

Department of Health in Nghe An

Summary Report

Vietnam

VERIFICATION SURVEY WITH THE PRIVATE SECTOR FOR
DISSEMINATING JAPANESE TECHNOLOGIES FOR
“REALIZING MEDICAL INFORMATION SYSTEM FOR QUALITY
MEDICAL SERVICES IN VIET NAM”

August, 2016

Japan International Cooperation Agency

Techno Project Japan Co.

1. BACKGROUND

Viet Nam has been improving medical resources such as medical staff and equipment, but there are still serious gaps in regional health care services. The developments of medical resources and equipment are lagging behind in the rural areas of Viet Nam, and it is important for rural medical institutions to share medical information and exchange skills among clinics and hospitals on medical information exchange networks in order to achieve efficient utilization of medical resources. But Viet Nam cannot afford to develop such medical information exchange network with its limited budget.

However, Japan has supported Viet Nams efforts to improve medical resources and equipment in rural areas through capacity development, for example, by introducing medical equipment. Following a Project Formulation Survey in 2013, TPJ will deploy Mame-NET, a major medical information exchange network, with Toan Cau (TPJ partner company in Viet Nam) in Vinh City of Nghe An, and discuss its activities with the public through the holding of a national seminar (tentatively named “Mame-NET seminar”) with the Survey.

2. OUTLINE OF THE VERIFICATION SURVEY WITH THE PRIVATE SECTOR FOR DISSEMINATING JAPANESE TECHNOLOGIES

I. Purpose

To pave the way for improvements in medical service quality and eliminate the gaps in Viet Nam’s regional health care services by utilizing a medical information exchange network, the Survey is expected to conduct the following three measures:

- (1)Construction of the medical information exchange network in Nghe An, and subsequently demonstrating its effectiveness and advantage;
- (2)Performing the groundwork for doctors and medical staff of local hospitals, clinics and health centers so that they can utilize the medical information exchange network, and also providing instruction to staff of lower tier medical institutions;
- (3)Drafting guidelines for the medical information exchange network which will be operated and maintained by the supervisory authorities and the medical institutions; and making recommendations to expand medical information exchange based on SS-MIX in Viet Nam; SS-MIX (the Standardized Structured Medical record Information eXchange) was started in Japan in 2006 as a project

supported by the Ministry of Health, Labour and Welfare of Japan for promoting the exchange of the standardized medical information.

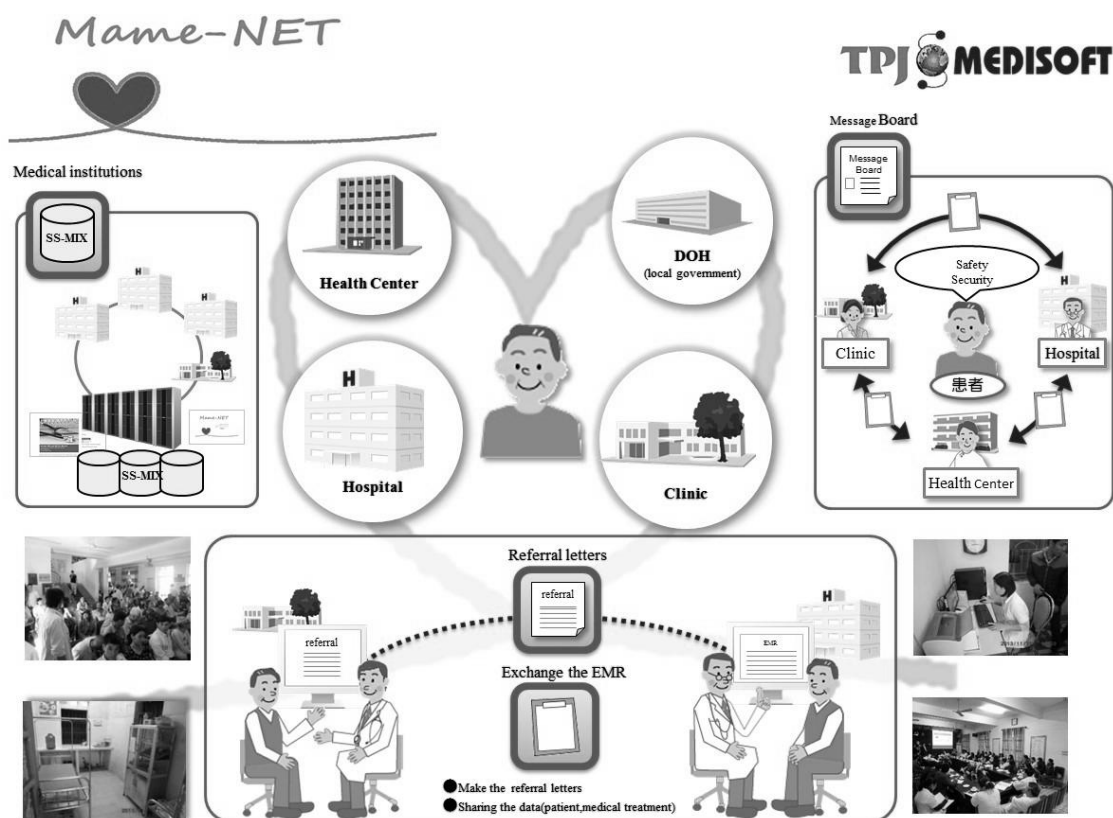


Figure1. The concept of Mame-NET

II. Activities

Steps and Implementation process

1) Activities for measurement

- 1-1) Sharing information with DOH of Nghe An, and reaching an agreement on the Survey plan

TPJ visits Nghe An Province and explains the Survey plan.

TPJ reaches an agreement for the scope, the resources and the schedule of the Survey with C/P.

- 1-2) Conducting a field study, defining requests and drafting an operating flow

TPJ and Toan Cau conduct a field investigation at hospitals, clinics, health

center and the Data Center

TPJ and Toan Cau define the requirements of the Survey.

1-3) Improving and testing Mame-NET and Medisoft

TPJ and Toan Cau make an improvement plan for Mame-NET and Medisoft software, after which they will handle the system development, system installation and system connection test.

1-4) Drafting an installation plan for equipment

TPJ and Toan Cau conduct a field investigation into the setting up of the equipment and make an installation plan.

1-5) Procuring equipment for the Data Center

TPJ procures the equipment for the the Data Center. Additional equipment will be procured after the completion of the configuration and installation plan.

1-6) Installing and setting up of equipment at the Data Center

The local distributors, under the supervision of TPJ, will set up a server rack at the specified location in the C/P building, and install the server equipment within the rack.

After the installation, TPJ and Toan Cau engineers configure server devices (and peripherals) and check their performance. TPJ engineers will install Mame-NET at the Data Center, while Toan Cau engineers will install CyberMedisoft and software for working with SS-MIX.

1-7) Installing and setting up the equipment in hospitals

Toan Cau engineers will install servers in three hospitals in Vinh City. After the installation, Toan Cau engineers will configure the servers and peripheral equipment, and complete performance checks.

If the Internet or LAN in a hospital is not adequate, Toan Cau will facilitate the networking environment.

However, followings items are excluded;

The access line to the Internet (To be installed by the Internet service provider), server power supply construction, server room facilities construction (air conditioning etc.).

1-8) Installing Mame-NET and verifying its operation

TPJ and Toan Cau will install Mame-NET and Medisoft at the local medical institutions, and then verify the compatibility.

* Development of Mame-NET environment in medical institutions

*Inquiry responsiveness of Mame-NET

(network and systems, also including improvement request)

*trouble shooting, etc.

1-9) Verifying the referral letters system by using Mame-NET and Medisoft

TPJ and Toan Cau enable the patient referral system among the clinics and the upper medical institutions hospital by using Mame-NET's service.

The compatibility verification of this referral system is implemented in the following hospitals and clinics.

- Transport hospital and its subordinate clinic (4 clinics)
- Traditional Medicine hospital (private hospital)
- Thai An hospital (private hospital) and its subordinate clinic (4 clinics)

1-10) Verifying the electric medical records linking system by using Mame-NET and Medisoft

TPJ and Toan Cau verify the effects of the electronic medical record linkage by using Mame-NET between different medical institutions.

The hospitals selected by Toan Cau engineers use electronic medical records (EMR) in the hospital and support doctors using EMR.

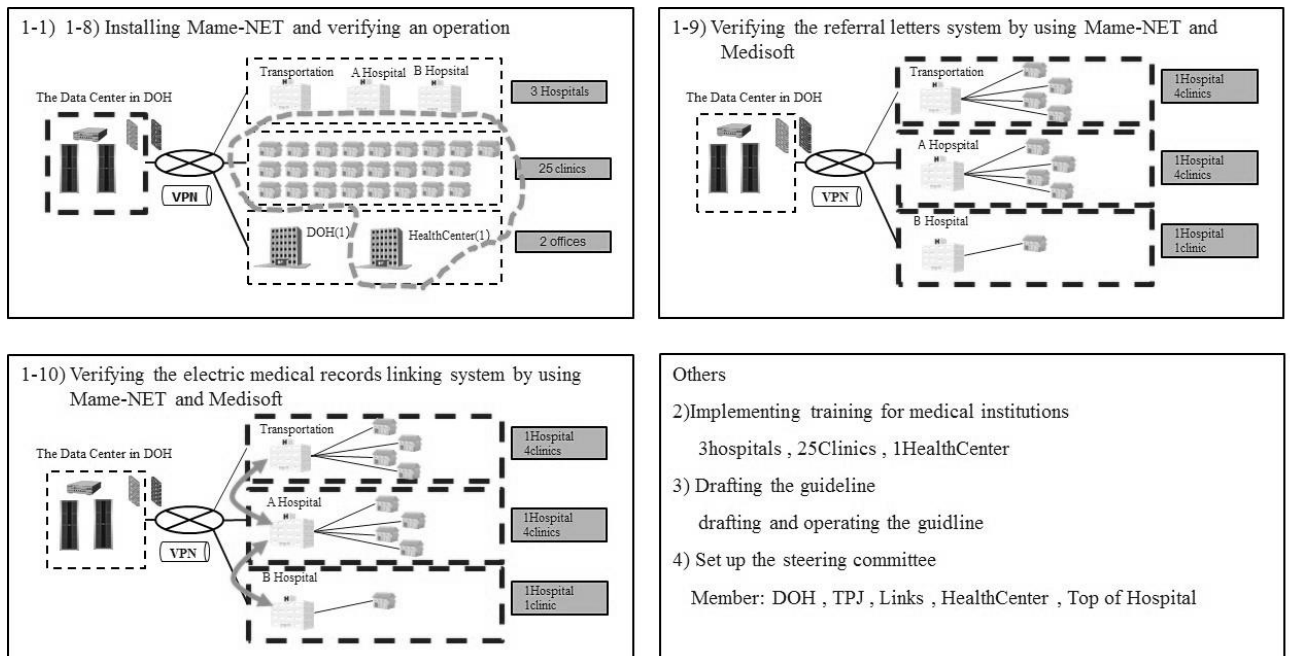


Figure.2 Outline of Activities in Nghe An

(3) Information of Product/ Technology to be Provided

I. Software

- Mame-NET, originally developed in Shimane Prefecture of Japan, is a platform which provides referral, medical records linkage, medical examinations and inspections bookings and also sending of pictures with the aim of sharing electric medical information among medical institutions for efficient utilization of medical resources. Also Mame-NET keeps information security and provides services at a low cost by utilizing cloud technologies.

- Hospital information system

II. Hardware appliances

- Servers

- Storage devices

- Network equipment

(4) Counterpart Organization

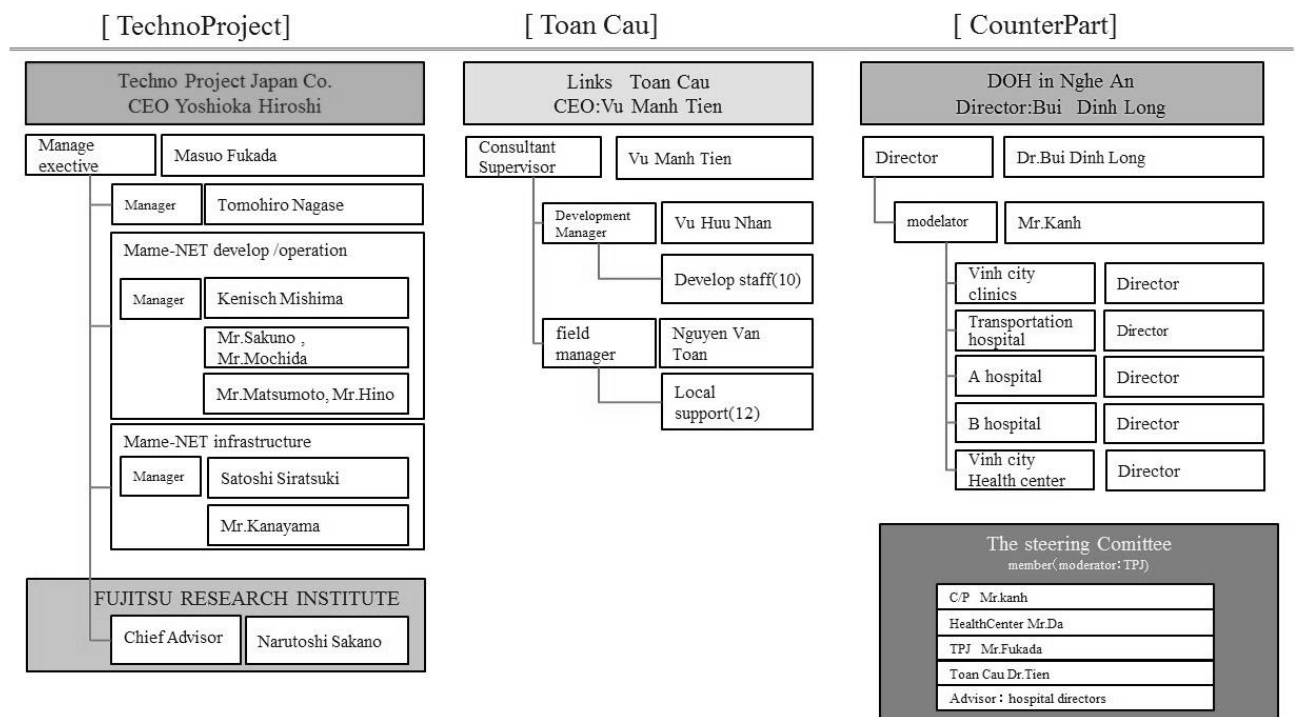
Nghe An

- Department of Health (DOH)

- Medical institutions (Hospitals, the Vinh city Health center, Clinics)

Medical software companies

Law firm (if necessary)



(5) Target Area and Beneficiaries

-Target Area

Vinh city, a capital city of Nghe An

- Beneficiaries



Patients of clinics can gain access to qualified medical services through sharing medical records with hospitals.

Clinics can improve their medical skills with the support of hospitals. In addition, hospitals can reduce congestion through effective allocation of patients to clinics.




















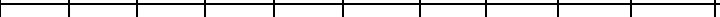

DOH of Nghe An can plan effective policy based on timely and accurate health data.

(6) Duration

1 year and 6 months from the date of the signing of the contract between TPJ and JICA. The exact duration shall be detailed in the Implementation Plan which will be presented to TPJ at the beginning of the Survey.

	Viet Nam
	Japan

(7) Manning Schedule

Investigation item		2015												2016								
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9
1.Activities for the Achievement (1)																						
1-1	Sharing information with DOH																					
1-2	Conducting a field study, defining requests and drafting an operating flow																					
1-3	Improving and testing of Mame-NET and Medisoft																					
1-4	Drafting an equipment installation plan																					
1-5	Procuring the equipment for the Data Center																					
1-6	Installing and setting the equipment of the Data Center																					
1-7	Installing and setting the equipment in hospitals																					
1-8	Installing Mame-NET and verifying an operation																					
1-9	Verifying the referral system using Mame-NET and Medisoft																					
1-10	Verifying the electric medical records linking system using Mame-NET and Medisoft																					
2.Activities for the Achievement (2)																						
2-1	Drafting a training plan for clinics, hospitals and the health center																					
2-2	Implementing group training for clinics																					
2-3	Implementing individual training sessions for hospitals																					
2-4	Implementing group training																					

	for the health centers																					
2-5	Implementing training for Data Center operating staff																					
2-6	Implementing the operation of Mame-NET																					
2-7	Implementing operating instruction and support of Mame-NET and Medisoft in clinics																					
2-8	Implementing operating instruction and support of Mame-NET and Medisoft in hospitals																					
2-9	Improving the reporting function of Mame-NET for the health centers																					
3.Activities for the Achievement (3)																						
3-1	Drafting the guideline																					
3-2	Operating the guideline																					
4.Activities for the Achievement (4)																						
4-1	Conducting a field study for introducing Mame-NET in the other provinces																					
4-2	Testing Mame-NET and training in the other provinces																					
4-3	Analyzing the function of linking medical records between Nghe An and the other provinces																					
4-4	Holding a conference in Nghe An to report the results of the Survey																					
4-5	Conducting a marketing survey in other provinces																					
4-6	Make a business development plan																					
Holding Steering Committee (★= in Nghe An)				★		★	★		★		★					★	★			★		

(8) Implementation System(Team Members)

NAME	ROLE	COMPANY
Hiroshi Yoshioka	Supervisor/ Planning	Techno Project Japan Co.
Masuo Fukada	Manage executive / Planning,Management	Techno Project Japan Co.
Tomohiro Nagase	Implementation / Application	Techno Project Japan Co.
Kenichi Mishima	Implementation / Application	Techno Project Japan Co.
Shusuke Sakuno	Implementation / Application	Techno Project Japan Co.
Kazuki Mochida	Implementation / Application	Techno Project Japan Co.
Suguru Matsumoto	Implementation / Application	Techno Project Japan Co.
Atsufumi Hino	Implementation / Application	Techno Project Japan Co.
Satoshi Siratsuki	DC Design/Setting	Techno Project Japan Co.
Takahiro Kanayama	DC Design/Setting	Techno Project Japan Co.
Narutoshi Sakano	Chief Adviser	FUJITSU RESEARCH INSTITUTE

3. ACHIEVEMENT OF THE SURVEY

I. Outputs and Outcomes of the Survey

The steering committee with support of DOH of Nghe An was established in March 2015, and it was held 7 times until January 2016. The committee has promoted this project with sharing purpose and activities among local medical workers, and the value and advantage of Mame-NET have been recognized among DOH of Nghe An and the participating medical institutions.

After setting data center and introducing equipment in the participating medical institutions, Mame-NET and Medisoft has started to provide services since August 2015. Group and individual training sessions has been conducted for about 400 staff and doctors in the participating medical institutions, and they have understood the services of this project and become able to handle and use the system. In CHS (Commune Health Station) and hospitals, staff and doctors can register medical information such as patient and treatment information and refer to patient information among the participating medical institutions.

1. Activities of verification and dissemination

(1) Status of introducing equipment

- Setting the data center dedicated for Mame-NET in DOH of Nghe An
- Introducing equipment such as servers in the hospitals which exchange medical information on Mame-NET (Transportation Hospital, Traditional Medicine Hospital and Thai An hospital)
- Building hospital network in (Transportation Hospital, Traditional Medicine Hospital and Thai An hospital to use Mame-NET

(2) Status of discussing with counterpart

- The first steering committee (26th March 2015)
 - The second steering committee (29th May 2015)
 - The third steering committee (3rd June 2015)
 - The fourth steering committee (23rd July 2015)
 - The fifth steering committee (21st October 2015)
 - The sixth steering committee (3rd December 2015)
 - The discussing committee on medical system held by DOH of Nghe An (11th January 2016)
 - The seventh steering committee (19th January 2016)
 - *An officer of the People's Committee attended the second steering committee. The People's Committee is interested in this project.
 - *In the sixth steering committee, it was agreed that all CHSs in Vinh city covered by this project, including the 8 CHCs which already had introduced referral system and electronic medical record system, would introduce CyberMedisoft TPJ answered that TPJ would not support the activity due to unclear financial burden.
 - *In the discussing committee on medical system held by DOH of Nghe An, Medisoft was recognized as a good software for medical institutions in Nghe An. Based on that, a Vietnamese company of a supplier of Medisoft offered to deliver Medisoft at free. TPJ accepted the offer, and answered to introduce Medisoft gradually from 2016 as the response to a request of DOH of Nghe An in the sixth steering committee.
 - The eighth steering committee (13th May 2016)
- ### (3) Endorsement of work-flow of referral form and consent form of sharing patient information

- The steering committee and DOH of Nghe An endorsed the work-flow of referral form as a major function to be verified in this project, and consent form of sharing patient information which are needed in the cooperation of electronic medical record system among medical institutions. With the announcement from the supervisory authority to medical institutions, the workflow of referral form and consent form of sharing patient information are operated.
 - Since September 2015, the referral system has been operated in Transportation Hospital, Traditional Medicine Hospital and Thai An hospital as well as CHSs under them. With this progress, patient information in CHSs is recorded by Medisoft, and medical institutions can refer to it on SS-MIX Viewer.
- (4) Training for medical institutions on how to use Mame-NET
- Operating training for medical institutions has been conducted. Staff in the medical institutions who have ever used Mame-NET are used to using, but the training improves operating skill of staff in the medical institutions who are never used Mame-NET and not good at using PCs. It is recognized that some staff who have become used to using Mame-NET teaches other staff with a little experiences.
 - Staff in CHSs utilizing referral system have learnt operating procedures and been using Mame-NET in daily work.
- (5) Information exchange with JICA office in Viet Nam
- Exchanging information on the Project for Strengthening Medical service in Northwest Provinces on 30th March 2015
Outline: Introducing functions of Mame-NET and exchange opinions on referral system (Possibility of applying Mame-NET in the Project for Strengthening Medical service in Northwest Provinces)
 - Exchange information on the Project for Strengthening Medical service in Northwest Provinces on 21st July 2015
Outline: Exchange opinions on referral system
 - JICA interviewers and staff of JICA office in Viet Nam visiting Nghe An for this project on 7th December 2015
Outline: Visiting the People's Committee, DOH of Nghe An, hospitals and CHSs

- Members of the Project for Strengthening Medical service in Northwest Provinces visiting medical institutions in Nghe An and exchange opinions on 25th February 2016
Outline: 8 members of the Project for Strengthening Medical service in Northwest Provinces visiting Transportation Hospital, Traditional Medicine Hospital and Nghi Kim CHS. And exchanging utilizing Mame-NET / Medisoft and implementation status of referral.
- Holding medical-IT seminar in Nghe An on 31st May 2016
Outline: Inviting JICA office in Viet Nam and members of the Project for Strengthening Medical service in Northwest Provinces and sharing outcome of this project
- Visiting Three Province in Northwest from 22nd to 24th June 2016
Outline: Visiting 3 provinces out of 6 provinces where the Project for Strengthening Medical service in Northwest Provinces is implemented and its deployment plan is deliberated
- (6) Research on other possible market
 - Research in Hung Yen province on 5th June 2015
Difficult to deploy Mame-NET (due to difficulty of securing budget)
 - Research in Dak Lak province in December 2015
Grasping activities of VNPT to provide free medical software, PCs and network to medical institutions in some provinces (Dak Lak province and Nghe An province). Some provinces introducing the system
 - June 2016
Visiting Yen Bai province, Lai Chau province and Lao Cai province which are target areas of the Project for Strengthening Medical service in Northwest Provinces and they attended the medical IT seminar. Deliberating to introduce Mame-NET in Lai Chau province

2. Business deployment plan

- The plan is recognized to introduce electronic medical record system into medical institutions in Nghe An within 2017. Mame-NET is deliberated to be introduced into medical institutions in Nghe An, and the whole deployment in Nghe An should be promoted.
- Information exchange with DOH of Dak Lak province was held. The whole deployment of Mame-NET should be promoted.

- Research on introducing IT into medical institutions and information exchange with Hung Yen province was conducted. It is difficult to deploy Mame-NET within short time because Hung Yen province has difficulty in securing budget for medical-health sector soon.
- The cloud service on utilizing IT in medical information for medical institutions was proposed in conferences held by MOH. The cloud service of Mame-NET should be developed.

II. Self-reliant and Continual Activities to be Conducted by Counterpart Organization

- Maintaining data centers in Nghe An
- Securing budget for operating Mame-NET from Nghe An
- Continuous support for participating medical institutions

4. FUTURE PROSPECTS

- (1) Impact and Effect on the Concerned Development Issues through Business Development of the Product/ Technology in the Surveyed Country
 - Continuous operating Mame-NET in Nghe An and expanding Mame-NET into other Districts except Vinh-city
 - Expanding regional medical information network system into other provinces except Nghe An, such as Lai Chau province. Some provinces are interested in Mame-NET
 - Mame-NET has been recognized its usefulness and effectiveness in the medical-IT seminar in Nghe An. Considering policies of MOH, Mame-NET (regional medical information network system) will be deployed in each province.
- (2) Lessons Learned and Recommendation through the Survey
 - Mame-NET can provide information from the DOH of Nghe An easily
 - The steering committee shall be held periodically (TPJ will participate, if necessary)