therefore have a less chance to seek out health care access (UNDP-USAID 2016). Women who have never left their villages may have severe AIDS symptoms and do not know what is wrong (Simonin et al. 2011). Many women died without knowing they are HIV positive, or they just know a year after the husband death (Yakob & Ncama 2016).



There is a perception in Papua that makes women having less power than men. Women are material worth, that will change with a bride price payment obtained when they marry, healthy women are more expensive than unhealthy (Butt, Morin, Numbery, et al. 2010). A woman who is seen as not useful, dirty or committed a wrong, should be removed from the community or from the relation with the person, and this criterion is fitted within AIDS symptoms (Butt et al. 2010). Some PLHIV women try to have a good behavior and keep their HIV status away to avoid judgment and problems from the community, family, husband or boyfriend. It leads them to discontinue the HIV medicine (Butt et al. 2010) (Lubis 2016). Stigma and discrimination can further impede access to HIV test, care, and adherence. It forces HIV-infected patients to avoid service and keep the HIV status a secret for fear of being expelled by their community (Weaver & Pane 2014).

Violence and control against women has become a part of women's lives in Papua, and reduces the opportunity for women in getting a HIV test, enroll on ART and be adherent. A study among 960 Papuan women, indicates that women often experience abuse and control within intimate relationships, and that such an abuse is a normal part of intimate relationships. The most common controlling forms are insisting on knowing where they are at all times (52%) and expecting from her to ask permission before seeking health care for herself (51%) (UNDP-USAID 2016). A qualitative study, also conducted in Papua, cited there are eight Papuan women who are engaged in polygamous marriages, get physical violence –beaten- when the husband knows they plan to do HIV testing (Nurani et al. 2016)

It is indicated that patriarchal culture in Papua influences the low number of COC access, when many women do not have the opportunity to take the HIV test and be involved in ART.

#### 3.1.2.2 Relation with family

Due to lack of data related to the support of family in HIV testing, and assuming that HIV testing is confident, this study did not identify the family factor as a factor that may influence Papuans for taking up HIV testing. However, in term of ARV retention, a study in Mimika, Papua, mentioned that adherence has a significant association with the family support,  $p = 0.0012$  (95% CI: 1.67 - 17.39). Family support contributes to 5 times adherence among positive people OR = 5.24. Family support is given by father, mother, sister, brother, children, mother/father/sister/brother in law, in the form of support emotional/psychological, physical, and financial (Obirikorang et al. 2013). A qualitative study in Wamena, Papua, quoted that the family members supported her when she was sick:

“If it was time to eat, my husband’s older sister always prepared food, and my husband’s brother also helped. With them helping I never had problems with food and they never got angry. As long as we stayed near my husband’s family, usually they took care of all problems within my family and the household” (Butt, Morin, Djoht, et al. 2010)

Disclosing the HIV status to the family is not easy, some people are not ready to overcome discrimination by the family and it leads to not accessing the HIV care and stop medication (Gare et al. 2015). As mentioned by a respondent, who participates on a qualitative study in Ethiopia, who stopped the medication because he did not want his mother to know about her status:

"I stopped HIV drugs due to the inconvenience I am facing, my mother is sick, and I am staying with her to take care of her. I have not disclosed my HIV status. I have stopped taking HIV drugs because I do not want her [my mother] to discover my HIV status. (II 12, 27-year-old woman, stopped ART” (Yakob & Ncama 2016).

Although they have never shown discrimination, some family members still get discriminated behind the back of the HIV patient as mentioned by a mother of a HIV positive in Jakarta.

"If we stay/sit near (the HIV-infected people), we can be infected, can't we? I am afraid that I will be infected too, that is why I never stay near him. If I sit, I sit a little bit away from him. I also separate his clothes when I do the laundry. One of his brothers also told me that...'mom, if you do your laundry, it is better that you separate our clothes'..." (Nurani et al. 2016)

Although family support attributes to the adherence of ART it is unclear that the low number of access of the COC in Papua was influenced by the relation of power in the family since some stigma and discrimination from the family still occurred in Papua

### 3.1.3 Community relation

There is only one factor from the community relation that is discussed in this study. It is stigma and discrimination from the community.

#### 3.1.3.1 *Stigma and discrimination*

Stigma and discrimination happens among PLWHI in many countries, as a study in Papua New Guinea mentioned that 70% PLHIV have been excluded from social gatherings, 75% was reported having been excluded from religious activities, (65%) exclusion from family gatherings, (90%) there was gossip about because of their HIV status, and (90%) had been verbally insulted, harassed and/or threatened (Rule & Liriope 2016). While a qualitative study in Highland Papua, mentioned that the person who has the disease should be isolated, and no social contact, particularly if they had the contagious disease (Butt, Morin, Djoht, et al. 2010). Rule & Liriope study mentioned the discrimination occurred due to religious beliefs, but most people identified that the source of the discrimination was fear and shame, or lack of knowledge about HIV transmission. Fear of stigma makes some people to postpone or rejected some people to take the HIV test or continue medication (Rule & Liriope 2016).

The IBB 2013 in Papua cited that around half of the respondents still have barriers to accept PLHIV. They are not willing to care PLHIV (55%), or buy something from HIV positive people (40%), to allow a positive HIV teacher to continue the teaching (41%), staying together in the same house (39%), to shake hands (54%) and will not allow children of HIV positive parent to attend the same

school (44%). The interesting results from IBBS 2013 in Papua shows, that discrimination attitude toward PLHIV from women is stronger than a discriminative attitude from men. 36%-51% of women stated willing to stay, care and accept PLWHI compared to 41%-66% among males (IBBS-MoH 2013).

It is noticeably that stigma and discrimination from the community affected some people to avoid about knowledge of their HIV status, taking HIV therapy and potentially to discontinue the adherence.

### 3.2 Supply side

The in this study discussed supply side factor is categorized by six WHO health system building blocks: 1 service delivery, 2) health financing, 3) health workforce 4) drug supply 5) HMIS 6) governance and political context. This results are divided into two levels at the ecological factor: 1) Institutional and health system and 2) Policy

#### 3.2.1 Institutional and Health System

Three out of six WHO health system building blocks are discussed in this section: 1) service delivery, 2) health financing, 3) health workforce and 4) drug supply. Meanwhile the Health Management Information System (MHIS) was not discussed due to limited data on the health system study to include HMIS and time constraints

##### 3.2.1.1 Service Delivery

This study discusses two factors of service delivery that contribute to the gap of COC in Papua: “one stop services” for COC and geographical condition.

##### 3.2.1.1.1 “One Stop Service” for COC

In 2013, The Indonesian Ministry of Health issued a regulation that requires the local government to develop a COC/LKB center at any level of the health care facilities (MoH 2007). The COC/LKB centers should be equipped with “one-stop service” this means that all the steps of the COC should be provided in one health center (MoH 2012)(MoH 2007). The regulation also supports the local government to establish an ART satellite center in high HIV prevalence areas, in order to find new HIV cases and monitor the adherence of ARV (MoH 2012).

The implementation of regulation seems a challenge for the government of Papua, to respond to the low access of COC in Papua. Lack of capacity of human resources and budget constraints bound the Papuan government to only build 14 COC/LKB centers in 10 primary care centers and

Table 3: Attitude toward PLHIV by sex

Statement	Men (n=2884) %	Women (n=2977) %	Total (n=5861) %
Willing to care for a family member with HIV in their home	59.7	51.7	55.6
Buying from a shopkeeper with HIV	43.3	37.7	40.5
Teachers with HIV should be allowed to continue teaching	45.0	37.9	41.4
Willing to admit if someone ask their family member got infected by HIV	66.9	64.5	65.7
Willing to work together with someone known to be HIV positive	44.8	38.5	41.6
Willing to stay in the same house or room with a person living with HIV-AIDS	41.8	36.6	39.1
Willing to shake hand with a person living with HIV-AIDS	55.0	53.2	54.1
Willing to allow children of HIV positive parents to attend the same school with your children	46.3	41.9	44.1

4 in private hospitals to cover 26 districts. Additionally, all the COC/LKB centers were not supported as “One Stop Service” center (P2P- MoH 2016). Serological and biochemical tests, such as CD4, viral load, urological tests and other related tests that may be needed before enrolling on ART, are provided at the secondary/tertiary hospital as called a referral hospital. The first enrollment of the ARV therapy should also be performed at the main referral hospital. It means that the new ART patient has to travel to a referral hospital, where it is located, and more than 20 km from the COC/LKB. They also have to face public transportation difficulties (Ubra 2012). There are only 10 referral hospitals in Papua and they should cover 26 districts of Papua. Meanwhile the monitoring of retention and refill of ARV is provided by 88 of the ART satellite centers which are located at non COC/LKB centers at the primary and private church-based clinics (P2P- MoH 2016).

Although the regulation mentioned, that patients should be accompanied by health staff, when they access health care, but this happens very rarely due to timing and a high number of patients in the hospital (Ubra 2012)(P2P- MoH 2016).

#### 3.2.1.1.2 Geographical condition

Nearby health facilities were the most popular HIV testing venues as mentioned by 71% of the respondents in a study in Kenya (71%) (Ackers et al. 2014). A study in Papua New Guinea, the border country with Papua, has similar geographical condition. It was mentioned that 37% of HIV positive people have difficulties with transportation to access the HIV care center. Buses fare or long distance travel are the common barriers for the villages that are isolated by mountainous ranges, poor road systems and the transportation costs are generally high (Gare et al. 2015). The study in Mimika Papua, stated that 64% of HIV infected people are more adhered to ARV due to the easy access in reaching the health care centers, compared to 36% who were adhered but have difficulty in reaching health care facilities (Ubra 2012). The geographical condition and long distances to medical facilities in Papua can be the major problem in accessing the COC service, indicating the presence of a geographical barrier.

#### 3.2.1.1.3 Cost of services

Despite that Indonesia has a policy to provide free ARVs since 2003, some studies suggest that seeking care for HIV/AIDS is still a financial burden for some patients. The fact that people with HIV in Yogyakarta and Jakarta show that the average monthly expenditure on health, among households, for medical care was US\$119 and US\$158, and it was significantly higher than the monthly health expenditure mentioned in the national survey of 2007, US\$12 in Jakarta and US\$9 in Jogjakarta (Riyarto et al. 2010). The PLHIV have to pay for other services including VCT, medical consultations and examinations, laboratory monitoring and drugs other than ARVs (Riyarto et al. 2010).

In 2014 the government of Indonesia activated the National Health Insurance and it is mandatory for all Indonesians. Meanwhile a study among HIV positive people in Medan, a city in Indonesia, only half of the PLWHV (54%) participates in health insurance. People who do not have health insurance, said they are not registered due to the registration process being complicated, don't have enough money for payment, particularly when they do not work because of illness (Lubis 2016)

By contrast, a study in Merauke, Papua, Indonesia, shows the total expenditure for HIV care is only US\$ 4 per month. Most of the HIV care, is covered by a government budget -HIV tests, social health insurance which its premium is paid by the government, or supported by local NGOs who get funds from International aid (Riyarto et al. 2010). Nonetheless, a study in Timika, Papua,

mentioned that having health insurance does not influence the ART retention as stated in a study in Mimika, Papua Province where people who have insurance are more likely to not adhere (68%) than people who don't have insurance (42%) (Ubra 2012). HIV care does not lead to a catastrophic health expenditure, but it does not encourage Papuans to access HIV health care and to be adherent on ART.

### 3.2.1.3 Health workforce

There are two influencing factors that will be discussed in this session: capacity of the health worker and the relation between patient and health workers.

#### 3.2.1.3.1 Capacity of health worker

Lack of staff competency and workload, commonly occurs in many health care facilities in Indonesia, including Papua and its effect on quality of services, and thus affecting the low access of care (Riyarto et al. 2010). A study in Bali in 2015, mentioned a number of medical personal and paramedic in Bali was not proportional to respond to the workload services at primary health facilities (Sugiana et al. 2015). A staff can be responsible for many tasks such as a counselor for HIV should also do sanitation promotion. It became the reason for the District Health Office (DHO) or head of primary care to reject the integration of ART services in the primary health care as mentioned by informants from Sugianan's study in 2015.

".. We are not ready to provide HIV services. We do not only handle ARV, but we also have to monitor and overcome the side effects.. ..We do not have enough staff and our staff competence is low.. Moreover we have a lot of preventive and promotion program. Our emergency unit has to run for 24 hours. Our workload is high, and a number of staff is less.. (Informant RP8) " (Sugiana et al. 2015).

A study in Bandung among PLHIV, mentioned that an overload effected time and availability per patient during counseling and build a poor quality relation between patient and health care provider. The health care provider can not explore the patients needs and problems as well as discuss the side effects, and it thus develops a poor adherence or loss of follow up (Yuniar 2013).

MoH report stated in 2012, the COC/LKB and ART satellite centers that have trained health workers on HIV knowledge, stigma and discrimination were 29% (Litbang-MoH 2012). It is shown that a limited number of accessible health care facilities due to lack of trained health workers lead patients for early diagnoses for HIV event it was in COC/LKB center, and stigma from health provider may occur and prevents people to access HIV medication (Weaver & Pane 2014) (Ackers et al. 2014).

#### 3.2.1.3.2 Relation between patients and health workers

Stigma from health workers occur in some health facilities in Indonesia, a woman in the qualitative study in Jakarta mentioned that the doctor will be angry when a patient comes to the health center and decides to stop the medication because of side effects or forgot to drink (Yuniar 2013). A study in Bali, Indonesia, also stated stigma against PLHIV are more likely to occur from the non-HIV team such as change of the attitude and refusing the examination, curiosity towards people who are entering the counseling room (Sugiana et al. 2015).

Stigmatizing from health workers of HIV positive people is acknowledged by health workers who were asked to complete the discrimination statement in the study in Wamena, Papua. From 15 health workers, 3 of them stated that people who have HIV/AIDS are dirty, 13 said HIV people have to accept a limitation being placed on their activities, 5 mentioned the behavior of people

who are HIV positive is wrong and they will receive an appropriate form of punishment, and 3 health workers said people with HIV should be shunned (Butt, Morin, Numbery, et al. 2010).

In spite of stigma from health workers, 23% of the respondents from a study in Medan, a city in Indonesia, mentioned they still come to a health facility to gain HIV care and refill ART (Lubis 2016). This statement is reinforced by a study in Timika, Papua, which claimed there is no significant relation between stigma from health workers with the ART retention among ART patients ( $p=0.0991$ ), they still come although they are getting a stigma. However, a positive FSW in a qualitative study in Jakarta mentioned she borrows the ARV from a friend due to being afraid of the fierce health workers in a health facility (Yuniar 2013).

Racial differences also becomes one of the considerations in accessing health services in Papua. A study among indigenous people cited that Papuan prefer receiving treatment from indigenous staff, they do not trust a migrant staff, as mentioned by a respondent in the study:

“Better I do not get treatment with her (non-Papuan) because they might kill me. I do not want to care for under them, better just die.” And then they seek care from the pastor or minister instead, asking them to pray for them, so they can die in peace (Butt, Morin, Numbery, et al. 2010)

A Papuan case manager who is responsible for VCT services on the private clinic which is established by missionaries and hired many Papuan staffs, mentioned:

“... when we opened a VCT clinic in 2007, we were loaded with the patients” (Butt, Morin, Numbery, et al. 2010)

She also said the lack of understanding about Papuan and less of empathy induces Papuan to access public health service since many of them hired non-Papuan (Butt, Morin, Numbery, et al. 2010).

It is clearly mentioned that stigma, discrimination and cultural barriers in Papua effects Papua population to not attend the HIV COC center.

#### 3.2.1.4 Drug supply

ARVs in Indonesia are financed through two financial resources, the government budget and Global Fund (GF), which each of them contributing to 70% and 30% drugs supply respectively. Drugs funded by the state are produced by a single local produce “*Kimia Farma*” (KF), who provides 5 types of line1 of ARV, while a GF-funded provide the line1 and line 2 ART drugs. By coordinating with MoH, KF has a responsibility not only to produce but also to store and distribute ARV in the whole of Indonesia. It has the capacity to produce 60.9 million tablets / year and 40.625 million capsules/year including an ARV buffer stock of around 30%. KF has not been able to produce domestically active raw materials, they must be imported from India, and this circumstance leads to a long lead time production (Octaviana 2014) (Yuniar et al. 2014).

There are 2 type of ART distribution mechanism, centralization, by which all the processes are controlled by MoH, the referral hospital only sends the ARVs distribution plan, and they will receive ARV directly from KF. Another mechanism is decentralized, currently there are 12 out of 34 provinces that have ARV implemented through this mechanism, including Papua. PHO (provincial Head Office) in those provinces have the authority to buy ARV directly from KF , and KF will send it to the Provincial Health Office (PHO) or district hospital which is appointed as ART central (Yuniar et al. 2014). In the context of Papua, ART will be stored at the PHO warehouse, and it will be distributed by the PHO to the appointed secondary/tertiary hospital and the COC



health center around Papua. Meanwhile, the satellite ARVs will receive the ARV from the COC health center (Octaviana 2014)

Most of the problems faced by Papua are the lacking capacity of human resources to develop a distribution plan, the weakness on calculation on purchasing, conducting recording and controlling of drug quality such as managing the expiry date (Yuniar et al. 2014).

#### 3.2.4.5 HIV information system – SIHA

In 2013, Indonesia government launched SIHA (*Sistem Informasi HIV dan AIDS*). And now this system has integrated with National HMIS in Indonesia and very helpful and useful in order to provide the up-dated date about HIV. Unfortunately it only works in some area where supported by technology access, SIHA is web-based system. This system didn't worked well in Papua, particularly when it wasn't supported with skilled health worker (personal observation).

### 3.2.2 Policy

The policy level in this study is discussed based on two out of six WHO health system building blocks: 1) leadership context and resource allocation, and legal environment.

#### 3.2.2.1 Governance context and resources allocation

The HIV program in Indonesia was coordinated by the AIDS Commissions which was established at national, provincial and district level. The AIDS Commissions play a major role in advocacy to encourage the government to commit in responding to the HIV epidemic and to increase the budget allocation for the HIV program. Since 2015, the National AIDS Commission (NAC) received funding from GF to lead and collaborate with local NGOs to carry out the HIV prevention program in Indonesia. Almost all the local NGOs that are working on the HIV program received money from GF. Unfortunately, in December 2017, GF will discontinue its support to Indonesia and at the same time the Indonesian government dissolves the NAC (Kita Setara 2017). There has been no decision on how the HIV program coordination will work. However, Provincial and District governments are still given the freedom to run HIV programs as their needs and funded (Djumiti Musiah 2014)

Indonesia has two main sources of HIV funding, the first source comes from the government budget - National and local government - which accounts for 52% of the fund, and the second source (43%) comes from three major donors: Global Fund (GF), USAID and DFAT. Most government budgets are used for infrastructure, human resources, operational costs and care for HIV. The Donor budget is used for research, provision of ART, and prevention programs. Most of the donor funds go to local NGOs (PEPFAR 2016).

Since Indonesia is part of a low-income middle-income country, some donors are beginning to stop their funds, such as DFAT, who allocated most of their money to Papua, ending the funds in 2013, followed by GF in December 2017 (Djumiti Musiah 2014). The lack of coordination and limited funds for the HIV program in the coming year seems to be a challenge for government to overcome the big gap of COC services

#### 3.2.2.2 Legal environment

Since 2010, almost all the brothels, in many districts in Indonesia, have been closed down by local governments, and it has an impact on the declining access to HIV care and STI services for FSW. Reducing the access of STI and HIV care services from 5050 test in 2013 to 228 in 2015 in 3 cities in Indonesia, was indicated by a declining number of STI screening among FSWs in Jakarta since all the brothel were closed (ARC Admajaya 2016). The referral system, which had been established in the brothels, was not running, the STI examination for FSWs and distribution of condoms are

stopped because the FSWs and the pimps leave. Although some FSW who still lives around closed prostitutes, are still engaged in commercial sex, they did not come to the health services due to fear of being caught by the security forces. Health workers faced difficulties to remind some HIV positive FSW to take medicine and giving support for adherence. They do not know where to find FSWs since they are spread (ARC Admajaya 2016) (personal observation).

### 3.3. Intervention

Regarding the study result, this study identified four interventions that have been implemented in Papua but seem to be improvement. To understand the gap of intervention, this study also search similar intervention from other countries that may become recommendations by government of Indonesia and Papua in order to respond the gap of COC service in Papua.

#### 3.3.1 Gender and Stigma Response.

In order to respond to gender equity and violence, in 2012, Indonesian Ministry of Women's Empower and Child Protection was developed as a service center for the Women and Children Empowerment program called P2TP2A. An integrated approach was developed and implemented by linking inter-related sectors such as the health women's affairs, education, labor, justice, police department, women organization and local NGOs at national and provincial level (Utami et al. 2016). Unfortunately, not all the provinces can implement the program well, such as in Papua. The coordination system needs to respond to inequality and violence that did not go well, women who reported cases of discrimination and violence were never followed, the victim was allowed to return home without any treatment and support (UNDP-USAID 2016)

#### 3.3.2 Capacity Building for Health Workers

The health worker has played an important role in the success of treatment whereas its performance affects the outcome of health care service (Blacklock et al. 2016). A study in Guinea-Bissau mentioned that improving the health workers performance contributes to a declining mortality in children from 10% to 5%,  $p < 0.01$  (Blacklock et al. 2016). The study also identified three components that affect the outcome of health care service: the quality of counseling, training, and supervision. MoH states, in 2013, only 29% of health facilities in Papua had trained staffs for HIV counseling and testing. A study in Sub-Saharan Africa mentioned that HIV counseling requires, not only needed skills, but is also emotionally draining, which is not provided in training (Zwarenstein et al. 2011). It gets worse if the health staff should carry out more than one responsibility as is common in Indonesia. Post-training supervision also contributes to building a good performance of the health care staff in order to provide a good outcome. As observed by a study in Guinea-Bissau, supervision after training reduced the maternal mortality rate from 10.3 per 1000 to 6.8 per 100,  $p = 0.05$  in Mali, Senegal (Dumont et al. 2013).

#### 3.3.3 Community Health Worker Involvement

The Community Health Worker (CSW) is a potential response to overcome health problems in several countries. It has been widely applied in many settings of the health program. CHWs either have complemented the work of formally qualified health workers or assumed specific responsibilities (Mwai et al. 2013) A systematic review in Sub-Saharan Africa mentioned that the role of the CHW was successful in strengthening the health systems (Holmes et al. 2011). CHWs give a contribution in case finding of HIV patients, referral to HIV testing, ARV adherence, psychological support and stigma responses (Mwai et al. 2013). A



In Indonesia this concept is called a cadre and was officially supported by government as a component of the COC/LKB scheme (MoH 2012). Although CHW is under supervision by the primary health care facility, they are not officially health staff, and it rids them of payment and opportunity to get training (Mwai et al. 2013). In 2012, MoH mentioned that there are only 18% out of 294 primary health care facilities in Papua that provided training for CHW (Litbang-MoH 2012).

In Papua CHW are mostly associated with the church community (personal observation). However, some churches in Papua also provide health care services, and some of them have been established as ARV satellites (Yuniar et al. 2014). Respect for the church leader encourages people to seek information and access to health services, which are provided by the church (Simonin et al. 2011). It is recognize that CHWs from the church had a positive effect on encouraging people to access health services (Gare et al. 2015).

#### 3.3.4. Increase local HIV Budget Allocation at District Level.

It was observed that an increasing budget allocation from local sources, was potential to be impended in responding to a budget allocation gap for the HIV program. Some districts in Indonesia have been successful in managing and increasing a budget allocation for a HIV program from a local budget. For example in Surabaya, it was successful to raise a budget allocation of \$146 thousand in 2012 to \$1 million in 2013. This allocation was performed with the exercise of different activities such as an assessment of community level, review of policy, calculated budget allocation and cost effectiveness. The findings and results were presented to legislation and executives. The implementation was carried out for activities that were mainly involved in different related sectors, organizations and institutions.

## Chapter 4: Discussion

The discussion has been interpreted with results found from the study, mainly with four factors of the conceptual framework that influences the population of Papua to access COC. It is categorized into the demand and supply side. Two main factors that cause low access of COC from the demand side are knowledge and attitude about HIV, and stigma and discrimination from the community combined with the relation with the family factor. Meanwhile, the supply side is mostly influenced by the lack of health workforce in terms of the quality of health care services and resource allocation.

In terms of the demand side factors, knowledge and attitude related to HIV seems a crucial factor that influences Papuan population in accessing the COC service. But relation between knowledge and access to COC seems varying. People in Jakarta, in the urban city, who have a better understanding about the HIV test and treatment are still ignored access to COC. The conservative attitude about HIV seems to influence people in taking action for many types of medication, although this will give a negative effect. In the of context of Papua, the negative effect is that people believe that killing a woman as family member will destroy the diseases present in their place, while in other cities in Indonesia more people believe that going to a traditional healer yields a better treatment. It is arguable that the lack of information on HIV, influences the low number of COC access in Papua. There is no particular study that explores relations between HIV knowledge coupled with availability of testing and steps to ARV treatment.

Gender power relationships between men and women in Papua showed a pivotal role in accessing health care services for women. Considering the hierarchy within the family, males often imposed restrictions on women in accessing HIV testing. It was observed that women were likely to suffer violence if they accessed HIV services without prior approval from their husband. Polygamy and adultery are common in Papua. Restrictions on access to health care are not limited to monogamy relationships but also to women who live in polygamy and adultery relations. It is indicated that more women could not access the health care center because of this. The gender power relation was strongly associated with the lack of support which led to a negative impact on the access for HIV testing and continuation of ARV treatment among women in Papua.

Stigma and discrimination for the PLHIV plays an important role among people in Papua in accessing the COC. Some PLHIVs have experienced physiological and physical assault from their family as well as community members due to their HIV status. They were often excluded from social gatherings and religious activities. Fear of stigma and discrimination often made people ignore their HIV status and their rights to receive HIV treatment. It is not only because of fear of HIV, but also due to bad perceptions of being infected by HIV such as prostitution, homosexuality and drugs use. In some cultures, prostitution and homosexuality are not accepted and against social norms. Culture and social norms have induced self-stigma and influenced people to avoid HIV testing and ART treatment. Stigma from the family and community members makes women hide their HIV status. And thus influence their adherence to the ARV treatment, and lost follow-up increases.

The stigma from health care service providers also exists in Papua. Some health workers believe that PLHIVs are dirty, their activities should be restricted, and their behavior is wrong, they deserve to receive a punishment and should be shunned. Although it is instigated by health care workers, who are not working in HIV clinics and by untrained health care providers, it is very crucial that the most important role of the health care worker is to provide a better health care service in order to produce a better health output among the general population.

Lack of more comprehensive knowledge of health care providers, in responding to SGVB, hinders supportive care. Some women who experienced rape, did not receive prophylaxis or an emergency contraceptive pill, to protect them from HIV and pregnancy. The lack of knowledge, on how to handle

violent patients, can be traumatizing among health care providers. It generates a major gap in access and in providing comprehensive approached HIV care in order to have a more productive outcome.

In terms of human resources for health, there is a low number of people accessing HIV testing and treatment in Papua due to unskilled and limited health workers, in providing health care services. Lack of knowledge, skills and increase workload, frequently occurred among health workers in Papua. Unskilled and limited health workers in Papua can be influenced by poor management of human resources. Lack of human resource capacity has occurred due to the centralization process of human resources, a planning that is implemented at the National level. Health care workers recruitment in Papua, seems not to be pragmatic, and cannot capture local resources to be recruited. As a result, culture and language barriers occur, when most of its staff are migrants and harness bad relations between patients and health workers. Low salaries and incentives can also be another factor, affecting motivation and poor delivery of proactive HIV services.

Another supply side factor is the domestic resource allocation that can be a challenge for the government of Indonesia. The global fund decision, to end their program in Indonesia in 2017. The responsibility of the NAC, which ends with the end of global fund support and dissolution of NAC by GOI, raises questions about the prospect of HIV planning and the strategy in Indonesia. It will reduce the prevention program, nearly half the HIV programs are funded by external donors. And there are no future responsible bodies, assigned by the government, to tackle the HIV epidemic in the country. The provision of antiretroviral therapy (ART) seems to be a problem with sustainability. Indonesia's dependence on external funding is still high. It will be a big challenge for the government to meet the budget needs once the external funding is withdrawn.

For some international donors for the HIV program such as GFTAM, USAID, the Papua region is in their main political agenda. It could be inferred due to a high HIV prevalence and low HDI (Human Development Index) in the region. The funding provided by the donors, to conduct the HIV program, did not show a responsive HIV service to the Papuan population. It showed no improvement on reducing the HIV incidence in the region. Despite of all the support from the donors, the HIV program is too far behind to achieve the universal indicators.

These conservative HIV responses alone are not sufficient to minimize the HIV incidence because they used a wrong approach. The previous approaches do not address the specific cultural and social context within the Papuan population.

In term of interventions, it was found that there are four interventions identified to respond to the main barriers ; gender and stigma response, capacity building for health workers, community health worker involvement, and increase local HIV budget allocation at district level.

This study also identified that Intervention on stigma and discrimination response has been implemented in Papua. There is still a gap in addressing the SGVB and gender equity. There is a lack of technical working groups between different implementing partners. A different agency such as the SGVB & Women empowerment based organization, NGOs working in the field of HIV, and health care services, do not share the regular update about their activities mainly due to lack of communication. These agencies work independently without any coordination, which leads toward the lack of integrated based health care services. For example, some of the NGO staff did not know how to respond to gender inequity even if they knew that the patient was violated. They only focused on mobilizing people to attend to the HIV care center for HIV testing and treatment, but did not help patients to solve the gender inequity and inequality, which occurred more in Papua. Gender inequity and inequality had a major impact on creating barriers for people to access the health care center.

Evidence shows that a study from sub saharan africa was successful in conducting a HIV program in a more responsive way, by involving CHWs (Blacklock et al. 2016). The CHW program was effective on case finding, monitoring the retention, ARV intake and timely referral to a HIV service center. In Papua the CHWs are mostly attached to a church. As provinces have a majority of population that are Christian, the church has an influencing role, to mobilize people to be included to access health care services. "Champions" such as religious leaders have a significant influence in increasing utilization of the HIV care for the indigenous people. These effects are mainly observed because of the involvement of their respected figure of the society, it has led Papuan to be more confident to utilize the HIV care. By adopting the CHWs concept in church this can be a potential approach for Papuans in order to increase the HIV knowledge, reducing conservative beliefs, and to encourage people to go for early HIV diagnose and treatment.

Lastly, Lack of a future government planning for the HIV response in Papua and discontinuity of the financial support of the Global funding assistance will jeopardize the HIV interventions. For example, the involvement of local government in the planning, implementing, monitoring and budgeting of the HIV program in Surabaya can be a model for increasing the government's commitment to response to the HIV epidemic in Papua. Participation of civil society should increase and be strengthened and there must be a good relationship with different stakeholders and organizations, this will be a great help to improve access to COCs in Papua.

There are many factors related to the supply and demand side, which are not covered in this study, such as relationships, the health workforce workload and cost-effectiveness of the HIV prevention program in Papua. This may contribute to the demand and supply side in order to influence people to access COC.

## Chapter 5: Conclusion

The high gap of access to health care services, for the population of Papua, who seeks HIV care at COC service centers, has been caused by several factors. It was observed mainly in two categories a) demand b) supply side.

Demand side was influenced by two factors: 1) Low knowledge of HIV and conservative faith about being sick, and 2) gender equity, stigma, and discrimination factors. Many people of Papua do not know that being sick and death due to HIV can be prevented by treatment. The idea that the HIV disease is a usual occurrence has created misconception in individuals who are sick due to HIV thinking that it is not important to be treated. On top of it, the adverse effect of ARV fuels the belief that it makes you stronger if not taking the ART. Lack of knowledge and conservative perception about HIV influenced the Papuan population in seeking HIV testing and treatment

The patriarchal society in Papua has shaped the Gender inequality and inequity for the women, this leading to having less opportunities to access the health care services. It reflects on a major human right violation for the women in Papua. Gender based violence was more apparent if the woman would access the HIV services without prior approval from their spouse. Stigma and the fear of being able to be outcasted from society was another major influencing factor for women not to attend HIV clinics.

In terms of supply side, there was a limited number of COC services. It was mainly due to the difficult geographical location. It was further aggravated by the lack of trained health care providers. The workload for the limited qualified health care providers was high. Besides providing the clinical services, the health care worker was also involved in other health promotions and administrative activities.

The incidents, such as stigma and discrimination by the non-HIV service providers in the health center, were still prevalent in the Papuan context. Cultural and language differences were the other obstacles to deliver the message and build trust between healthcare workers and patients.

The funding from the Global fund for Indonesia is getting regressive regarding providing financial support in the near future. The Government has not prioritized the future funding mechanisms for the ARV in the country. If the government does not take action to increase financial support for HIV treatment, there is the possibility of lack of HIV prevention programs and a ARV drug rupture in the country.

The dissolution of NAC by 2017 seems to become a big challenge for the government of Indonesia to respond to HIV epidemic. It will likely amplify the HIV epidemic in the Papua as well as in Indonesia without HIV focused governing body. It will create more challenges in the future to control and halt the epidemic of HIV in Indonesia.

In term of interventon, It was found that there are four interventions identified to respond towards the main barrier ; gender and stigma response, community health worker involvement, capacity building for health workers, and increased local HIV budget allocation at district level.

## Chapter6: Recommendation

1. The government and NGOs should integrate the SGBV component into the HIV program under the memo of gender equality, human rights, and equity.
2. The government and NGOs should harmonize the implementation of the SGVB and HIV program with different stakeholders and implementing partners such as Local NGOs.
3. The Provincial Health office should build the CHW capacity and strengthen the already existing church based CHWs with more HIV training and support. And helping to increase the number of CHWs by providing financial support to the Church.
4. The Provincial Health Office should take initiative in empowering the Church CHWs by involving them in the decision making process for their training, monitoring, planning and evaluation of the program.
5. The National government should involve the local government in determining the criteria of recruitment and calculating the human resources that is needed to avoid the workload of the service provider. There should be the consideration of difficult geographical conditions of Papua on the recruitment of motivated human resources.
6. The Local Government should use the creative innovation such as a financial incentive that will be needed to motivate health workers to increase the retention of the health workers in Papua.
7. The end of the Global fund support by 2017, the sustainability of the HIV program in the prospect of the country. The national government of Indonesia has to take possible actions such as lobbying to the local government on increasing their budget allocation for the HIV program.
8. The National government needs to include the financing and management of drugs and medical equipment procurement for HIV programs into the national health insurance scheme to ensure uninterrupted HIV Services for the national HIV response.
9. The national government should research access and effectiveness of the HIV program for the population of Papua. It should be based on an anthropological study that needs to identify the barriers of health seeking behavior from a different perspective.

## Appendix A – Reference

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