CHAPTER II

GLOBAL INFLUENZA SURVEILANCE NETWORK

The explanation in this chapter consists of three subtitles which are the mechanism of Global Influenza Surveillance Network. In this title it will explain about the mechanism of Global Influenza Surveillance as in general. The second title is the implementation of global influenza network mechanism in Indonesia towards avian influenza cases. In this title it will explain the implementation of global influenza network mechanism also the struggle of Indonesia government against the mechanism injustice. And the last title is the ideal of virus sharing mechanism. This title will explain how actually the ideal virus sharing mechanism should be used by WHO in dealing with the avian influenza cases.

A. The Mechanism of Global Influenza Surveillance Network (GISN)

The development of new period has brought many kind transformations significantly from international society. The transformation happening definitely will causes many complex problems that influence the human live. In order to face this condition there must be a kind of solution to overcome it. One of the complex problems faced by the international society is the health problems with the emerges of many kinds of disease as a threat to human life.

One of the problems faced by international society recently is related with the emerge of seasonal influenza. Seasonal influenza, commonly called "the flu," is caused by influenza viruses, which infect the respiratory tract like the nose, throat, lungs. Unlike many other viral respiratory infections, such as the common

cold, the flu can cause severe illness and life-threatening complications in many people.

History suggests that influenza pandemics have probably occurred during at least the past four centuries, with heavy victims of human life. The highly pathogenic avian influenza, which was first recognized in Italy in 1878, is extremely contagious in birds and rapidly fatal, with a mortality rate approaching 100%. During the 20th century, three influenza pandemics have occurred among humans.

The spreading of influenza globally has begun since in the end of 1800 and at the beginning of 1900 has been happened avian influenza outbreak in Europe. Europe has become avian influenza enzootic area which attacked until 1930. In Asia there has been avian influenza infection which contaminate human like what have been reported in some states like Hongkong, China, Vietnam, Thailand and Indonesia causing victim. The loss caused by avian influenza outbreak in the world has many high impacts, in Asia it caused many dead poultry with highly contaminated area. Society panicity also caused great economic loss because of lower demand impacted by people fear and the difficult of marketing and also in the abroad.

At this last ten year, avian influenza has indicated the stages of virus growth from H1N1 type become H5N1. This changing has made avian influenza infect wild poultry and farm in east Asia, South Asia, Europe and Africa. According to the data from WHO, avian influenza has three phases conditions from the estimate

of six pandemic phases global growing. This data means that avian influenza has been detected in human.

The spreading of avian influenza which has been caused by HPAI (Highly Pathogenic Avian Influenza) in Asia, has caused the emergence of disease outbreak which spread around the world. At the same time Rusia and Kazakhstan also reported the outbreak cases caused by H5N1, attacking the poultry in the middle 2005. Almost at the same time in Mongolia also reported that H5N1 virus was detected migrated bird.

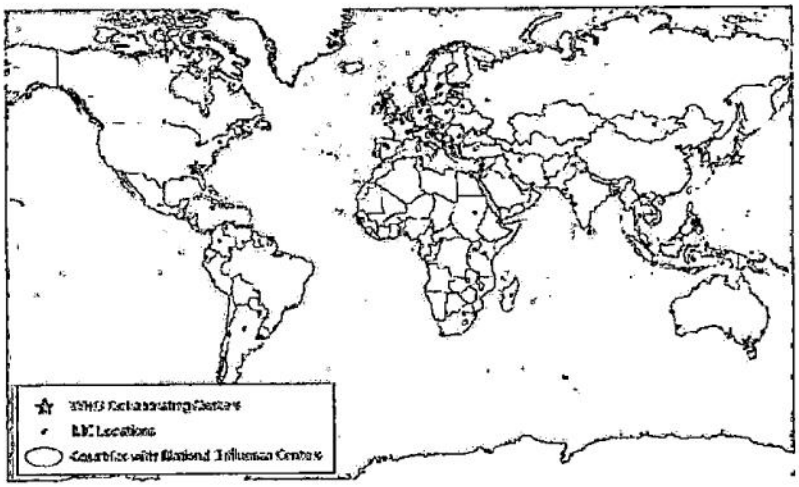
On October 2005 H5N1 virus also has been confirmed as the cause of pandemic which attacked poultry in Turkey and Romania. In Turkey until January 2006, it has been reported 32 people are affected by avian influenza virus with subtype H5N1. Meanwhile the country which was infected pandemic generally happened in various conditions. Epidemic disease which emerged has high risk not only in economic factor but also human health which can threaten society social life and also politic. Avian influenza academy also spread in Africa region like Nigeria as the first state which has been infected by the epidemic.

With the emergence of epidemic, it makes WHO have important role as international health organization on solve that problem. WHO in the pandemic preparation has mentioned about the readiness in facing influenza pandemic is really important in reducing the influenza virus spreading. The readiness in facing this avian influenza pandemic will hopefully help to suppress the number of cases spreading. Beside that WHO also help to suppress the effect on economic and

social field. The pandemic will affect in impoverishing the state as the impact of surveillance and handling activity restrictiveness the health facility.

One of the strategies used to solve the problems is through the international mechanism about the control and surveillance of avian influenza rate. Worldwide monitoring of influenza viruses through surveillance is the mechanism by which the evolution of circulating viruses can be tracked. In 1952, a WHO expert committee recommended the establishment of an extensive international network of laboratories to conduct the necessary surveillance and provide WHO with the information it required to advise its member States on the most effective influenza control measures. The WHO Global Influenza Surveillance Network, or GISN, has been in operation ever since, functioning in all regions of the world under the coordination and administration of WHO headquarters.

GISN now includes more than 120 National Influenza Centers (NICs) located in 92 different countries and areas around the world as well as four highly specialized WHO Collaborating Centers for Reference and Research on Influenza. These four Collaborating Centers are located in Atlanta, Georgia, United States; in London, United Kingdom; in Melbourne, Australia; and in Tokyo, Japan. Another Collaborating Centre in Memphis, Tennessee, United States, is focused primarily on studying the ecology of influenza in animals. This is the map of WHO collaborating center and NICs:



Together, this network has processed an estimated 150,000 until 200,000 respiratory specimens per year with approximately 5000 viruses voluntarily shared by the NICs undergoing extensive antigenic and genetic characterization among the WHO CCs[12]. The information provided by GISN through its participating institutions has identified new influenza threats, substantially helped define the epidemiology of influenza and the molecular evolution of the viruses, and formed the basis for selecting new influenza vaccine strains and for updating diagnostic tests. Moreover, the international infrastructure of GISN has provided a platform through which the world's best influenza expertise can be brought together quickly and coordinated to help countries and WHO in tracking influenza.

The NICs is the backbone of GISN. They are laboratories that have been designated by their country's top health officials as the national focal point for influenza surveillance with the necessary capacity and expertise to perform their role. An NIC is responsible for collecting or receiving specimens and viruses

[12] www.who.int/gb/.../Fluvaccvirusselection.pdf

obtained from ill patients. Every year over 175.000 clinical specimens are collected from patients worldwide[13]. Some of these specimens yield viruses through a process known as viral isolation. The NIC commit a preliminary analysis and then forwards some virus isolates thought to be representative of viruses circulating in the population to one of the four specialized Collaborating Centers for further characterization.

NICs is the key point of contact between WHO and a given country's health authorities on any matter regarding the surveillance of influenza. The NIC informs WHO and other members of GISN about viruses in circulation, unusual viruses that may have been detected, and important or unusual outbreaks. It produces weekly reports on influenza activity in the country during the influenza season, and provides information on the influenza epidemiological situation, a Web-based tool for the support and coordination of national and global influenza surveillance and reporting. Many NICs also provide training and technical support to other network members in the region on the collection of specimens and the preliminary characterization of influenza viruses.

The four specialized WHO Collaborating Centers receive influenza virus isolates from NICs around the world and conduct advanced analysis of the antigenic and genetic profile of the viruses. This information helps to assess the significance of the antigenic changes among recent circulating viruses and determines whether current viruses differ substantially from existing vaccine viruses. The Centers also help to monitor the evolution of the viruses and their

[13] http://www.paho.org/English/AD/DPC/CD/flu-surv-net.pdf

ongoing susceptibility to influenza antiviral drugs. They also conduct serological studies in collaboration with other key national reference laboratories such as the Center for Biologics and Evaluation and Research of the Food and Drug Administration in the United States, the National Institute for Biological Standards and Control in the United Kingdom and the Therapeutic Goods Administration of Australia. In these serological studies, the antibodies that develop in response to current influenza vaccines are tested to ascertain whether viruses contained in the vaccines still match circulating viruses. The important information to know whether the existing composition will need to be updated in order to have an effective vaccine for the next season. Beside that The Collaborating Centers provide extensive training for laboratory staff from National Influenza Centers and other laboratories. The Centers can provide assistance to countries on responding to an outbreak of influenza particularly if it should have pandemic potential. They also provide WHO with recommendations and guidance on how to improve the global system of influenza surveillance.

The GISN primarily focused on seasonal influenza viruses for vaccine development. Since 1971, WHO has provided formal recommendations for the composition of seasonal influenza vaccines based on the information provided by the GISN. In 1998, the WHO recommendations were increased in frequency from once to twice per year so that separate recommendations could be made and timed appropriately for the northern and southern hemisphere influenza seasons. Since the development and production of influenza vaccines requires several months, these recommendations precede the period of anticipated use by up to eight

months. Some of the roles of GISN in this regard is to enable the pooling of worldwide information on influenza viruses and to provide the infrastructure for experts to examine all relevant antigenic, virological and immunological data. The results of that data examination in turn allow these experts to select candidate vaccine viruses that might be included if they pass additional testing in the following season's vaccines. While the process is difficult, complex and highly resource demanding, it remains manageable because countries and other entities have worked together collaboratively.

Recently, the emergence of a new highly pathogenic strain of the influenza virus called by H5N1 has raised alarms that an influenza pandemic may be imminent with the potential to cause high levels of illness and death and widespread social and economic disruption.

Avian influenza, or "bird flu", is a contagious disease of animals caused by viruses that normally infect only birds and, less commonly, pigs. Avian influenza viruses are highly species-specific, but have, on rare occasions, crossed the species barrier to infect humans. The disease, which was first identified in Italy more than 100 years ago, occurs worldwide. The current outbreaks of highly pathogenic avian influenza, which began in South-east Asia in mid-2003, are the largest and most severe on record.

Avian influenza viruses do not normally infect species other than birds and pigs. The first documented infection of humans with an avian influenza virus occurred in Hong Kong in 1997, when the H5N1 strain caused severe respiratory disease in 18 humans, of whom 6 died. The infection of humans coincided with an

epidemic of highly pathogenic avian influenza, caused by the same strain, in Hong Kong's poultry population. Studies at the genetic level further determined that the virus had jumped directly from birds to humans. That event alarmed public health authorities, as it marked the first time that an avian influenza virus was transmitted directly to humans and caused severe illness with high mortality.

Among influenza virus subtypes, H5N1 is of particular concern for several reasons. H5N1 mutates rapidly and has a documented propensity to acquire genes from viruses infecting other animal species. Its ability to cause severe disease in humans has now been documented. Of the few avian influenza viruses that have crossed the species barrier to infect humans, H5N1 has caused the largest number of cases of severe disease and death in humans. Unlike normal seasonal influenza, where infection causes only mild respiratory symptoms in most people, the disease caused by H5N1 follows an unusually aggressive clinical course, with rapid deterioration and high fatality.

Of the few avian influenza viruses that have crossed the species barrier to infect humans, H5N1 has caused the largest number of detected cases of severe disease and death in humans. In the current outbreaks in Asia and Europe more than half of those infected with the virus have died. This are the cumulative number of confirmed human cases of avian influenza A (H5N1) datas reported to

Table 1. Data's human case of avian influenza type A (H5N1)

Country	2003		2004		2005		2006		2007		Total	
	Cases	deaths	cases	deaths	Cases	Deaths	cases	deaths	cases	Deaths	cases	deaths
Azerbaijan	0	0	0	0	0	0	8	5	0	0	8	5
Cambodia	0	0	0	0	4	4	2	2	1	1	7	7
China	1	1	0	0	8	5	13	8	2	1	24	15
Djibouti	0	0	0	0	0	0	1	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	16	4	34	14
Indonesia	0	0	0	0	20	13	55	45	6	5	81	63
Iraq	0	0	0	0	0	0	3	2	0	0	3	2

Lao People's Democratic Republic	0	0	0	0	0	0	0	0	2	2	2	2
Nigeria	0	0	0	0	0	0	0	0	1	1	1	1
Thailand	0	0	17	12	5	2	3	3	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	0	0	93	42
Total	4	4	46	32	98	43	115	79	28	14	291	172

Source: http://www.who.int/csr/disease/avian_influenza/country/cases.html

This H5N1 outbreak introduced by the Global Influenza Surveillance Network with significant technical and operational challenges that fall beyond its established role in detecting and protecting against seasonal influenza. Now GISN has expanded its scope to include H5N1 viruses because this virus constitutes an unusually serious pandemic risk. Therefore, WHO now reviews the available antigenic and genetic data on animal and human H5N1 viruses in addition to the analyses of seasonal vaccine stains and has developed and made H5N1 candidate vaccine viruses available to vaccine producers so they can work on developing safe and effective human H5N1 vaccines for potential production. Some of these H5N1 candidate vaccine viruses have been used by manufacturers to produce human influenza H5N1 vaccines, some of which have been tested in clinical trials.

GISN mechanism is an international mechanism that conducts the control and surveillance of avian influenza virus. GISN operated with the monitoring and tracking the virus evolution also provides information about how to handle the virus. GISN is a part of the International Health Regulation (IHR) 2005 that regulates and arranges the surveillance of virus in order to prevent and handle the health risk. IHR 2005 has binding power for all the states that become WHO members legally and formally. Every WHO states members must share the virus specimen to GISN for the risk assessment and vaccine making. In the GISN mechanism process also included the SMA (Standard Material Agreement) that arranges the benefit sharing obligation for both parties in Sharing of specimen virus. SMA is needed to access the specimen material for the party that wants to know the information about the specimen.

The entire process of influenza vaccine virus selection and development is possible and successful because it represents a true collaborative effort, involving all members in GISN as well as several other entities including three national regulatory laboratories in the Australian Therapeutics Goods Administration (TGA), the United Kingdom's National Institute of Biological Standards and Control, (NIBSC), and the United States' Food and Drug Administration (FDA), which provide essential input and services to the process, some contract laboratories that do highly specialized parts of the process for seasonal vaccines (but not H5N1 vaccines) and vaccine manufacturers.

The time constraints under which all these parties operate are great because of the epidemiology of influenza and steps that must be completed for vaccine production to take place. Once influenza viruses appear, either as seasonal outbreaks or, in the case of certain viruses possibly as a new pandemic, the spread of disease can be very quick. Given this reality, even short delays anywhere in the process can result in significant downstream delays in the availability of influenza vaccines.

B. The Struggle of Indonesia Against GISN Mechanism

Indonesia reported the first avian influenza case which is H5N1 subtype that infected human in July 2005, continued with the first cases from September 2005 until Mei 2007. Indonesia has reported five new influenza cases each month. Even the controlling steps have been implemented in agriculture sector to reduce H5N1 in poultry from June until December 2007. The confirmed human case that

caused by H5N1 still reported in three patients each month and the H5N1 infected provinces has increased from four cases in 2005, become nine cases in 2006 until twelve cases in 2007 especially in Tangerang regency and Banten near with west part of Jakarta. Beside that the number cases that occurred has increased twice

Human Influenza A (H5N1) cases in Indonesia (July 2005 to December 2007)

Year	Cases	Fatality
2005	19	63.20%
2006	55	80.40%
2007	42	85.70%

Source: http://www.annals.edu.sg/pdf/37VolNo6Jun2008/V37N6p482.pdf

When the first case suspected as the influenza A (H5N1) has reported in Indonesia in the beginning of July 2005, Indonesia still capable to detect the influenza A (H5N1 virus). But in the short time supported by WHO and international aid from many developed states, the capacity to detect the virus has been built in laboratory from national research and health development institute (NIHRD) ministry of health under hold of bio safety level (BSL) level 2.

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Since April 2006 in Indonesia has occurred many problems that make disappointment toward WHO global influenza surveillance network. The first problem is the laboratory analysis result that involved H5N1 virus from Indonesia presented without permission toward Indonesia government or scientist with just confirmation in several hour before the presentation in many international meeting.

The unethical practice that done by WHO has violated the guideline in avian influenza or another specimen that can cause influenza pandemic, it is released in March 21 2005, stated that " WHO appointed by WHO reference laboratory will ask permission from the origin of specimen state for the writing partner or publication the result from virus analyzing that relevant or the sample and WHO will not distribute furthermore the specimen sample beyond WHO referred laboratory network scopes without the permission from the origin state or laboratory.

It is really important to be noted in that time, there is no document that explain what actually "WHO referenced Laboratory" self. Generally, WHO referenced laboratory known with just four WHO collaborating centre laboratories and other referenced laboratory which is WHO H5. After that the list has been expanded included other important laboratories for H5N1 vaccine development without further specific information about the role and every function of each

laboratory. The term for the referenced laboratories in developed states have changed many times from Global Research Laboratory becomes Non Commercial Research Laboratory.

The avian influenza pandemic case viewed by many experts as the inability in virus pandemic management. Some of critiques accused if the statement show the less preparation of international society and the infected states ready to face the pandemic. There is a scientific debate if there is an infection of avian influenza in human to human case based on available epidemiology and virology data. The critique sent to Indonesia for genetic data withholding and the limitation for the small network researcher related with WHO and CDC AS Atlanta. At that time there is no sequence data from Indonesia virus save in public database.

In the beginning August 2006, Indonesia health department decided that all the H5N1 virus data on US CDC Atlanta and HKU must be transfer to gene bank. At the same time with the increasing of laboratory capacity, Indonesia decided for not transfer the H5N1 specimen to WHO system because the human infection of H5N1 will be diagnosis and confirm in Indonesia. However Indonesia still agree to share the specimen H5N1 virus with WHO CDC AS in Atlanta for risk assessment furthermore to be identification and characterization, new virus identification influenza and avian influenza interpretation related data and virus seed generation for vaccine production.

In the end 2006, Indonesia health department is confirming if there is a pharmacy companies from Australia have plan to develop H5N1 virus vaccine use

virus strain origin from Indonesia that trigger drastically action. The fact that Pharmacy Company has access into seed vaccine from Indonesia in WHO reference laboratory not just violated WHO guideline (March 2005) for virus sharing but also as the strong argument for Indonesia that expose the injustice and imbalance of global system.

The state that affected by the pandemic impact, mostly developing states gave information and share virus specimen appropriate with WHO mechanism. After that pharmacy industry from developed state get free access to information and specimen then produce and patent the product (diagnostic, vaccine, theurapy and other technology) and sell back to developing states with unreachable price. Beside that according Indonesia opinion, what have been pressed by global health system recently just is a burden for developing states because there is no right for nations.

In January 2007 Indonesia government withholding H5N1 specimen because there is distrust in GISN WHO and less benefit that developing states gain like Indonesia. Indonesia quickly suggest for the transparency, fair and justice internationally in virus sharing mechanism, with the objective to ensure the fair access for H5N1 vaccine and the benefit result considering developing states need. This matter especially demand if there must be available vaccine for all infected states with minimum price. Indonesia also suggest for the maximum using and the willingness in resource state and for the expert exchange globally in increasing the ability in every time and everywhere possible.

influenza virus and data sequence that cancelled by WHO guideline (March 2005) for virus sharing. The important point in here is the pressure in the responsibility a state for sharing virus specimen or the virus without force the agreement or administrative procedure that can slowed the WHO GISN function especially the exact time in specimen and information sharing.

IDWG meeting in Singapore in July until August 2007 failed again to get the consensus in standard requirement for virus sharing and benefit or Terms of Reference Reformation (TOR) WHO Collaborating Centre and WHO H5 reference laboratories. The meeting has been followed by 22 state as the representative of 6 region WHO, The meeting succeed in produce the summary with several document attached although this is not enough with the expected way in future and make the difficult work for next International Governmental Meeting (IGM).

The IGM on "Preparation Toward Influenza Pandemic: Influenza Virus Sharing and Access to Vaccine and Other Benefit" held in November, in the end of 2007 year. The meeting agenda is heavy for short time allocated and the discussed issues is difficulty in formal meeting. Meanwhile some developing states agree with the main principals that have been suggested by Indonesia. Most of developed state that related have conclusion if developing states demanded to continue share their virus. Because of the demand by developed state to developing state made IGM can not come with the solution.

Even IGM can not solve the occurred problem, many developing states delegation are satisfied with the result as the discussion also the document has put the new foundation for basic change and significant to the exist system. "State

members" agree to take urgent action to develop international mechanism which is fair and transparent in sharing virus and benefit. The sample virus must be shared in WHO system, appropriate with national law as framework in sharing virus and benefit.

In the end of IGM meeting, Indonesia gives last statement. Once again Indonesia stressed of new system can not work without trust and every party must obey the justice, equality and transparency and sovereignty of state. For Indonesia, shares biology specimen and virus allowed by national law means the using of MTA (Material Transfer Agreement). In this system the demand to use MTA by a state give specimen contribution always rejected by WHO with the reason it will slowed down and endanger the exact time. Meanwhile WHO referred laboratory just transfer the seed virus in MTA solving (to protect the intellectual property from the patent holder) even when transfer again the virus to origin state, not view as matter.

The Indonesia law and regulation need MTA for every biological specimen abroad from 1994 and 1995 until the influenza cases (H5N1) in human. Indonesia has make dispensation and loyal in sharing specimen to WHO, with trust if the practical will be benefit for global society health. Now this system in reformed process, Indonesia once again follows the national regulation.

The avian influenza case in Indonesia has indicated once again the unresolved imbalance between the rich "high-tech" states and poor agriculture-based states. State that hardest hit by a disease must also bear the burden of the cost for vaccine, therapeutics and other products, while the monetary and non-

monetary benefits of these products go to the manufacturers that are mostly in the industrialized countries. Poor countries have no bargaining position because their participation in the production of these products are not valued just as natural resources (clinical specimens, viruses, and other microbes); on the other hand, the industrialized countries' contributions are highly valued because of the human invented technology.

If the world continues to operate in this way, the gap and discrepancies will become wider. The poor will become poorer and the rich become richer. It is the responsibility of all nations to change this situation. Indonesia believes that the world must work in unity against the H5N1 virus infection and other diseases, and not taking advantage of the misery of others. The work must be conducted side by side with mutual trust, transparency and equity as global citizens and professionals, taking into consideration the elements of human dignity and solidarity.

C. The Ideal of Virus Sharing Mechanism Refer to Development States

Virus sharing is a critical part in the global effort for pandemic preparedness and global health security. Hence, the global community should continue the efforts to create an ideal mechanism of virus sharing that is accepted by all nations. The ideal of virus sharing mechanism must be transparent, fair and equitable sharing of benefits arising from the generation of information, diagnostics, medicines, vaccines and other technologies for all member. To ensure and implement those ideal conditions the virus sharing mechanism required

additional procedures like there must be a standard material agreement and benefit sharing guidelines.

The Standard Material Agreement (SMA) generally used to transfer material biology in this matter is the virus sample. The Standard Material Agreement is the contract agreement between provider and receiver the material biologist and decided the requirement of using biologist material which given and the benefit sharing obligation. The SMA often used by the government or other party which provided resource or specimen material. This SMA related tight with the problems involves property rights and benefit sharing agreement. The example of SMA is in every international agreement about plant resource specimen took part the SMA used when there is a party that want to access the specimen material.

Even SMA become the general function in material transfer and SMA supposedly also used by WHO Collaboration Centre (WHOCC) when there is a derived vaccine which contain a part from virus sample transferred voluntarily by infected states to pharmacy company. But in the implementation this procedure was not used , according Dr. David Heyman as WHO chief clarify that"SMA is not a solution and SMA just slow down the observation and risk assessment risk in vaccine development. David Heyman statement is contradictive when the WHOCC self signed the agreement with pharmacy company meanwhile contributed states in giving virus sample forbid in using SMA because impede the observation also the risk assessment in avian influenza vaccine development.

SMA agreement usually put the benefit sharing between the parties which have the property right. A transfer material document may be not put the same thing. For the example this matter refer to related information with material characteristic which is transferring and specimen aspects inside without indicate the right from involved party in specimen shipping and material receiving. Several SMA may be needed[14]:

1. SMA between virus specimen origin and WHO and WHO CC and referenced laboratory also other party which have willingness to get access as the example is Pharmacy Company.
2. SMA between WHO and WHO CC and referenced laboratory.
3. MTA between WHO, WHO CC and laboratory at one side and other institutions (Company and University) which needed virus sample access and commercialized the product included virus.

Nowadays the system used for the states which transfer the virus specimen to WHO CC viewed unclear and non transparent. The system used now is not explaining about the right owned by the origin virus states, WHO, WHO CC and the researcher that using the virus and the other company which probably commercialized the virus included inside the property right problems. Some information needed by WHO in problems like:

1. A list of all viruses which has been transferred by the virus origin state.

2. The research that has been conduct in every virus, research stages, the research result from each stages, institutes which conduct the research and the condition which one the research still conducted.
3. Is every WHO CC has made available information and datas which connected with virus and how when this information has made available and the condition also attachment inside.
4. Is the company or the researcher has put SMA with WHO or WHO CC and for what objective and what in the condition.
5. Is the origin specimen states always informed and their request permission in several research stages, the research publication result, application for patent and product commercialization.
6. Is there a commercialization which involved virus such as patenting virus and part of it, vaccine development which contain virus and the part of it, the selling and contract to order doses of vaccine, the number of vaccine that already sold and ordered also the order price which has been decided and which party that order it.

The virus specimen must be transfer to referenced laboratory WHO when in the emergency situation. The shipping supposedly fulfill with the relevant guide to transport the contaminate substance and also the research result. The clinical information background clinic and epidemiology which one must provided as the principal in sharing specimen and influenza virus with the WHO global influenza