DEVELOPING SUSTAINABLE INFLUENZA SURVEILLANCE NETWORKS AND RESPONSE TO AVIAN AND PANDEMIC INFLUENZA IN INDONESIA

OCTOBER 2009 – SEPTEMBER 2014

Center for Biomedical and Basic Technology of Health
National Institute of Health Research and Development (NIHRD)
Ministry of Health, Republic of Indonesia

Jakarta
2012

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ni Ketut Susilarini

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I. Background and Need

Influenza or "flu" can be found everywhere in the world. In cold countries and countries with four seasons, influenza recurrently appears as epidemics in winter time. These periodical influenza epidemics have been recognized as a major cause of morbidity and increased mortality. In this part of the world, influenza vaccination programmes have been implemented, especially for the young and old people. On the other hand, in tropical countries, such as Indonesia, influenza viruses are circulating all year long. The burden of influenza for the society, both from clinical and economic perspective, is often underestimated, because many other communicable diseases exist, competing with influenza. Therefore, in these countries influenza was not usually a priority, until an emergency situation, such as what has been happening for the last two months, appears.

These last two months had been a very hectic time for most health personnel in the world. Ever since an unprecedented (novel) influenza H1N1 was identified in Mexico and the US, it has been spreading like wild fire to other countries. The World Health Organization has increased the phase 3 of influenza pandemic alert to phase 4, then 5, in less than a month. All countries are asked to immediately activate their pandemic preparedness plans. Countries should remain on high alert for unusual outbreaks of influenza-like illness (ILI) and severe pneumonia. Therefore, countries should activate their ILI and SARI (severe acute respiratory infection) sentinel sites.

Indonesia started to join the global surveillance for influenza in 1975, with the National Institute of Health Research and Development (NIHRD) as the NIC (National Influenza Center) – recognized by WHO. Funded by the US-CDC, sentinel sites for influenza-like-illness (ILI) were set up and the circulating influenza viruses were identified and isolated. However, since it had not been adopted into a government program, this ILI surveillance network was not sustainable and some sporadic influenza surveys were conducted instead. From 1999 to 2003, NIHRD in collaboration with the US Namru-2, Jakarta, conducted ILI surveillance in 6 sites (see results in Table 1).

Table 1. Results of Influenza Surveillance in Indonesia 1999-2003

	N (%)
Total patients	1,544
a. Females	1,083 (70%)
b. Males	461 (30%)
Age (mean, yr)	28.8
a. Adults (≥ 15 years)	1,313
b. Children (4 – 14 years)	43
c. Unknown	188
Influenza like illness	1,372 (89%)
Confirmed influenza cases	172 (11%)
No. of cases with positive virus isolate	130 (75.6%)
No. of cases with positive RT-PCR	144 (83.7%)
No. of cases with positive Directigen flu	75 (43.6%)
Influenza subtype identified	A/H3N2; A/H1N1 and B

Source : Adapted from Beckett CG, Kosasih H, Ma'roef C, et al. (*Clinical Infectious Diseases* 2004:39).

In all locations, influenza infections were identified year-round, with a tendency to peak during the months of the rainy season (generally during December and January) (Figure 1). Both influenza A and B viruses circulated in the areas of surveillance, with influenza A H3N2 predominating.

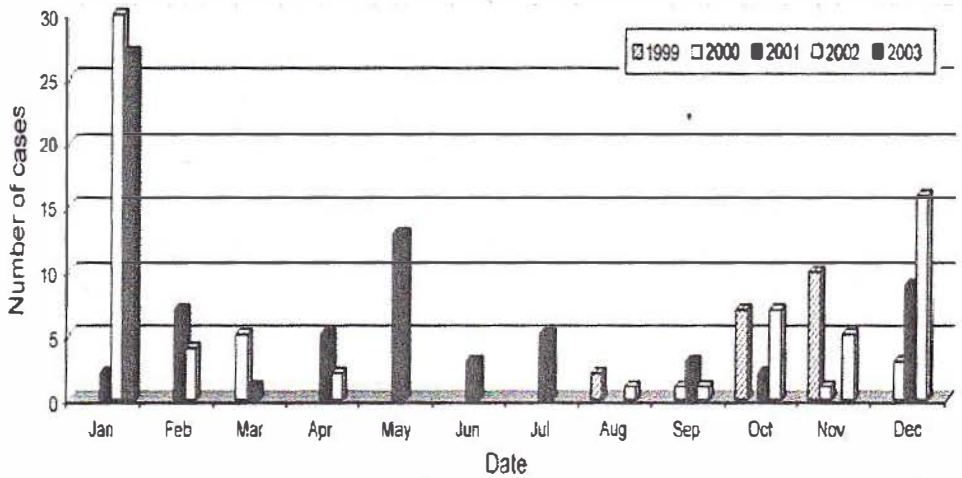
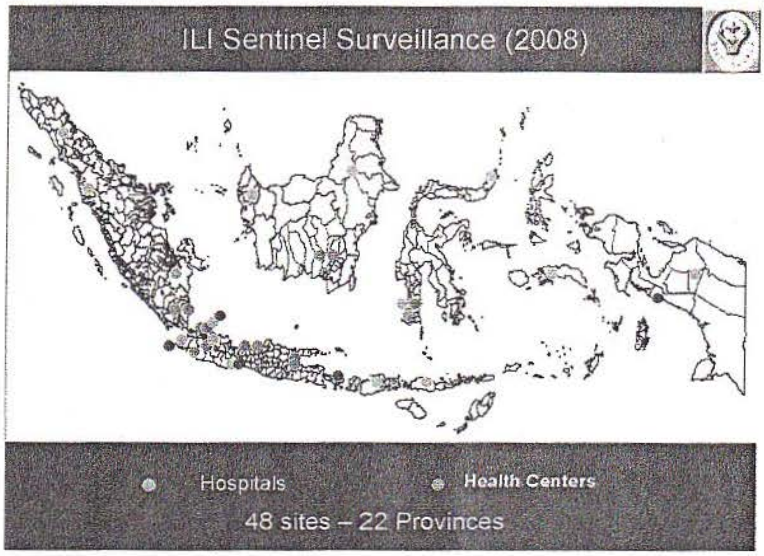


Figure 1. Influenza monthly surveillance, August 1999 through January 2003. Indonesia's annual rainy season usually begins in early December and ends in late May.

Source : Adapted from Beckett CG, Kosasih H, Ma'roef C, et al. (*Clinical Infectious Diseases* 2004:39).



It was only since 2005 – using CDC grant – NIHRD in collaboration with the Indonesian CDC or abbreviated as "P2PL" started to systematically develop the ILI sentinel surveillance in Indonesia. Initially, in setting up sentinel sites and running laboratory tests, NIHRD was assisted by the US Namru-2, Jakarta. Sites were added gradually, until in March 2008 the number of the sites was 48, located in 22 out of all 33 provinces in Indonesia (Figure 2). Half of the sentinel sites were hospitals and the rest were health centers (Puskesmas).

In accordance to the current policy of the Government of Indonesia, in April 2008 all ILI sites run by Namru-2 were inactivated. NIHRD reorganized its ILI sites to make the geographic distribution more even. Due to limited budget, the ILI sites are limited to 20 sites, all of them are Health Centers. NIHRD started to develop SARI sentinel sites in 15 hospitals (Figure 3). These 25 sites are located in 20 provinces out of overall 33 provinces in Indonesia. With only 1 health center and 1 hospital in each province in this vast country, it is obvious that they are not making an adequate representative to estimate the influenza burden of disease in Indonesia. However, the main objectives are to identify and characterize the influenza viruses that are circulating in different parts of Indonesia, to document the burden of disease of ILI and influenza in each site, and to approximate the proportion of severe pneumonia caused by influenza.

The current H1N1 epidemic has convinced countries, including Indonesia, of the importance of having an active ILI and SARI surveillance. We have heard an ad hoc plan that the Government of Indonesia will support the expansion of ILI sites all over Indonesia. We remain to see for this plan to be implemented.

However, besides this plan, we will still need to propose funding from the US CDC, to maintain the 20 ILI and 15 SARI pilot projects or models and to expand them to cover the 33 provinces, and to develop a systematic staging plan to gradually move the management of the ILI sites from NIHRD (i.e., the central level) to the provincial level, as well as to build laboratory capacities in identifying and fully characterizing influenza viruses.

ILI & SARI Sentinel Surveillance (2008)

Hospitals Health Centers

35 sites – 25 Provinces

II. Objectives and Technical Approach

The objectives of this program are :

1. To maintain the ILI and SARI sentinel sites and to expand them to cover all 33 provinces in Indonesia.

   Goal:
   The goal is to have ILI and SARI surveillance in the country, to be able to monitor the dynamics of influenza viruses, and as an effort of disease epidemic vigilance.

   Objectives:
   a) To characterize the epidemiology of ILI and seasonal influenza in Indonesia, including age and geographic distribution, seasonality, and influenza virus characteristics.
   b) To estimate the burden of disease of influenza and the potential for prevention using seasonal influenza vaccines.
   c) To characterize the epidemiology of SARI, including estimates on burden of disease.
   d) To determine the proportion of SARI patients and SARI–associated deaths attributable to influenza.
   e) To identify other causes of SARI and SARI-associated deaths in Indonesia.

2. To review the current ILI and SARI surveillance system.

   Goal:
   The goal of this objective is to learn lessons from the current ILI and SARI surveillance sites.

   Objectives:
   a) To evaluate the management process of the current ILI and SARI sites, to identify its weaknesses and develop improvement plan.
   b) To analyze the results of ILI and SARI system in the last 5 years.
   c) To present these results in national and international meetings.
   d) To publish results and lessons learned in national and international journals.
   e) To develop a policy paper as a recommendation to the Government of Indonesia.

3. To maintain the influenza laboratory network and to increase the capacity of the laboratories in the national influenza center and network.

   Goal:
   To develop *in-country* capacity in identifying and fully characterizing influenza viruses.

Objectives:

a) To support the BSL-3 laboratory at NIHRD for isolating, culturing, and typing novel and highly pathogenic influenza viruses.
b) To support the BSL-2 laboratories in conducting an updated identification of RNA influenza viruses (conventional and real-time RT-PCR).
c) To improve the capacity of scientists and technical personnel of influenza laboratories.
d) To support NIHRD in conducting a quality assurance system among the influenza laboratories.
e) To support NIHRD in assessing and improving the biosafety and biosecurity of the influenza laboratories.

4. To develop a plan for long term on-going maintenance of the ILI and SARI surveillance system in Indonesia.

Goal:

The goal of this activity is to gradually move the management and responsibility of the ILI and SARI sites to the provincial government.

Objectives:

a) To conduct a national workshop involving the P2PL (Indonesian CDC) and the provincial health offices to plan steps for sustaining a system for collecting virological and epidemiological information for influenza.
b) To gradually move the management and responsibility of the ILI and SARI sites to the provincial government (detailed targets attached).
c) To maintain a sustainable surveillance system for influenza.
d) To evaluate the surveillance system for influenza, by the end of the program.

III. Collaboration

In this new term, we will collaborate with:

1. The Sub-Directory of Surveillance, P2PL.

As surveillance is actually the main task of the Sub-Directory of Surveillance at the P2PL (Indonesian CDC), we will collaborate with them as our key partner. NIHRD has initiated the ILI and SARI surveillance system, and the next 5 year will be the time to hand the system over to P2PL, as it should be. NIHRD will continue its laboratory support, especially since we are the NIC in the country. A close collaboration is also needed, since the follow-up action after the identification of a novel influenza or HPAI virus, such case/cluster identification will be conducted by surveillance teams coordinated by the Sub-Directory of Surveillance, P2PL.

2. The Provincial and District Health Offices of the 33 Provinces and sites.

Indonesia has implemented the policy of district autonomy, therefore, we will need the local government supports to ensure that this program will be running and sustained.

3. The Heads of Health Centers, Directors of Hospitals, and all health personnel working for the ILI and SARI system in the sites.

Collecting epidemiological data and specimens from ILI and SARI patients in all sites all year long requires strong commitment and collaboration with the local personnel. Otherwise, the quality of the data and specimens will be compromised.

4. The Heads and technical personnel at the Influenza Laboratory Network in Indonesia.

Likewise, strong commitment and collaboration is also expected from the laboratories in the Influenza network. It is impossible for NIHRD to test the whole specimens, and furthermore, it is not the goal of this program. Our main goal is to have a sustainable system, which means the local personnel has to have the feeling of owning the system. Only this way, the surveillance can be sustained.

5. The health officers at other related directorates and sub-directorates in P2PL, for examples, Sub-Directorate of Zoonotic Diseases, Sub-Directorate of ARI, etc.

Many sectors in the MOH are dealing with influenza, especially if its origin is animal(s). Therefore, a good collaboration and coordination among these sectors will maximize the utilization of the limited resources.

6. The WHO

We will follow the WHO guidelines for testing influenza, especially for novel virus, to be consistent with the global standard. If we found untypeable influenza viruses, we will do our utmost efforts to identify them in-country, with the assistance of the WHO and CDC Atlanta. Those specimens will be shared internationally, once our MOH has agreed with the WHO mechanism of specimen sharing.

7. CDC officers in Indonesia

We will always closely collaborate with the CDC officers in Indonesia, in order to ensure all objectives are achieved timely and in good quality.

IV. Activities in 2012

1. Collection specimens and laboratory testing from ILI and SARI sites

To maintain the ILI and SARI sentinel sites (24 ILI sites and 7 SARI sites) and to be able to monitor the dynamics of influenza viruses, and as an effort of disease epidemic vigilance, we will maintain the current 24 ILI and 7 SARI sentinel sites (Appendix 1), with activities as listed below :

a) Each ILI site will collect data and specimens from 20-40 ILI patients per month, and SARI site will collect data and specimens form 10-20 SARI patients per month. Overall, we will collect approximately data and specimens from 5,700 to 11,400 patients per year (details in Appendix 2 and 3).
b) Specimens will be tested for influenza A, B, H1, H3 and H5 with realtime RT-PCR. Positive specimens will be cultured, as well as 10% of the negative results. Specimen from SARI surveillance also will be tested for antibody to H5 by Hemagglutinantion inhibition testLaboratory tests for specimens will be conducted at Center of Biomedical and Basic Technology of Health and 5 regional laboratories.

2. Review the current ILI and SARI surveillance system.

Activities:

a) We will conduct a small workshop to evaluate the management process of the current ILI and SARI sites, and to analyze the 5 years results. We will look into the completeness, sensitivity and representativeness of the results.
b) Results of the above mentioned workshop will be written in a report on "Lessons Learned from ILI and SARI surveillance system".
c) We will present the results in the workshops conducted annually for all ILI and SARI sites, and in one of the periodic scientific meetings at NIHRD.
d) An abstract of the results or some related issues will be submitted to national, regional and international conference.
e) We will write 1 article in Bahasa Indonesia, submitted to the Bulletin of Health Research (Buletin Penelitian Kesehatan), and 1 article in English submitted to an international journal.
f) We will also write a policy paper, submitted to the Indonesian Journal of Infectious Diseases; and publish periodicals 4 times a year.

3. Maintain the influenza laboratory network and to increase the capacity of the laboratories in the national influenza center and network.

Activities:

For ILI surveillance we will utilize 5 laboratories as regional ILI laboratory to test ILI surveillance's specimens from health centers. We will provide reagent and supplies to the laboratories. We also provide technical assistance in laboratory diagnostic techniques.

V. Measures of Effectiveness and Evaluation Plan

MEASURES OF EFFECTIVENESS AND EVALUATION PLAN

	OBJECTIVES	MEASURES OF EFFECTIVENESS	QUANTITY	EVALUATION PLAN
1	To maintain the ILI and SARI sentinel sites and to expand them to cover all 33 provinces in Indonesia.			
	a) To characterize the epidemiology of ILI and seasonal influenza in Indonesia, including age and geographic distribution, seasonality, and influenza virus characteristics.	Good quality virological and epidemiological data and information of influenza viruses among ILI patients visiting health centers.	Data from 20 (will be increased to 33) ILI sites.	a) Data quality will be checked every time sites send patients' form : for completeness, consistency, and logic. b) Specimen quality will be checked : time from sending till arriving, arrival temperature, physical appearance, proportion of positive, and proportion of viral culture yield. c) NIHRD performance will be measured : time between specimens arrive to resutls of test, proportion positive, and proportion of viral culture yield. d) Performance of regional laboratories will be measured : results of QC, and visit by NIHRD team to assess : time from specimen collection to results of testing, proportion of positive. e) Every 3 months, data review will be conducted. Descriptive information will be produced: tables will be filled up (see dummy tables), and graphs will be made. f) At the end of each year, data will be analyzed further, such as, including data on strain of influenza viruses, data on the yield of viral culture, and other etiologies of ILI & SARI.
	b) To estimate the burden of disease of influenza and the potential for prevention using seasonal influenza vaccines.	Proportion of influenza among ILI cases and among all patients visiting the sites		
	c) To characterize the epidemiology of SARI, including estimates on burden of disease.	Good quality virological and epidemiological data and information of influenza viruses among SARI hospitalized patients.	Data from 15 (will be increased to 33) SARI sites.	

	d) To determine the proportion of SARI patients and SARI-associated deaths attributable to influenza.	Proportion of influenza among SARI patients and proportion of SARI-associated deaths attributable to influenza.		
	e) To identify other causes of SARI and SARI-associated deaths in Indonesia.	Data on other etiology of SARI and SARI associated deaths.		
2	To review the current ILI and SARI surveillance system.			
	a) To evaluate the management process of the current ILI and SARI sites, to identify its weaknesses and develop improvement plan.	Report on the evaluation of management process of ILI and SARI sites.	One report.	We will conduct a small workshop, mainly involving the Sub-Directorate of Surveilance, P2PL (Indonesian CDC).
	b) To analyze the results of ILI and SARI system in the last 5 years.	Report on the analyses results of ILI and SARI data.		A team will conduct the data analyses and write the report.
	c) To present these results in national and international meetings.	Abstracts and presentations (ppt).	At least 1 abstract-presentation in Indonesia and 1 in international meeting per year.	The decision of what meetings to attend, who will attend and what will be presented will be based on consensus .

	d) To publish results and lessons learned in national and international journals.	Publishable articles on influenza in Bahasa Indonesia and English.	At least 1 article in Indonesian journal and 1 article in international journal.	The decision of what will be written, who will write, who will be co-authors, and to which journal the article will be sent will be based on consensus .
	e) To develop a policy paper as a recommendation to the Government of Indonesia.	Policy paper on influenza; periodicals on ILI and SARI.	1 policy paper; 4 periodicals per year.	Policy paper will be written by PI; a team will work on the periodicals.
3	To maintain the influenza laboratory network and to increase the capacity of the laboratories in the national influenza center and network.			
	a) To support the BSL-3 laboratory at NIHRD for culturing novel and highly pathogenic influenza viruses.	Technical and management supports for BSL-3 laboratory at NIHRD.	Support for 1 BSL-3 laboratory.	Our ILI and SARI laboratory team at NIHRD are involved in the operation of NIHRD BSL-3 laboratory. We will coordinate various funding to ensure the lab is functioning well.
	b) To support the BSL-2 laboratories in the influenza laboratory network in conducting an updated identification of RNA influenza viruses.	BSL-2 laboratories in the influenza network updated each year.	At least 1 training per year for 8 regional labs and 34 sub-regional labs..	A logbook of training, seminar, conference, will be used to monitor who have gone, what occasion and where, and who else will need to be sent.

	c) To improve the capacity of scientists and technical personnel of influenza laboratories.	Indonesian scientists and technical personnel attending seminars, training, workshops, etc.	At least 4 persons sent to seminars, training, etc.	
	d) To support NIHRD in conducting a quality assurance system among the influenza laboratories.	A system of external quality assurance for influenza laboratories is in place: a panel sent periodically to the laboratories.	A panel sent to 8 regional laboratories twice a year.	A team at NIHRD will handle this QC task specifically, and data will be kept in a logbook.
	e) To support NIHRD in assessing and improving the biosafety and biosecurity of the influenza laboratories.	A system for biosafety and biosecurity assessment is in place: periodic assessment of biosafety and biosecurity.	NIHRD asseses 8 laboratories once in 2 years.	A biosafety-biosecurity team at NIHRD will handle this task specifically. Site assessment will be conducted, reports and feed-back will be made, and data will be kept in a logbook.
4	To develop a plan for long term on-going maintenance of the ILI and SARI surveillance system in Indonesia.			
	a) To conduct a national workshop involving the P2PL (Indonesian CDC) and the provincial health offices to plan steps for sustaining a	A national workshop with the above mentioned objectives is conducted.	1 national workshop.	Report of this national workshop will be written. Stress will be put on the commitment.

system for collecting virological and epidemiological information for influenza.			
b) To gradually move the management and responsibility of the ILI and SARI sites to the provincial government (detailed targets attached).	Each year the number of ILI sites that are self-sustained (partly or entirily) is increased.		This will be evaluated in the annual workshops for ILI and SARI sites.
c) To maintain a sustainable surveillance system for influenza.	By the end of the program, the Ministry of Health and at least 50% of the provinces have allocated substantial funding for ILI and SARI surveillance system.		This will be evaluated in the final workshop for ILI and SARI sites, involving other related sectors.
d) To evaluate the influenza surveillance system, by the end of the program.	Evaluation conducted	1 time, at the end of the program.	

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X. **Education** :

1. Faculty of Pharmacy, Airlangga University, Pharmacist (graduated 1987)
2. Department of Pharmacy, Bandung Institute of Technology, Master of Science, major in Drug Formulation (graduated 1997)

XI. **Job resume** :

1. 1988 – 2003	: Researcher
2. 1993 – 2001	: Head of Planning Sub Division
3. 2001 – 2005	: Head of Program and Collaboration Division Pharmaceutical and Traditional Medicine R&D Center
4. 2006 – 2007	: Head of Program and Collaboration Division Biomedical and Pharmaceutical R&D Center

5. 2007 – Feb 2009 : Head of Planning and Budgeting Department Secretariate of National Institute of Health Research and Development
6. 2009 : Operational Coordinator Biosafety Laboratory and Biosafety Laboratory Level 3 Facility
7. Nov 2009 - Now : Head of Biomedical and Pharmaceutical Research and Development Centre, NIHRD, MOH Indonesia

III. **Short Course :**

1. Research Methodology, Data Analysis, and Scientific Report, University of Indonesia (1992)
2. Statistic Analysis of Health, JICA, Indonesia (1993)
3. Leadership Training, MOH, Indonesia (2002)
4. Weapon Mass Destruction First Responder Awareness, US Embassy, Indonesia (2003)
5. High Performance, Low Energy Design Course, US Environmental Protection Agency, Scottsdale Arizona, USA (2007)
6. Design and Construction of BSL3 Facilities, Eagleson Institute, Scottsdale Arizona, USA (2007)
7. Safe BSL3 Work Practices and Procedures, Eagleson Institute, Scottsdale Arizona, USA (2007)

IV. **Paper published**:

1. Microbiologic aspect on cosmetic quality control , 1990 (first author)
2. Pharmacokinetic profile of oral single dose phenyl-butazone, 1990 (first author)
3. Pharmacy as facility of drug communication and information, 1991 (first author)
4. Case study of pharmaceutical care: Dispensing on Pharmacy, 1991 (first author)
5. Antibiotic dose on children prescribing, 1991 (first author)
6. Kader Pos Obat Desa, 1991 (first author)
7. Description of drug information (common cold, Gastric Ulcer, Vitamin), 1993 (first author)
8. Effect of antioxidant on stability of captopryl in citrate-phospate buffer solution at pH 4 stored at 50°C, 1997 (first author)
9. Drug management for Health Services in Saudi Arabia, Albaik Magazine, 1999 (first author)
10. Indonesia Hajj Health Formulary, 2000 (first author)

III. Others :

1. Head of Jeddah Depot, Indonesia Hajj Health Officer in Saudi Arabia, (1995)
2. Second Assistant of Coordinator, Indonesia Hajj Health Officer in Saudi Arabia (1999)
3. Coordinator of Integrated Public Health Laboratory (2004-2006)
4. Verification Member of Indonesia Hajj Health Formulary (2000 – Now)
5. Technical Member of Bio Safety Laboratory Level 3 (BSL-3) (2006 – Now)

ACTIVITY REPORT

DEVELOPING SUSTAINABLE INFLUENZA SURVEILLANCE NETWORKS AND RESPONSE TO AVIAN AND PANDEMIC INFLUENZA

(CDC-ATLANTA)

Grant Number : 5U51IP000346-03

Grant Period : 09/15/09 – 09/14/14

Reporting Period : 09/15/11 – 09/14/12

Background:

This Cooperative Agreement (Co-Ag) commenced in FY2009 and is currently in its third year. The activities under this Co-Ag relate to the collaboration between US-CDC and the National Institute for Health Research and Development (NIHRD) as well as the Directorate-General for Disease Control and Environmental Health (DG DC-EH). For NIHRD, the allocation of funds in this third year was USD300,000 and for DG DC-EH USD265,000.

Objectives of the Co-Ag:

1. To have ILI-SARI surveillance in the country to be able to monitor the dynamics of influenza viruses as an effort of disease epidemic vigilance, and in-country laboratories in identifying and fully characterizing influenza viruses;
   a. To characterize epidemiology, seasonality and influenza virus characteristics of ILI, SARI, and seasonal influenza in Indonesia.
   b. To support the BSL-3 laboratory at NIHRD for isolating, culturing, and typing novel and highly pathogenic influenza viruses.
   c. To support the BSL-2 laboratories in NIHRD and regional laboratories in conducting an updated identification of RNA influenza viruses (conventional and real time RT-PCR).
2. To conduct Avian Influenza control and Influenza Pandemic Preparedness in Indonesia
   a. To socialize program, activities, and current situation of zoonotic diseases.
   b. To share information and know the development of AI.
3. To strengthen influenza surveillance in order to obtain epidemiology and virology information on influenza in Indonesia.
4. To establish and to support an effective system of pandemic preparedness and response at central, provincial, and district levels by developing pneumonia surveillance software, providing manual of using pneumonia surveillance software, multiplying pneumonia surveillance software in DVD format, conducting pneumonia surveillance software orientation, and conducting quarterly review of the sentinel and routine pneumonia surveillance.

A. NIHRD Progress:

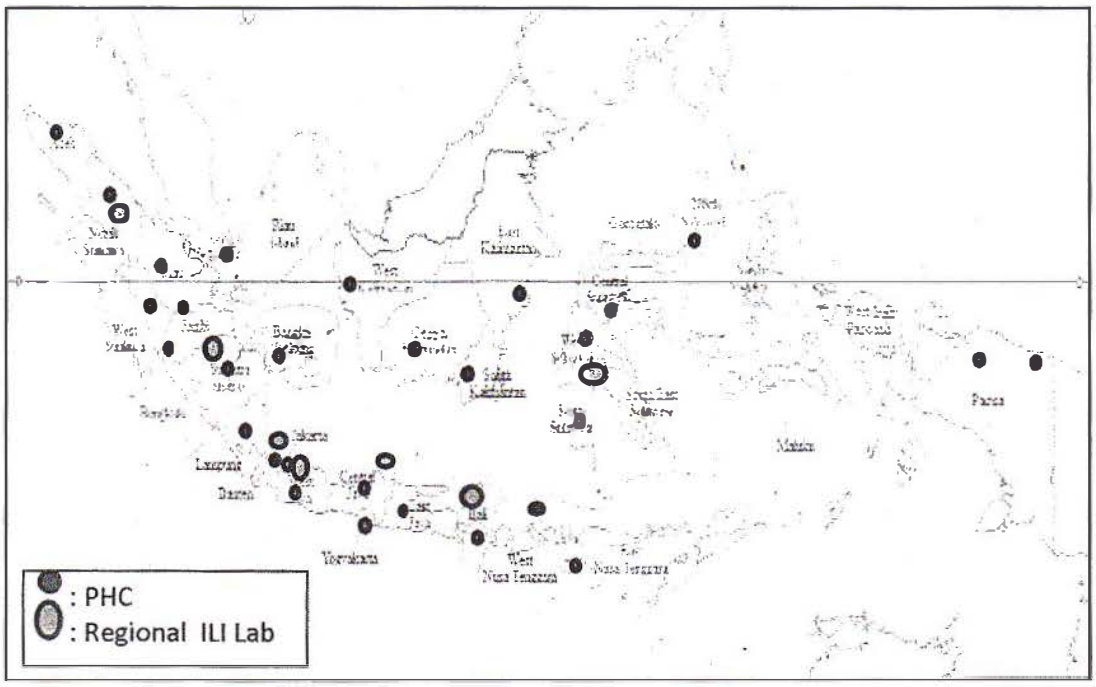
In this year, Influenza-like Illness (ILI) and Severe Acute Respiratory Infection (SARI) surveillance were the activities conducted by NIHRD under US-CDC Co-Ag:

1. ILI Surveillance

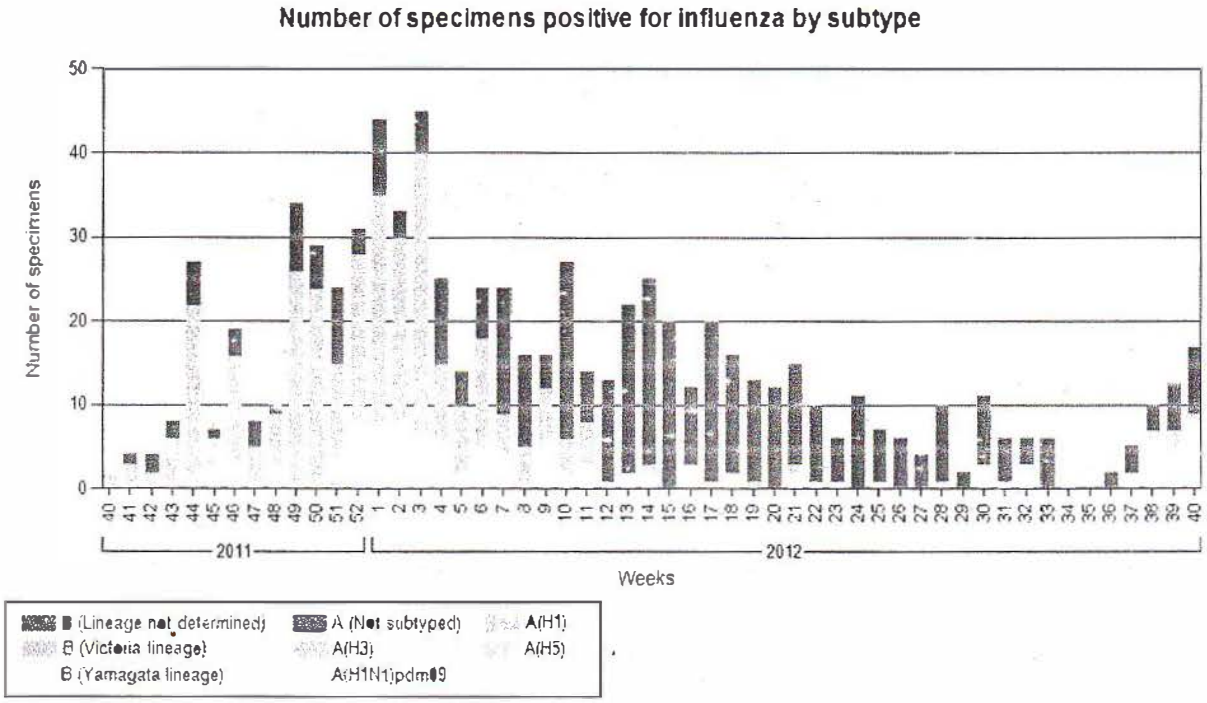
Indonesia operates 30 ILI sites at health care centers in 29 out of the 33 provinces. US-CDC funding during the third year of the grant was used to support 24 sites. The US-CDC funds were used to support 24 sites and 6 regional laboratories including incentive for sentinel and laboratory staff, courier fees, and honorarium for central staff. The H5N1 laboratory network supported ILI surveillance, in which six regional reference laboratories were utilized to support this network with confirmatory testing for influenza and quality control being conducted by NIHRD. The case definition for ILI in the last reporting period was:

- Fever ≥ 38° C, and
- Cough, with or without
- Sore throat,
- Not diagnosed as other diseases

Location of ILI sites and the regional labs used to test specimens



During October 2011 to September 2012, the ILI system detected 4,441 ILI cases of which 785 (17.6%) were influenza-positive. Of the influenza-positive,420 (9.5%) were influenza A and 365 (8.2%) were influenza B. The subtypes of influenza A mostly commonly detected were A(H3N2).



2. SARI Surveillance

SARI surveillance was conducted to detect influenza cases among hospitalized patients. It was started in 2008. During the reporting period, Indonesia operated 10 SARI sites in 10 provinces. Three of them were supported by Government of Indonesia (GoI) funds. US-CDC fund was used to support 7 sentinel sites. The funds covered procurement of laboratory reagents, courier fee, and incentives for four staff at each sentinel site : consisting of Clinical Pathologist, Pulmonologist/internist, Clinical Pediatrician and laboratory technician. Laboratory diagnosis was done at Virology Laboratory CBBTH-NIHRD.

For SARI cases, the definition used was:

- For patients > 5 years: sudden onset of fever of > 38 °C AND cough or sore throat, OR shortness of breath or difficulty in breathing AND requiring hospitalization;
- For patients < 5 years: any child aged 2 months to 5 years with cough or difficulty breathing

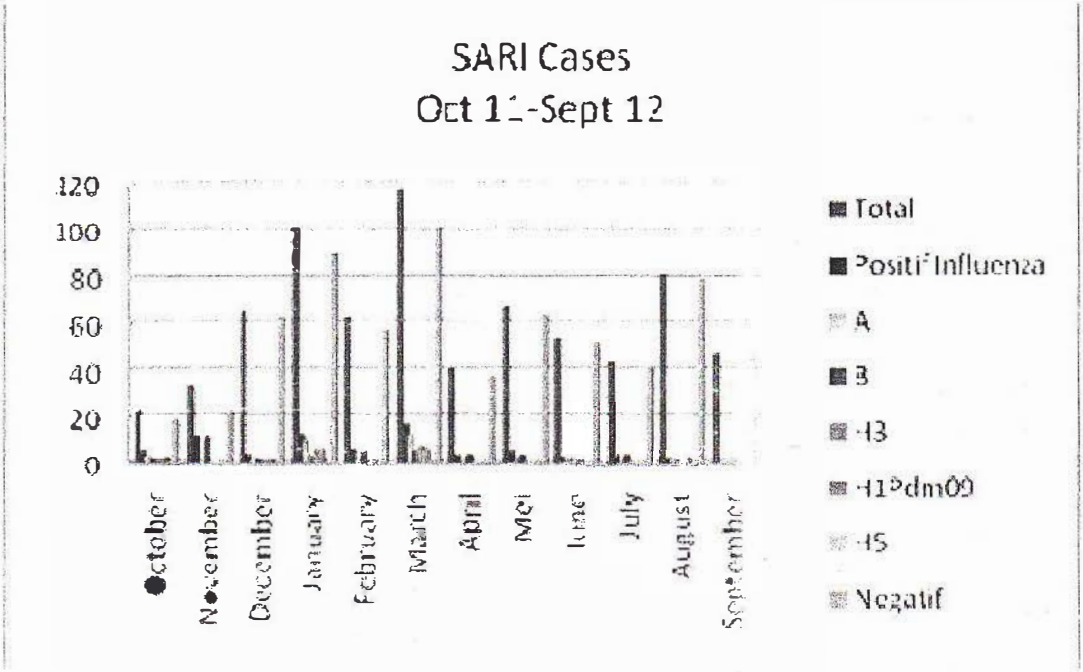
AND one of symptoms below:

- Lower chest indrawing.
- Nasal haring
- Grunting
- Sign of pneumonia at chest auscultation
- Central Cyanosis
- Inability to breastfeed
- Vomiting

AND requiring hospitalization

During October 2011 until September 2012 , 732 SARI cases were detected from the 10 sites, of which 65 (8.9%) were confirmed influenza-positive by rRT-PCR. From 65 influenza-positive, 33 were detected as Influenza A and 32 were detected as Influenza B. The subtype of Influenza A detected were A(H1N1pdm09), A(H3N2), and also two cases of A(H5N1) . This highlights the importance of SARI surveillance as a method for detecting H5N1-cases missed through other surveillance systems (such as the District Surveillance Officers who undertake surveillance once an H5N1-outbreak in poultry is detected).

The graph below shows total SARI cases from October 2011 – September 2012 and the proportion of positive influenza by month



To enable the above surveillance activities, a number of supplies were purchased using the US CDC grant. This included:

Procurement for PCR testing

No	Item	No.Catalog	Unit		Purchased
1	Super Script III Platinum One Step qRT-PCR kit w/ROX	Invitrogen 11732-020	100	Rx/kit	103
2	Viral RNA Extraction kit	Qiagen 52904	50	Rx/kit	27
3	Aerosol barrier Tips 200uL	MBP 2069	960	tips/box	15
4	Aerosol barrier Tips 10 uL	MBP 2140	960	tips/box	15
5	Gloves, nitril powder free (Small)		100	pcs/box	12
6	Gloves, nitril powder free (Medium)		101	pcs/box	8
7	VTM Hank's solution	Invitrogen 24020-117	500	ml/botol	12
8	Swab, dacron polyester	Cultiplast Swab 111598	500	/box	24
9	Plastik Zip lock bag	Lokal	100	lembar/box	20
10	Swab anak	Copan 503CS01	100	pcs/box	24
11	Ice pack		pcs		15
12	Cold Box		box		2
13	Ice pack gel		pcs	Pcs	100
14	Steroform box		pcs	Pcs	20
15	Termometer		pcs		10

Procurement for Viral
Isolation testing

No.	Item	Spesification	Unit	Merk/Brand	Purchased
1	DMEM	Form:Liquid; Volume:500 ml; High Glucose; Included Phenol Red Indicator & Sodium Pyruvate; Manufactured at a cGMP compliant facility that registered with the FDA as a medical device manufacturer and is certified to ISO 13485 and ISO 9001 standards	10 Btl x 500 ml	Gibco Invitrogen	2
2	Hepes 1 M	Form:Liquid; pH 7.2-7.5; Product Size:100 ml; HEPES is manufactured at a cGMP compliant facility that registered with the FDA as a medical device manufacturer and is certified to ISO 13485 and ISO 9001 standards	Btl/100 ml	Gibco Invitrogen	5
3	Fungizone	Anti-Mycotic; Amphotericin B; Form:Liquid; Product Size:20 ml.	Btl/20 ml	Gibco Invitrogen	3
4	Foetal Bovine Serum, USDA Approved	Age:Fetal; Species:Bovine; Product Size:500 ml; Qualified Grade; Endotoxin level: ≤ 50 EU/ml (levels routinely ≤ 10 EU/ml); Hemoglobin level: ≤ 25 mg/dl; Origin: Countries meeting USDA importation requirements; Triple filtered at 0.1 µm; ISO 13485 certified, processed in FDA registered facilities	Btl/500 ml	Gibco Invitrogen	1
5	BSA fraction V	Bovine Serum Albumin Fraction V in phosphate-buffered saline; Manufactured at a cGMP compliant facility that registered with the FDA as a medical device manufacturer and is certified to ISO 13485 and ISO 9001 standards	Btl/100 ml	Gibco Invitrogen	5
6	TPCK-Trypsin type XII from bovine pancreas	TPCK treated; Type XIII; lyophilized powder; mol wt 23.8 kDa; total impurities:salt, essentially free; foreign activity:Chymotrypsin <0.1 BTEE units/mg protein; storage temp.:-20°C	Btl	Sigma	1
7	Gentamicin	Form:Liquid; Product Size:10 ml; Concentration:50 mg/mL. FDA & ISO 13485 Registered	10 Btl x 10 ml	Gibco Invitrogen	1
8	PBS 10x pH 7,4 (Without Ca dan Mg)	pH 7.4; Form:Liquid; Osmolality:2800 - 3100 mOsm/kg; Concentrated:10 X ; No Magnesium and No Calcium; Volume : 500ml; Tissue Culture Grade	Bti/500 ml	Gibco Invitrogen	2

9	TC flask 25 cm2	Certified or coated with Poly - D - Lysine or Collagen I (surface ensure cell attachment , facilitates growth); Ergomomic closure; open or close in 1/3 turn; "Y" mark allows visual verification of vent position, even when stacked in incubators; Volume graduations; Material High Density Polyethylene; Polysterene Sterile; Culture area 25 cm or 75 cm	Case/200	NUNC	8
10	Sarung Tangan "S" Non Powder	Lokal	Box /50 psg	Power Grip	15
11	Sarung Tangan "M" Non powder	Lokal	Box /50 psg	Power Grip	15
12	Centrifuge tube 15 ml with rack	Tube sterile with 10-6; USP class VI non pyrogenic , non cytotoxic and Rnase/Dnase free to ensure the higest performance; Recyclable plastik rack reduces waste in the lab; Higer RCF rating enables greater range of application from low spees to super speed centrifugation	case/500	NUNC	7
13	Centrifuge tube 50 ml with Rack	Tube sterile with 10-6; USP class VI non pyrogenic, non cytotoxic and Rnase/Dnase free to ensure the higest performance; Recyclable plastik rack reduces waste in the lab; Higer RCF rating enables greater range of application from low spees to super speed centrifugation	case/25	NUNC	20
14	Filter 0,2 um 1000 ml		Case/12	Nalgene	2
15	Barrier Tips 200 ul steril	All tube cenrtifled Rnase/Dnase , RNA /DNA , ATP and pyrogen free; Flat Cap clear non sterile, ziplock closure for easy resealing; Graduated Microcentrifuge tube	tray/960	ART	3

Procurement for HA/HI
(Virus Identification)

No	Item	Specification	Unit	Brand/No Cat	Purchased
1	Plate V Bottom	Polysterene clear surface non treated; Total vol 300 ul/well; Non sterile; Well shape maximize sample recorvery	180 Pcs/box	NUNC	1
2	Yellow tips	Hydrologix tips are crystal clear and reduce sample retention; Virgin polypropylene; Racked pre sterilezed , low retention	Tray/960	MBP	2
3	Blue Tips	Hydrologix tips are crystal clear and reduce sample retention; Virgin polypropylene; Racked pre sterilezed , low retention	Tray/960	MBP	1
4	Gloves S		Box/100	Power Grip	20
5	Centrifuge tube 15 ml with rack	Tube sterile with 10-6; USP class VI non pyrogenic, non cytotoxic and Rnase/Dnase free to ensure the higest performance; Recyclable plastik rack reduces waste in the lab; Higer RCF rating enables greater range of application from low spees to super speed centrifugation	case/500	NUNC	3
6	Serological Pipet 10 ml steril grad 3 ml	Accurate disposable plastic pipettes; Sterility assurance level (SAL) of 10-6; Color code packing for easy in sorting; Individually wrapped in paper peeleable bags; Non Pyrogenic; Extra graduations to full pipettes volume	200 pcs/box	Corning/4488	4
7	Biohazard Bag 8,5"X 11"	High density polyethylene withstands autoclaving to 121°C; 24 in. (61 cm) × 36 in. (91 cm) × 0.00125 in. ; Bel-Art, F13162-0009; material translucent; Imprinted in red with biohazard symbol and precautions in English, Spanish, French, and German	100Pcs/box	Sigma Aldrich	3
8	PBS 10x pH 7,4 (Without Ca dan Mg)	pH 7.4; Form:Liquid; Osmolality:2800 - 3100 mOsm/kg; Concentrated:10 X ; No Magnesium and No Calcium; Volume : 500ml; Tissue Culture Grade	Btl/500 ml	Gibco Invitrogen	3
9	Cryo vial 1,8 ml	External thread polypropylene tube; polyethtlene screw cap; starfoot tube fits into grooves; Non Pyrogenic acording to the LAL test; Non Toxic USP class VI; Sterile (SAL 10-6) according to ISO 11137; IATA requirements for the transpor og diagnostic specimen; Reclosable zippered bags	450pcs/Box	NUNC	1
10	NaCl Fisiologis	Steril; Volume:500ml; NaCl 0,85%	btl/500 ml		4

11	Tissue		Box		10
12	Wings Needle 25 G		Pcs	Terumo	1
13	Syringe 10 ml		Pcs	Terumo	1
14	syringe 3 ml		Box/100	Terumo	1
15	Basin (autoclavable)		pcs	Biohit	100

A number of activities were conducted to enable sustainability of the surveillance activities relating to avian and pandemic influenza.

3. ILI & SARI review

A review of the ILI and SARI surveillance systems was conducted in May 2012 by the NIHRD team in collaboration with the US-CDC team (including Ms Karen Siener from Atlanta, Annex 1). A standard tool composed of six checklists was used to undertake this review. The checklists included questions on the broad overview of all influenza-related surveillance systems, a brief national/central laboratory review, central level ILI and SARI questionnaires, and ILI and SARI sentinel site review guides.

The review found there was commitment at national level, regional lab and sentinel site level in both ILI & SARI systems. The database at NIHRD was well-maintained for both ILI and SARI surveillance, and logbooks and raw data (questionnaires) well-maintained in folders categorized by site and year. Periodically, the virological data were shared internationally (FluNet website) and there was increasing collaboration with other influenza-related surveillance systems, such as collaboration with syndromic influenza surveillance conducted with Directorate-General of Disease Control and Environmental Health. Lastly, an increasing proportion of Government of Indonesia (GoI) funds were being utilized for these systems.

The opportunities for improvement were to reconsider the system operation according to the objectives, and to perhaps review the system objectives according to feasibility of surveillance. This is because the system aims to assess influenza disease burden but denominator and population-level data are not collected. Similarly, the system aims to enable early detection of potential outbreaks, but specimens are tested sporadically.

As per the detailed recommendations in the review report, the primary opportunities for improvement were : data quality audits, training, data management and presentation, and establishing formal policies and procedures related to ILI/SARI surveillance at each site that includes providing feedback to the sites and stakeholders.

4. Plan of Action Development

As a follow up action from ILI and SARI surveillance review in May 2012, NIHRD conducted a small workshop to develop Plans of Actions in August 2012. In this workshop, NIHRD with assistance from US-CDC, WHO, USAID, and USAID|Deliver created a matrix of Plans of Actions for ILI and SARI surveillance including for logistics aspect (see Annex 2). To enhance the system of SARI surveillance, many activities were planned including : development of SARI guidelines, training, monthly meetings and others (see Annex 3).

5. Review of ILI guideline & analysis of ILI sites

Based on the new WHO guideline of Influenza Surveillance, NIHRD ILI team and US-CDC Indonesia team have discussed and reviewed ILI guideline to reflect the latest WHO recommendations. This included reviewing the questionnaire to reduce the number of symptoms but to increase the number of underlying chronic conditions queried. This was done in view to better inform influenza control policy in the future, such as determining target risk groups for vaccination or for antiviral receipt. NIHRD team also conducted analysis of ILI sites based on infrastructures, human resources, and site performances.

6. Monthly coordination meetings

Based on recommendations arising from the May 2012 ILI/SARI review to enhance coordination (especially with DG DC-EH policy side), monthly coordination meetings were conducted two times in this reporting period. In the meetings, ILI and SARI team discussed surveillance activities, laboratory results, problems and preparation for next activities. The minutes of meetings from these two meetings are attached (see Annex 4).

7. SARI integration with Acute Respiratory Diseases Subdirectorate, DG DC-EH

According to WHO Interim Global Epidemiological Surveillance Standards for Influenza (July 2012) and SARI surveillance review conducted by US-CDC in May 2012, major changes will be introduced to the Indonesian SARI surveillance system. SARI surveillance will be coordinated by Acute Respiratory Diseases Subdirectorate, DG DC-EH, where in this new SARI system, NIHRD will support the laboratory component. Six hospitals will be selected as new SARI sentinel sites (see Annex 5). The old 10 SARI sentinel will cease operation in December 2012 and be replaced by the new system in February 2013 (target start date of the six new sites).

Importantly, as per the May 2012 review and based on the new WHO recommendations, the new SARI surveillance system will enhance reporting, epidemiological data collection and limit the laboratory component to influenza (not bacterial pathogens).

B. DG DC-EH Progress:

For the DG DC-EH, the funds were not dispersed as the team is still finalizing activities using the no-cost extension budget. The activities will be conducted using carry over funds in the next budget period (see Annex 8).

C. Activities relevant to sustainability of surveillance (but not funded by US CDC grant):

1. Logistics system development

A number of activities were undertaken to strengthen the ILI and SARI surveillance in this progress report period. One of the activities was logistics system development. During this reporting period, standard operating procedures (SOPs) were developed for the logistics of these two programs.

For ILI, Cold Chain assessment was conducted in 4 ILII sites (Makasar, Semarang, tangerang and Bali) on December 2011. A cold chain SOP was developed to help ensure the management of specimens from the field sites to NIHRD for testing in 16-17 February 2012. The SOP was developed primarily through collaboration with USAID|Deliver and US-CDC.

Trainings were conducted to roll out the SOP at all ILI sites and network laboratories. Routine ILI monitoring was conducted in 4 ILI sites (Yogyakarta, Mataram, Bandung and Manado) on November 2011 and in 4 ILI sites (Banda Aceh, Bengkulu, Batam and Kupang) on April, 2012.

In June 2012, evaluation of ILI surveilance program logistic system was conducted by USAID Deliver consultant. The results of the evaluation is attached. One of the recommendation was to create plan of action of ILI logistic system. In September, plan of action ILI logistic system were developed. (see Annex 6 and 7).

For SARI, Logistics assesment was conducted in 4 SARI sites (Semarang, Mataram, Bandung and Makasar) on November, 2011. Trainings were conducted in two SARI sentinel sites: in Banten and in Bali in May 2012. The development of the logistics SOP and the roll-out process has enabled capacity-strengthening of other aspects of the surveillance system. During September 2011 to September 2012, logistics monitoring were conducted in 2 SARI sentinel sites to ensure that the sites have applied the SOP and maintained the designated logistics system.

In addition, procedures for PCR machine maintenance have been developed and rolled-out in two regional laboratories in September 2012.

2. Yearly ILI and SARI surveillance meeting, October 2011

In October 2011, NIHRD conducted ILI and SARI surveillance annual meeting in Bekasi, West Java. The activity was funded by Government of Indonesia (GOI) budget. This highlights that costs of the surveillance system are increasingly sustainable using GOI budgets. Activities conducted in the meeting were presentations about new ILI and SARI case definition according to WHO case definition, the importance of ILI and SARI surveillance, ILI & SARI data analysis results and group discussion. Meetings will continue in future years to ensure coordination with field sites and to maximize surveillance quality.

3. Supply of primers and probes from IRR Facility

NIHRD obtains primers and probes from the IRR facility each year. The procurement code for NIHRD is Jakarta 192543. During this reporting period, the following were obtained to support surveillance activities:

Order	Order Date	PO	Item	Description	Qty Invoiced
SOE52046	6/14/2012	061412BW03	FR-176	Influenza A/H5N1 (Asian Lineage) Virus Real-time RT-PCR Positive Control with Cultured Human Cell Material (H5VC) (RUO)	2
SOE52046	6/14/2012	061412BW03	FR-198	CDC Influenza Virus Real-time RT-PCR Influenza A/B Typing Panel (RUO)	2
SOE52046	6/14/2012	061412BW03	FR-200	CDC Influenza Virus Real-time RT-PCR Influenza A/H5 (Asian Lineage) Subtyping Panel (RUO)	2
SOE52046	6/14/2012	061412BW03	FR-895	Pooled Influenza Positive Control (RUO)	2
SOE52046	6/14/2012	061412BW03	FR-929	CDC Influenza Virus Real-time RT-PCR Influenza A (H1/H3/H1 pdm09) Subtyping Panel (RUO)	2

4. Attendance at meetings, publications and conferences to share surveillance information

A number of national and international conferences were attended by NIHRD staff to share information about the surveillance activities conducted in this reporting year.

- Vietnam April 2012: NIC Meeting where Dr Ondri presented "Using ILI surveillance platform to detect human H5N1 infection".
- Poster Presentation in The 15th ICID in Bangkok 2012 by Vivi Setiawaty, Roselinda, Ondri Dwi Sampurno : "Influenza activities in Indonesia in 2010-2011".
- Oral presentation on Regional symposium on Health Research and Development, Yogyakarta 2012 by Krisna N. A Pangesti, Ni Ketut Susilarini, Hana Apsari P, and Vivi Setiawaty: "Influenza cases from Surveillance Severe Acute Respiratory Infection, 2011.

- A publication in Influenza and Other Respiratory Viruses entitled "Surveillance of Influenza in Indonesia, 2003-2007" by Kosasih H, Roselinda, Nurhayati, Klimov A, Xiyan X, Lindstrom S, Mahoney F, Beckett C, Burgess TH, Blair PJ, Uyeki TM, Sedyaningsih ER.

X. PERSETUJUAN ATASAN

Jakarta, 2013

MENYETUJUI :

Kepala Bidang Biomedis	Pengusul
dr. Roselinda, M. Epid	dr. Krisna Nur Andriana P,MS
NIP. 195807011987012001	NIP. 197509092005012002

DISETUJUI

Ketua Panitia Pembina Ilmiah	Kepala Pusat BTDK
Dr. drg. Magdarina D.A, MSc	Drs.Ondri Dwi Sampurno, MSi,Apt
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KEMENTERIAN KESEHATAN REPUBLIK INDONESIA
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NATIONAL INSTITUTE
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ETHICAL APPROVAL
FOR THE USE OF HUMAN SUBJECTS

No. : KE.01.07/EC/546/2012

The Committee on Health Research Ethics of the National Institute of Health Research and Development, Indonesia Ministry of Health, after conducting review on the research protocol entitled :

"Developing Sustainable Influenza Surveillance Networks and Response to Avian and Pandemic Influenza in Indonesia"

Submitted on : ***June 5, 2012*** by : ***Drs. Ondri Dwi Sampurno, M.Si, Apt***

It is hereby declared that the above protocol whereby human subjects will be used, has been approved for implementation in duration as stated in the protocol.

Please note that this *ethical approval* is for the period of 1 year since approved date.

Should there be any modification and/or extention of the study, the Principal Investigator is required to resubmit the protocol for approval. The progress and final summary reports should be submitted to NIHRD ethics committee.

Jakarta, July 3rd, 2012

Committee of Health Research Ethics,
Chairperson,

Prof. Dr. M. Sudomo

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SURAT KEPUTUSAN

KEPALA BADAN PENELITIAN DAN PENGEMBANGAN KESEHATAN
NO. HK 03.05/4/9172/2011

TENTANG

PENUNJUKAN TIM PELAKSANAAN SURVEILANS ILI (INFLUENZA LIKE ILLNESS) DAN SURVEILANS SARI (SEVERE ACUTE RESPIRATORY INFECTION)

Menimbang :

1. Bahwa untuk melaksanakan kegiatan " *Development of Influenza Virology and Epidemiological Surveillance Network in Indonesia (Surveilans ILI))*" and *"Surveillance of Severe Acute Respiratory Infection (SARI)"* perlu ditunjuk Tim Pelaksana.
2. Bahwa penunjukan tersebut (butir 1) perlu ditetapkan dengan Surat Keputusan Kepala Badan Penelitian dan Pengembangan Kesehatan
3. Bahwa mereka yang namanya tercantum dalam Surat Keputusan ini dianggap cakap untuk melaksanakan tugas dimaksud pada (butir 1) di atas.

Mengingat :

1. Undang – undang No. 23 tahun 1992 tentang Kesehatan
2. Peraturan Pemerintah No. 39 tahun 1995 tentang Penelitian dan Pengembangan Kesehatan.
3. Peraturan Presiden No. 70 tahun 2005 tentang Pedoman Pelaksanaan Pengadaan Barang dan Jasa Pemerintah.
4. Surat Edaran Dirjen Anggaran No. SE-11/A/51/0194 tentang Sistem Akuntansi Pemerintah.
5. Peraturan Menteri Kesehatan Republik Indonesia Nomor : 1575/MENKES/Per/XI/2005 tanggal 16 November 2005 tentang Struktur Organisasi dan Tata Kerja Departemen Kesehatan RI.

Memperhatikan : Nota Kesepahaman (*Memorandum of Understanding*) antara Badan Litbang Kesehatan dengan *International and Territories Acquisition and Assistance Branch, CDC*, Nomor : 3U511P000346-01W1 tanggal 1 September 2010 tentang pelaksanaan surveilans *Development of Influenza Virology and Epidemiological Surveillance Network in Indinesia*"

Menetapkan

MEMUTUSKAN

Pertama : Membentuk Tim Pelaksana Litbang *"Development of Influenza Virology and Epidemiological Surveillance Network in Indonesia (Surveillance ILI)*" and "*Surveillance of Severe Acute Respiratory Infection (Surveillance SARI)*" dengan susunan tim seperti tercantum dalam lampiran surat Keputusan ini

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Kedua : Uraian Tugas Tim Pelaksana seperti tercantum dalam lampiran Surat Keputusan

Ketiga : Tim Pelaksana yang namanya tercantum dalam Surat Keputusan ini diberikan honorarium sesuai dengan peraturan yang berlaku.

Keempat : Biaya untuk pelaksanaan kegiatan dibebankan kepada Anggaran CDC Atlanta

Kelima : Keputusan ini berlaku terhitung mulai tanggal 1 Agustus 2011 s/d 30 September 2012, akan ditinjau kembali apabila di kemudian hari ternyata terdapat kesalahan/kekeliruan dalam penetapan ini.

Ditetapkan di : Jakarta
Pada tanggal : 31 Oktober 2011

A.n. Menteri Kesehatan RI
Kepala Badan Penelitian dan Pengembangan Kesehatan

KEMENTERIAN KESEHATAN REPUBLIK INDONESIA
BADAN PENELITIAN DAN PENGEMBANGAN KESEHATAN

Dr. dr. Trihono, MSc
NIP. 195402141980121001

Surat Keputusan ini disampaikan dengan hormat kepada :

1. Sekretaris Jendral Kementerian Kesehatan R.I
2. Direktur Jendral Pengendalian Penyakit dan Penyehatan Lingkungan
3. Sekretaris Badan Penelitian dan Pengembangan Kesehatan
4. Para Kepala Pusat di Lingkungan Badan Litbang Kesehatan
5. Sekretaris Ditjen Pengendalian Penyakit dan Penyehatan Lingkungan
6. Direktur Pemberantasan Penyakit Menular Langsung, Ditjen P2PL
7. Direktur Pemberantasan Penyakit Bersumber Binatang, Ditjen P2PL
8. Direktur Epim & Kesma (Epidemiologi Imunisasi dan Kesehatan Matra), Ditjen P2PL
9. Ketua PPI Pusat Biomedis dan Teknologi Dasar Kesehatan
10. Para Pejabat Struktural di lingkungan Pusat Biomedis dan Teknologi Dasar Kesehatan
11. Masing-masing yang bersangkutan, untuk diketahui dan dilaksanakan.

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Lampiran Keputusan Kepala Badan Penelitian dan Pengembangan Kesehatan

Nomor : HK.03.05/4/9172/2011
Tanggal : 31 Oktober 2011

NO	NAMA	KEDUDUKAN DALAM TIM	URAIAN TUGAS
	TIM PENGARAH		
1	Kepala Badan Penelitian dan Pengembangan Kesehatan	Pengarah	Memberikan pengarahan dan pembinaan teknis pelaksanaan surveilans, penulisan laporan dan tertib administrasi
2	Sekretaris Badan Litbang Kesehatah	Konsultan Administrasi & Keuangan	Memberikan pengarahan administrasi & keuangan yang dibutuhkan selama pelaksanaan surveilans
3	Kepala Bagian Tata Usaha	Konsultan Administrasi	Memberikan pengarahan administrasi surveilans
4	Kepala Sub Bagian Kepegawaian, Keuangan & Umum	Konsultan Manajemen & Logistik	Memberikan pengarahan manajemen & logistik surveilans
	TIM PELAKSANA PUSAT	**JABATAN**	**URAIAN TUGAS**
1	Kepala Pusat Biomedis dan Teknologi Dasar Kesehatan	Koordinator Proyek	Bertanggung jawab atas seluruh pelaksanaan proyek
2	dr. Ni Ketut Susilarini, MS	Ketua Pelaksana SARI	Bertanggung jawab atas seluruh pelaksanaan serveilans dan laporan SARI
3	dr. Krisna Nur AP, MS	Ketua Pelaksana ILI	Bertanggung jawab atas seluruh pelaksanaan surveilans dan laporan ILI
4	dr. Roselinda, M. Epid	Epidemiologist Koordinator Keuangan	Bertanggung jawab atas seluruh pelaksanan surveilans, laporan di bidang keuangan & administrasi ILI & SARI
	TIM LAB ILI/SARI	**JABATAN**	**URAIAN TUGAS**
1	dr. Vivi Setiawaty, M. Biomed	Medical Doctor	Koord. Lab. ILI & SARI
2	Hartanti Dian Ikawati, SSI	Administrasi Keuangan	Pelaporan Admin. Keuangan
3	Hana Apsari Pawestri, MSc	Molekuler Biologi	Koord. Pemeriksaan Molekuler
4	Widoretno, SSi, Msi	Biologist	Koordinator Logistik
5	Surpini	Administrasi	Administrasi
6	Kusniah, SAP	Bendahara	Laporan Keuangan
7	Zulfan Bahar	Bendahara	Juru Bayar

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8	drh. Rabea P. Yekti, M. Epid	Epidemiologist	Data Analsis
9	dr. Herna	Medical Doctor	Kompilasi Data SARI
10	Subangkit, SSi	Biologist	Kultur
11	Holly Arief Wibowo, SSi	Biologist	Pemeriksaan RT PCR
12	Triyani	Litkayasa	Pemeriksaan RT PCR
13	Kartika Dewi Puspa, Apt	Pharmacist	Pemeriksaan RT PCR
14	Sumarno, AMAK	Litkayasa	Pemeriksaan RT PCR
15	Eka Pratiwi, SSI	Biologist	Kultur
16	Nike Susanti	Staf Laboratorium	Kultur
17	Sri Susilowati	Staf Laboratorium	Kultur
18	dr. Mursinah	Staf Laboratorium	Kultur
19	Ratumas Rosmawati, SKM	Litkayasa	Isolasi dan karakterisasi virus
20	Wasiyo	Litkayasa	Pembuatan Media Spesimen
21	Klino	Litkayasa	Kultur Cell
22	Shinta Purnamawati, SKM	Staf Laboratorium	Pencatatan Data Spesimen
23	Santono	Staf Laboratorium	Penerimaan Spesimen
24	Fahim	Litkayasa	Strerilisasi
	Administrasi		
1	Dra. Hastini, M.Kes	Administrasi	Administrasi
2	Awit Handayani, SE	Administrasi	Administrasi
3	Hasmeriningsih	Administrasi	Administrasi
4	Suharto	Administrasi	Administrasi
	TIM PROVINSI - ILI		
1	**Prov. DI - ACEH NAD**		
	Dinkes Kota NAD		
	1. Darwis, SKM	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Banda Raya NAD		
	2. dr. Suraiya	Peneliti Daerah	Koordinasi Lapangan
	3. Sri Maisaroh	Pembantu Peneliti	Pengambil Spesimen
2	**Prov. Sumatera Utara**		
	Dinkes Kota Medan		
	1. Burhanuddin, SKM	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Teladan		
	2. dr. Refrini	Peneliti Daerah	Koordinasi Lapangan
	3. Abdullah	Pembantu Peneliti	Pengambil Spesimen
3	**Prov. Kepulauan Riau**		
	Dinkes Kota Batam		
	1. dr. Ratna Irawati	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Batu Aji		
	2. dr. Nuraini	Peneliti Daerah	Koordinasi Lapangan
	3. Dian Oktaviasari	Pembantu Peneliti	Pengambil Spesimen

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4	**Prov. Sumatera Selatan**		
	Dinkes Kota Palembang		
	1. Erikson Siregar, SKM	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas 7 Ulu		
	2. dr. Syari Masyithah	Peneliti Daerah	Koordinasi Lapangan
	3. Hj. Aliahti, AM	Pembantu Peneliti	Pengambil Spesimen
5	**Prov. Jawa Barat**		
	Dinkes Kota Bandung		
	1. dr. Yoriza Sativa	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Padasuka		
	2. dr. Eti Sarasati	Peneliti Daerah	Koordinasi Lapangan
	3. Asep Wahyu, AMK	Pembantu Peneliti	Pengambil Spesimen
6	**Prov. Banten**		
	Dinkes Kota Tangerang		
	1. dr. RA Dewi Maria Y	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Curug		
	2. dr. Shelmi Johan	Peneliti Daerah	Koordinasi Lapangan
	3. Ade Atik, SKM	Pembantu Peneliti	Pengambil Spesimen
7	**Prov. DKI**		
	Suku Dinkes Kota Jaktim		
	1. Aan Nurhasanah, SKM	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Utan Kayu Utara		
	2. dr. Rahadini Ayu Setianingrum	Peneliti Daerah	Koordinasi Lapangan
	3. Nurhaeni	Pembantu Peneliti	Pengambil Spesimen
8	**Prov. DIY – Yogya**		
	Dinkes Kota Yogyakarta		
	1. dr. Yoga Tri Nugroho	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Kota Gede I		
	2. dr. Yulaika Kusuma	Peneliti Daerah	Koordinasi Lapangan
	3. Reny Trisnantini	Pembantu Peneliti	Pengambil Spesimen
9	**Prov. Jawa Tengah**		
	Dinkes Kota Semarang		
	1. Ashudi, SKM	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Pandanaran		
	2. dr. Wiwik Nugrawaty	Peneliti Daerah	Koordinasi Lapangan
	3. Suharjo	Pembantu Peneliti	Pengambil Spesimen
10	**Prov. Jawa Timur**		
	Dinkes Kota Malang		
	1. Solikhin, SKM	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Dinoyo		
	2. dr. Farid S	Peneliti Daerah	Koordinasi Lapangan
	3. Elief Yuniarti	Pembantu Peneliti	Pengambil Spesimen

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11	**Prov. Kalimantan Selatan**		
	Dinkes Kota Banjarmasin		
	1. H. Supriani, SKM	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Pekauman		
	2. dr. Masliani	Peneliti Daerah	Koordinasi Lapangan
	3. Hamidah	Pembantu Peneliti	Pengambil Spesimen
12	**Prov. Kalimantan Barat**		
	Dinkes Kota Pontianak		
	1. Ludianto, SKM	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Siantan Hilir		
	2. dr. Robby Eko Nugroho	Peneliti Daerah	Koordinasi Lapangan
	3. Mardiana	Pembantu Peneliti	Pengambil Spesimen
13	**Prov. Kalimantan Timur**		
	Dinkes Kota Balikpapan		
	1. dr. Agyan Reswanendro	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Balikpapan		
	2. dr. Luluk Kumala Kafbiyah	Peneliti Daerah	Koordinasi Lapangan
	3. Zainul Khaidir	Pembantu Peneliti	Pengambil Spesimen
14	**Prov. Sulawesi Utara**		
	Dinkes Kota Manado		
	1. dr. Joy Zeekeon	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Tikala Baru		
	2. dr. Robby J Mottoh	Peneliti Daerah	Koordinasi Lapangan
	3. Susanti Pajow	Pembantu Peneliti	Pengambil Spesimen
15	**Prov. Sulawesi Selatan**		
	Dinkes Prov Makasar		
	1. Debsy Patilima, SKM	Peneliti Daerah	Koordinasi Lapangan
	Dinkes Kota Makasar		
	2. Nur Syamsul, SKM	Pembantu Peneliti	Pengambil Spesimen
	Puskesmas Sudiang		
	3. dr. Martha Musu	Peneliti Daerah	Koordinasi lapangan
16	**Prov. BALI**		
	Dinkes Kota Denpasar		
	1. I Ketut Gita, ST	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas I Denpasar Selatan		
	2. dr. Ni Komang Wulan Putri T	Peneliti Daerah	Koordinasi Lapangan
	3. Tarmanta	Pembantu Peneliti	Pengambil Spesimen
17	**Prov. NTB**		
	Dinkes Kota Mataram		
	1. Zumrah Wahyuni	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Karang Taliwang		
	2. dr. H. Triadi Hernawanto	Peneliti Daerah	Koordinasi Lapangan
	3. Hermawati, S.Kep	Pembantu Peneliti	Pengambil Spesimen

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18	**JAYAPURA**		
	Dinkes Kota Jayapura		
	1. Elihut Robaha, SKM	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Jayapura		
	2. drg. Juliana	Peneliti Daerah	Koordinasi Lapangan
	3. Syamsiah Tauran	Pembantu Peneliti	Pengambil Spesimen
19	**PAPUA**		
	Dinkes Kabupaten Merauke		
	1. Arif	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Mopah Merauke		
	2. dr. Ivonne Maria C Woersok	Peneliti Daerah	Koordinasi Lapangan
	3. Yuliana Lamban	Pembantu Peneliti	Pengambil Spesimen
20	**KUPANG**		
	Dinkes Kota Kupang		
	1. Tiurmasari E Saragih, SKM	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Sikumana		
	2. dr. Maria Stepani	Peneliti Daerah	Koordinasi Lapangan
	3. Ifki F Prihartini	Pembantu Peneliti	Pengambil Spesimen
21	**PALANGKARAYA**		
	Dinkes Kota Palangkaraya		
	1. Tiarma Febriana, SKM	Peneliti Daerah	Korordinasi Lapangan
	Puskesmas Kayon		
	2. dr. Damar Pramusinta	Peneliti Daerah	Koordinasi Lapangan
	3. Eko Siswanto	Pembantu Peneliti	Pengambil Spesimen
22	**BENGKULU**		
	Dinkes Kota Bengkulu		
	1. Lina Novita, S.Kep	Peneliti Daerah	Koordinator Lapangan
	Puskesmas Sukamerindu		
	2. dr. Erlina Panca Putri	Peneliti Daerah	Koordinator Lapangan
	3. Sri Kartika Rahayu	Pembantu Peneliti	Pengambil Spesimen
23	**PALU**		
	Dinkes Kota Palu		
	1. Ni Made Suryati, SKM	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Birobuli		
	2. dr. Rosallin Tresnawaty Lago	Peneliti Daerah	Koordinasi Lapangan
	3. Naomi Pasapan	Pembantu Peneliti	Pengambil Spesimen
24	**AMBON**		
	Dinkes Kota Ambon		
	1. dr. Hans Leisay, M. Kes	Peneliti Daerah	Koordinasi Lapangan
	Puskesmas Waihaong		
	2. dr. Adriyati Refendy Hasanusi	Peneliti Daerah	Koordinasi Lapangan
	3. Aminah Tuharea	Pembantu Peneliti	Pengambil Spesimen

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II	**TIM PROVINSI SARI**		
1	**PROV. BANTEN – TANGERANG** **RS Tangerang**		
	1. dr. Dewi Lokida, Sp.PK	Peneliti Daerah	Koordinasi Lapangan
	2. dr. Udjiani Edi Pawitro, Sp.A	Peneliti Daerah	Koordinasi Lapangan
	3. dr. Tintin Martini, Sp.P	Peneliti Daerah	Koordinasi Lapangan
	4. Tini	Pembantu Peneliti	Pengambil Spesimen
2	**PROV. JAWA BARAT** **RS Hasan Sadikin Bandung**		
	1. dr. Ida Parwati, Sp.PK	Peneliti Daerah	Koordinasi Lapangan
	2. dr. Emmy Pranggono, Sp.D	Peneliti Daerah	Koordinasi Lapangan
	3. dr. Sri Sudarwati, SpA	Peneliti Daerah	Koordinasi Lapangan
	4. Elin	Pembantu Peneliti	Pengambil Spesimen
3	**PROV. JAWA TENGAH** **RS dr. Kariadi Semarang**		
	1. dr. Musrichan A, MPH.PMK	Peneliti Daerah	Koordinasi Lapangan
	2. dr. Agus Suryanto, Sp.PD	Peneliti Daerah	Koordinasi Lapangan
	3. dr. Dwi Wastoro, Sp.A	Peneliti Daerah	Koordinasi Lapangan
	4. Dona Siana	Pembantu Peneliti	Pengambil Spesimen
4	**PROV. NTB** **RS Mataram**		
	1. dr. Salim Thalib, Sp.P	Peneliti Daerah	Koordinasi Lapangan
	2. dr. Sang Ayu K Indriani, Sp.A	Peneliti Daerah	Koordinasi Lapangan
	3. dr. Laily Indrayanti, Sp.PK	Peneliti Daerah	Koordinasi Lapangan
	4. Santi	Pembantu Peneliti	Pengambil Spesimen
5	**PROV. BALI** **RS Sanglah Denpasar Bali**		
	1. dr. I K Agus Somia, Sp.PD	Peneliti Daerah	Koordinasi Lapangan
	2. dr. Siadi Purniti, Sp.A	Peneliti Daerah	Koordinasi Lapangan
	3. dr. Ni Nyoman Mahartini, Sp.PK	Peneliti Daerah	Koordinasi Lapangan
	4. Mardiah	Pembantu Peneliti	Pengambil Spesimen
6	**Prov. Sulawesi Selatan** **RS. Dr. Wahidin Sudiro H**		
	1. dr. Bob Wahyudin, Sp.A	Peneliti Daerah	Koordinasi Lapangan
	2. dr. Andi Sulton, DMM	Peneliti Daerah	Koordinasi Lapangan
	3. dr. Irawati, Sp.P	Peneliti Daerah	Koordinasi Lapangan
	4. Raiwani	Pembantu Peneliti	Pengambil Spesimen
7	**Prov, DKI Jakarta** **RSPI Jakarta**		
	1. dr. Adria Rusli, Sp.P	Peneliti Daerah	Koordinasi Lapangan
	2. dr. Sondang M. Sirait, Sp.PK	Peneliti Daerah	Koordinasi lapangan
	3. dr. Dyani K, Sp.A	Peneliti Daerah	Koordinasi lapangan
	4. Sumaryati	Pembantu Peneliti	Pengambil Spesimen

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III	LAB REGIONAL		
1	Lab. Mikrobiologi FK UNHAS (Univ. Hasanudin) Makasar Prof. dr. Muh. Nasrum, PhD	Peneliti daerah	Pemeriksaan RT PCR
2	Lab. Mikrobiologi FK UNDIP (Univ. Diponegoro) Semarang dr. Purnomo Hadi, Msi	Peneliti daerah	Pemeriksaan RT PCR
3	Lab. Biologi Molekuler FK Udayana Bali dr. Ni Nyoman Sri Budayanti	Peneliti daerah	Pemeriksaan RT PCR
4	Lab. Mikrobiologi FK UI Salemba Jakarta dr. Andi Yasmon	Peneliti daerah	Pemeriksaan RT PCR
5	Lab. BBLK Palembang Joko Miharto, SKM	Peneliti Daerah	Pemeriksaan RT PCR

A.n. Menteri Kesehatan RI
Kepala Badan Penelitian dan Pengembangan Kesehatan

Dr. dr. Trihono, MSc
NIP. 195402141980121001

COOPERATIVE AGREEMENT YEAR 2011/2012
CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)

CARRY OVER 2010/2011 REQUESTED							GRAND TOTAL	$565,000
Salaries and Wages							TOTAL	$52,155.89
NIHRD						SUBTOTAL	$31,914.89	
Project Coordinator	1 Person	12 month		$151.574		$1,818.89		
Field Coordinator	2 Person	12 month	$	140		$3,360		
Finance Coordinator	2 Person	12 month	$	140		$3,360		
Data Analyaer & Finance Administrator	4 Person	12 month	$	131		$6,288		
Laboratory & Logistics Coordinator	4 Person	12 month	$	131		$6,288		
Laboratory & Administration Staff	10 Person	12 month	$	90		$10,800		
DGDC&EH						SUB TOTAL	$ 20,241	
Director of Project	1 Person	12 month	$	120	$	1,446		
Manager of Project	1 Person	12 month	$	120	$	1,446		
PI	1 Person	12 month	$	325	$	3,904		
Project Supervisor	1 Person	12 month	$	301	$	3,614		
Secretariat Staf	1 Person	12 month	$	265	$	3,181		
Treasurer	1 Person	12 month	$	96	$	1,157		
Technical Coordinator	3 Person	12 month	$	60	$	2,169		
Technical Team	4 Person	12 month	$	60	$	2,892		
Janitor	1 Person	12 month	$	36	$	434		
Fringe Benefits							TOTAL	$0.00
Consultant Costs							TOTAL	$0.00
Equipment							TOTAL	$0.00
Supplies							TOTAL	$164,405.14
NIHRD						SUBTOTA	$160,241.14	
Office supplies								
Justification: Office supplies will be used for daily needs at the secretariat office								
Office supplies, paper, pens, printer toner	10 Package	12	months	$ 5.5558	$	666.67		
Reagents								
Justification: Reagents will be used for specimens testing in ILI and SARI surveillance activities								
Reagents for:								
- PCR Test (reagen+kits+consumable)	267 specimens	12	months	$ 42.50	$	136,170.21		
- Virus isolation for ILI and SARI surveillance	53 specimens	12	months	$ 26.76	$	17,021.28		
- Bacterial culture for SARI surveillance	17 specimens	12	months	$ 15.64	$	3,191.49		
- Serology test for SARI surveillance	17 specimens	12	months	$ 15.64	$	3,191.49		
DGDC&EH						SUB TOTAL	$4,164	
Office supplies								
Justification: Office supplies will be used for daily needs at the secretariat office								

Office supplies, paper, pens, printer toner	1 Package	12 month		$ 347	$ 4,164		
Travel						**TOTAL**	$138,022
DGDC& EH							
PNEUMONIA SOFTWARE ORIENTATION TO SENTINEL PERSONNEL					**subtotal**	**$38,500**	
Justification: travel 55 staff at central level and sentinel sites to be introduced to software for Pneumonia Surveillance							
Transport	55 Person	1 Trip	1 times	$ 482	$ 26,506		
Perdiem	55 Person	3 Days	1 times	$ 33	$ 5,367		
Accomodation	55 Person	2 Days	1 times	$ 60	$ 6,627		
QUARTERLY REVIEW OF THE SENTINEL PNEUMONIA SURVEILLANCE					**subtotal**	**$1,807**	
Justification: travel 20 staff to meet to review the implementation of sentinel Pneumonia surveillance							
Transport	20 Person	1 Trip		$ 13	$ 265		
Perdiem	20 Person	1 Days	4 times	$ 19	$ 1,542		
MEETING FOR TECHNICAL INSTRUCTIONAL PREPARATION OF SENTINEL ILI					**subtotal**	**$2,434**	
Justification: travel 10 staff for preparation technical meeting of sentinel ILI surveillance							
Central Level Perdiem	10 Person	3 Days	1 times	$ 33	$ 976		
Central Level Transport	10 Person	1 Trip	1 times	$ 24	$ 241		
Finalization Perdiem	10 Person	3 Days	1 times	$ 33	$ 976		
Finalization Transport	10 Person	1 Trip	1 times	$ 24	$ 241		
HARMONIZATION SENTINEL ILI FOR HEALTH CENTRE					**subtotal**	**$20,718**	
Justification: travel staff for harmonization meeting							
Central Level Perdiem	10 Person	2 Days	1 times	$ 33	$ 651		
Central Level Transport	10 Person	1 Trip	1 times	$ 24	$ 241		
Health Center Perdiem	44 Person	2 Days	1 times	$ 33	$ 2,863		
Health Center Transport	44 Person	1 Trip	1 times	$ 386	$ 16,964		
TECHNICAL ASSISTANCE					**subtotal**	**$14,639**	
Justification: travel staff for technical assistance							
Transport	1 Person	1 Trip	18 times	$ 482	$ 8,675		
Accomodation	1 Person	3 days	18 times	$ 54	$ 2,928		
Perdiem	1 Person	4 days	18 times	$ 42	$ 3,036		
EVALUATION MEETING					**subtotal**	**$2,422**	
Justification: evaluation meeting forsurveillance activities conducted							
Transport	10 Person	1 Trip	3Times	$ 33	$ 976		
Perdiem	10 Person	2 Day	3 Times	$ 24	$ 1,446		
MONTHLY BULLETIN ON AI					**subtotal**	**$19,759**	
Justification: travel 20 staff to meet to prepare data and articles for the monthly bulletin on AI							
Transport	20 Person	1 Trip	4 times	$ 30	$ 2,410		
Perdiem	20 Person	3 Days	4 times	$ 36	$ 8,675		
Accomodation	20 Person	2 Days	4 times	$ 54	$ 8,675		
INTERNAL MEETING					subtotal	$3,470	
Justification: travel 2 persons to two peripheral meetings							
Transport	2 Person	1 Trip	2 times	$ 361	$ 1,446		
Perdiem	2 Person	3 Days	2 times	$ 36	$ 216		
Accomodation	2 Person	3 Days	2 times	$ 120	$ 1,446		
EXPERT MEETING					**subtotal**	**$16,422**	
Justification: to determine the progress of the project							
Transport	29 Person	1 Trip	2 times	$ 30	$ 1,747		
Perdiem	29 Person	2 Days	2 times	$ 36	$ 4,193		
Accomodation	29 Person	2 Days	2 times	$ 90	$ 10,482		

COORDINATION MEETING					**subtotal**	**$17,853**	
Justification: travel 12 persons for coordination meeting							
Transport	12 Person	1 Trip	4 times	$ 24	$ 1,157		
Perdiem	12 Person	4 Days	4 times	$ 39	$ 7,518		
Accomodation	12 Person	3 Days	4 times	$ 64	$ 9,178		
OTHERS						**TOTAL**	**$210,416.97**
NIHRD					**SUB TOTAL**	**$107,872.34**	
Facility based incentive awards for ILI and SARI surveillance							
Justification: Persons at Puskesmas and Hospitals will need to spend extra time to collect data and specimens on a weekly basis. Laboratory staff will need to test additional specimens because of this project. Therefore, this small incentives will be given.							
Puskesmas Team	3 Persons	12 months	24 sites	$ 55.30	$47,779.20		
Hospital Team	4 Persons	12 months	7 sites	$64.23	$21,582.62		
Regional Laboratories Team (5 Laboratories)	24 Persons	12 months		$59.84	$17,233.92		
Shipment for specimens							
Justification: Shipment fee will be used to send specimens on weekly basis from sentinel sites to regional laboratories and NIHRD laboratory.							
Shipment Fee for specimens	3200 specimens	62 weeks		$ 0.13	$ 21,278.80		
DGDC & EH					**SUB TOTAL**	**$102,544.63**	
COORDINATION MEETING							
Justification: Internal meeting for coordination							
Meeting at Office	4 Times			$ 72	$ 289		
COMMUNICATION FEE							
Justification: Communication fee for operational activities							
Communication	3 Package			$ 181	$ 542		
BIDDING COMMITTEE							
Justification: Fee for bidding committee to procure equipments							
Procurement Committee	2 Pt	1 Team	1 times	$ 1,060	$ 2,120		
ADMINISTRATION/OPERATIONAL COSTS							
Justification: Will be used for daily opetivities activities							
- Telephone Bills	1 Package		12 Months	$ 301	$ 3,614		
- Computer Maintenance	4 Package		1 Times	$ 241	$ 964		
SOFTWARE ORIENTATION OF PNEUMONIA SURVEILLANCE TO SENTINEL PERSONNEL							
Justification: Fee for keynote speakers/trainers on introducing pneumonia surveillance software							
Keynote speakers	5 Person	1 Day	1 times	$ 102	$ 512		
QUARTERLY REVIEW OF THE SENTINEL PNEUMONIA SURVEILLANCE							
Justification: Quarterly meeting for reviewing implementation of pneumonia surveillance							
Meeting Package	20 Person	1 Day	4 Times	$ 40	$ 3,181		
ADMINISTRATION & DATA PROCESSING FEE FOR SENTINEL ILI							
Justification: Will be used for administrative and data processing of ILI sentinel surveillance							
Administration & Data Processing	1 Person	12 Month		$ 301	$ 3,614		
MEETING FOR TECHNICAL INSTRUCTIONAL PREPARATION OF SENTINEL ILI							

Justification: Technical meeting for preparing ILI sentinel surveillance						
Meeting Package on Draft Preparation	10 Person	2 Day	1 Times	$ 57	$	1,145
Meeting Package on Finalization	10 Person	2 Day	1 Times	$ 57	$	1,145
HARMONIZATION SENTINEL ILI FOR HEALTH CENTRE						
Justification: Keynote speakers and participants will be invited in harmonization sentinel ILI meeting						
Honorarium for Keynote speaker	1 Person	2 Hours		$ 72	$	145
Honorarium for Moderator	1 Person	2 Hours		$ 60	$	120
Meeting Package	10 Person	1 Day	1 Times	$ 57	$	572
Meeting Package	44 Person	1 Day	1 Times	$ 57	$	2,518
TECHNICAL ASSISTANCE FOR SOFTWARE DEVELOPMENT						
Justification: Development of software for surveillance activities						
Development of Software	1 Package			$ 4,798	$	4,798
Application & database						
Development of Reporting System	1 Package			$ 4,819	$	4,819
Software						
Application Update & Server	12 Month			$ 361	$	4,337
OPERATIONAL FOR SENTINNEL ILI						
Justification: It will be used for communication fee for operational activities at Central Level and Sentinal Sites						
Operational for Sentinel ILI	1 Package	12 Month		$ 38	$	434
SMS Billing in Central level	1 Package	12 Month		$ 36	$	434
SMS Billing in Health Centers	44 Package	12 Month		$ 6	$	3,181
MEETING EVALUATION						
Justification: Evaluation meeting to assess surveillance activities conducted						
Meeting package	10 Person	2 Days	3 times	$ 57	$	3,434
BULETTIN IN ENGLISH						
Justification: Provide situational awareness on AI and other Zoonotic diseases to health officers						
Translation Fee	26 Pg	4 edition		$ 12	$	1,253
EXPERT MEETING						
Justification: 10 participants will attend the expert review meeting. The transport, perdiem, and accommodation will be paid for.						
Transport Expert	8 Person	1 Trip	1 times	$ 361	$	2,892
Local Transport Expert	8 Person	1 Trip	1 times	$ 60	$	482
Local Transport Local Committee	2 Person	1 Trip	1 times	$ 18	$	36
Perdiem Expert	8 Person	2 Days	1 times	$ 36	$	578
Perdiem local committee	2 Person	2 Days	1 times	$ 27	$	106
Accomodation Expert	8 Person	2 Days	1 times	$ 54	$	867
Accomodation Local Committee	2 Person	2 Days	1 times	$ 54	$	217
STRENGTHENING SENTINEL & ROUTINE PNEUMONIA SURVEILLANCE						
Justification: Development of software and guidelines for Pneumonia Surveillance						
Pneumonia & Routine Surveillance	1 Package			$12,836.63		$12,836.63
Software Development						
Printing Guidelines	2750 Pieces	1 Times		$ 4	$	11,596
DVD Tutorial Multification	2750 Pieces	1 Times		$ 3	$	8,283
MONTHLY BULLETIN ON AI						
Justification: Provide situational awareness on AI and other zoonotic diseases						
Printing	2000 Exemplar	4 Edition'	1 Times	$ 3	$	20,241
Distribution	33 Province	4 Edition'	1 Times	$ 3	$	358
English Edition Printing	200 Exemplar	4 Edition'	1 Times	$ 3	$	2,024