

**“Project Formulation Survey” under the
Governmental Commission on the Projects for
ODA Overseas Economic Cooperation
In FY2013**

Summary Report

**The Socialist Republic of Viet Nam
Medical Information Exchanging Network for
Quality Medical Services**

March, 2014

**Techno Project Co., Ltd. and Fujitsu Research Institute
Consortium**

The Content of this report is a summary of the project formulation survey, which was commissioned by the Ministry of Foreign Affairs of Japan in the FY2013 and is carried out by the consortium of Techno Project Co., Ltd. and Fujitsu Research Institute. It does not represent the official view of the Ministry of Foreign Affairs.

Introduction

The Socialist Republic of Viet Nam (hereafter “Vietnam”) while enjoying remarkable economic growth, has launched policies to keep high economic growth rate in order to become an industrial country by 2020. Vietnam has achieved good health medical condition, delivery capability of health medical service and communication environment such as mobile phones, while its economic development stage can be classified as less developed. However, there are regional divides of health medical condition and delivery capability of health medical services in Vietnam. And Vietnamese, mainly rich people, tend to go to see upper level medical institutions skipping the lower ones, since lower ones face constraints of available medicines and medical devices. Consequently, the upper level medical institutions are suffering from severe congestion, and there are concerns that patient service is deteriorating and medical accidents occur due to increase of burden on medical staff such as doctors and nurses. Furthermore, there is a shortage of engineers who are familiar with health medical and IT in Vietnam, so IT services for medical institutions is not popular yet.

Aiming for increase of average lifetime, improving delivery capability of health medical service and achieving universal health insurance system, the Vietnamese government is promoting cooperation among medical institutions through building and completing health medical network among all kinds of medical institutions and developing health medical information system. And the Vietnamese government is promoting e-Government which provides government service with IT, such as utilizing IT in health medical service and remote diagnosis. For Vietnam, Japan sets ODA priority areas such as response to vulnerability of improving delivery capability of health medical service, and promotes expansion of Japanese companies in infrastructure market of health medical sector with ODA.

This project formulation survey picks up medical information exchanging network which promote exchange of medical information among medical institutions with IT, and conducts pilot project in Nghe An of Vietnam to deliberate possibility of ODA projects.

I. Description of the current situation and development needs of the concerned development issues in the surveyed country

Vietnam while enjoying remarkable economic growth, has launched policies to keep high economic growth rate in order to become an industrial country by 2020. Comparing with ASEAN member states, Vietnam has achieved good health medical condition, delivery capability of health medical service and communication environment such as mobile phones, while its economic development stage can be classified as less developed.

Although Vietnamese food life has improved with income growth, lacks of regulation on foods and health medical laws have remained. Recently, non-infectious diseases such as cancers and diabetes have been increasing rather than infectious diseases in Vietnamese disease and death structure. And it is expected that Vietnam can achieve many goals and targets of Millennium Development Goals by 2015, but there are regional divides of health medical condition and delivery

capability of health medical services. Furthermore, in Vietnam, mainly public medical institutions provide health medical service, but lower ones face constraints of available medicines and medical devices. Vietnamese, mainly the rich people, tend to go to see upper level medical institutions skipping lower ones, resulting in severe congestion in upper ones. So there are concerns that patient service is deteriorating and medical accidents occur due to increase of burden on medical staff such as doctors and nurses. In addition, there is a shortage of engineers who are familiar with health medical and IT in Vietnam, so IT services for medical institutions is not popular yet.

In this health medical sector, aiming for increase of average lifetime, improving delivery capability of health medical service and achieving universal health insurance system, MOH is promoting cooperation among medical institutions through building and completing health medical network among all kinds of medical institutions and developing health medical information system. And MOH is promoting "Satellite hospital program" where national hospitals teach and train provincial and district hospitals to improve health medical service and medical equipments. Under this program, Vietnam can expect to secure access to health medical service of patients and reduce congestion in national hospitals. Furthermore, the Vietnamese government is promoting e-Government which provides government service with IT, such as utilizing IT in health medical service and remote diagnosis.

For Vietnam, Japan sets ODA priority areas such as response to vulnerability of improving delivery capability of health medical service. Japan is not only building medical institutions, but also promoting capability development and DOHA, and improving referral service with technical cooperation projects of ODA, which encourages medical information exchange among medical institutions. Aiming to win in the world infrastructure market, Japan has launches policies such as building Japanese medical bases mainly in emerging countries, and it is expected that Japanese companies will expand in health medical sector in Vietnam with ODA.

Against above background, this project formulation survey picks up medical information exchanging network which promote exchange of medical information among medical institutions with IT, and conducts pilot project in Nghe An of Vietnam to deliberate the possibility of ODA projects. Medical information exchanging network is becoming popular in Japan such as "Mame-NET" in Shimane prefecture. With information exchanging network based on Japanese experiences, Nghe An expects improvement of patient service, achieving role sharing and skill improvement in medical institutions and planning effective health medical policies based on accurate and timely health medical information.

II. Possible applicability of the SME's products and technologies, and prospects for future business development

In Japan, development of medical information exchanging network started around 2000, and the number of medical information exchanging network as of February 2013 is over 150. Shimane prefecture, while facing difficulties of maintain delivery capability of regional health medical service due to shortage of medical staff, has promoted medical information exchanging network to encourage

sharing medical information and cooperation among medical institutions. Mame-NET operated from January 2013 in Shimane-prefecture is the first case of medical information exchanging network for the whole prefecture in Japan. We developed Mame-NET which has advantages as follows:

- (1) High security
- (2) Low cost and convenience with cloud service
- (3) Good operability with single sign-on

With Links which is a major provider of medical and accounting software in Vietnam and our partner, we intend to introduce customized Mame-NET for Vietnam in Nghe An and other provinces with establishment of representative office in Vietnam.

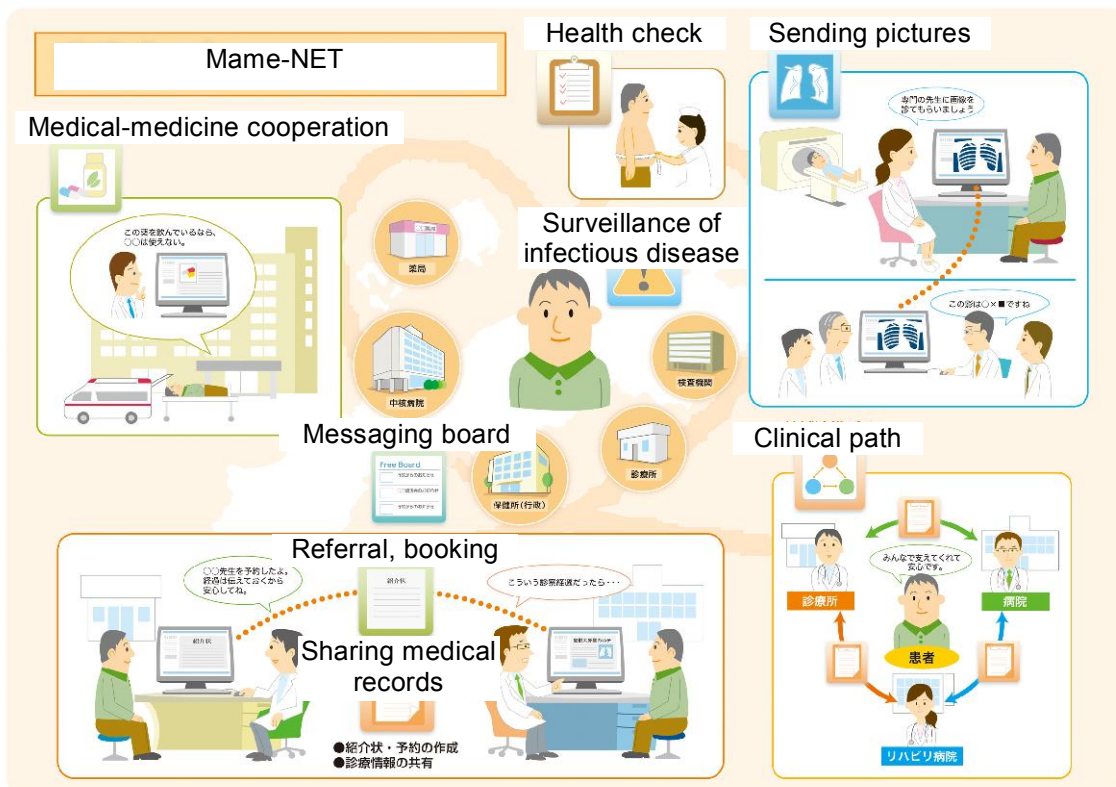


Figure i-1 Image of Mame-NET

III. Verification of adaptability of the SME's products and technologies to the surveyed country (Demonstration and pilot survey)

In this project formulation survey, a pilot project to verify the adaptability of Mame-NET in Vinh which is a capital of Nghe An from 20th October 2013 to 31st December 2013. In the pilot project, 2 hospitals and 25 commune health centers (clinics) introduced Mame-NET with the functions of portal, referral, messaging board (announcement) and messaging board (report), and questionnaire survey for attendants of operation training and users was conducted to grasp their evaluations.

Table i-1 Outline of the pilot project

| No. | Outline |
|-----|--|
| 1 | ● Implementing operation training for Mame-NET users |
| 2 | ● Introducing Mame-NET into 2 hospitals and 25 clinics |
| 3 | <ul style="list-style-type: none"> ● Providing services on Mame-NET ● Utilizing Mame-NET ● Announcing in portal ● Making and printing referral letters (training only) ● Sharing information of medical institutions in messaging board ● Reporting from medical institutions to administration ● Setting information cooperation among hospitals and clinics into their normal works ● Collecting needs for electronic medical record |
| 4 | ● Operating Mame-NET in 2 hospitals and 25 clinics |
| 5 | ● Evaluating effects (comparison between before and after the pilot project) |

From the pilot projects, the necessity of medical information exchanging network is confirmed in clinics in Vinh. So far the clinics have just given patients medicines and referral letters, but they need to improve their skills through sharing medical information with doctors in hospitals in order to improve patients service. On the other hand, the following issues are required to introduce Mame-NET in Nghe An:

- (1) Improvement of infrastructure such as PCs
- (2) Improvement of skill
- (3) Addition of Mame-NET's functions
- (4) Expansion of scope of medical institutions
- (5) Development of guideline of regional government
- (6) Adjusting with health insurance system

IV. Expected development impact and effect on business development of the proposing SME in the surveyed country through proposed ODA projects

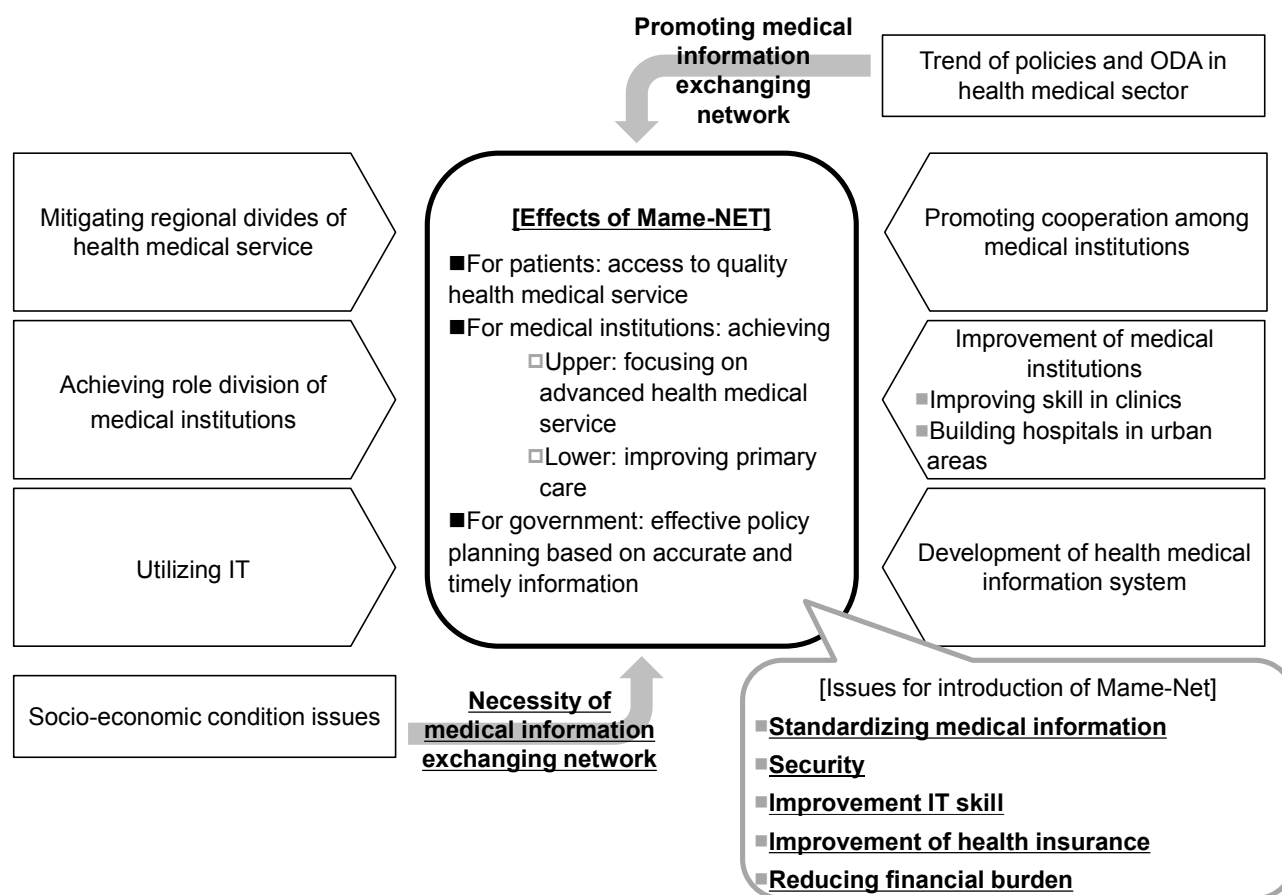
Through the pilot project, development issues of Vietnam and concrete effects of Mame-NET are shown in Figure i-2. From socio-economic conditions and trend of policies and ODA of health medical sector in Vietnam, feasibility of Mame-NET is deemed to be high. With Mame-NET, Vietnam can expect to improve access to quality health medical service, to achieve role division of medical institutions and to formulate effective health medical policies based on accurate and timely health medical information.

Mame-NET shall be introduced in Vietnam in association with medical information exchanging network (tentative) where relative governmental bodies are cooperating closely. With the introduction of Mame-NET, Vietnam can expect standardized medical information, capacity development and industrial development. On the other hand, the introduction of Mame-NET in Vietnamese medical institutions provides good environment for Japanese medical technologies and equipments, and it is expected that Japanese companies will expand into infrastructure market of Vietnamese health medical sector.

Table i-2 Vietnamese development issues and concrete effects of Mame-NET

| Vietnamese development issues | Concrete effects of Mame-NET |
|---|--|
| Increase of health medical service and improvement if regional health medical service | Patients can receive continuous health medical services at nearby medical institutions |
| Increase of regional divides of health medical service | Patients in rural areas can receive quality medical service even at clinics which hospitals in urban areas support |
| Hard to understand current health medical condition | Regional government can collect accurate health medical information timely |
| Continuous development infrastructure | Effects of Mame-NET can be a driving force to secure necessary budget of health medical sector |
| Providing chances of improving skill | Discussing how to use Mame-NET effectively which leads to improving health medical service |
| Development of medical information system and guideline for medical information exchanging network by MOH | Asking MOH to develop guideline for medical information exchanging network |
| Introducing medical information exchanging network directed by MOH | Holding seminars on “Nghe An model” and introducing effects of Mame-NET |
| Improving health insurance system | Mame-NET adjusted with health insurance system, improve efficiency of health medical service and save social security payments |

Figure i-2 Feasibility of introduction, development effects and issues of introduction of Mame-NET



V. Proposal for formulating ODA projects

From the pilot project, DOH of Nghe An and its health center improve efficiency of announcing and reporting with medical institutions, and collected accurate and timely health medical information which would lead to effective planning of health medical policies. DOH of Nghe An and its health center valued outcome of the pilot projects and requested to expand scope of medical institutions and to add functions of Mame-NET.

Aiming for deployment of Mame-NET in Vietnam, the following 4 steps with ODA such as pilot survey for disseminating SME's technologies and technical cooperation projects, are deemed to be required.

[Step 1] Building standardized deployment model of Mame-NET (Introducing in Vinh)

[Step 2] Deployment of Mame-NET in Nghe An

[Step 3] Deployment of Mame-NET in other provinces

[Step 4] Deliberation of national medical information exchanging network

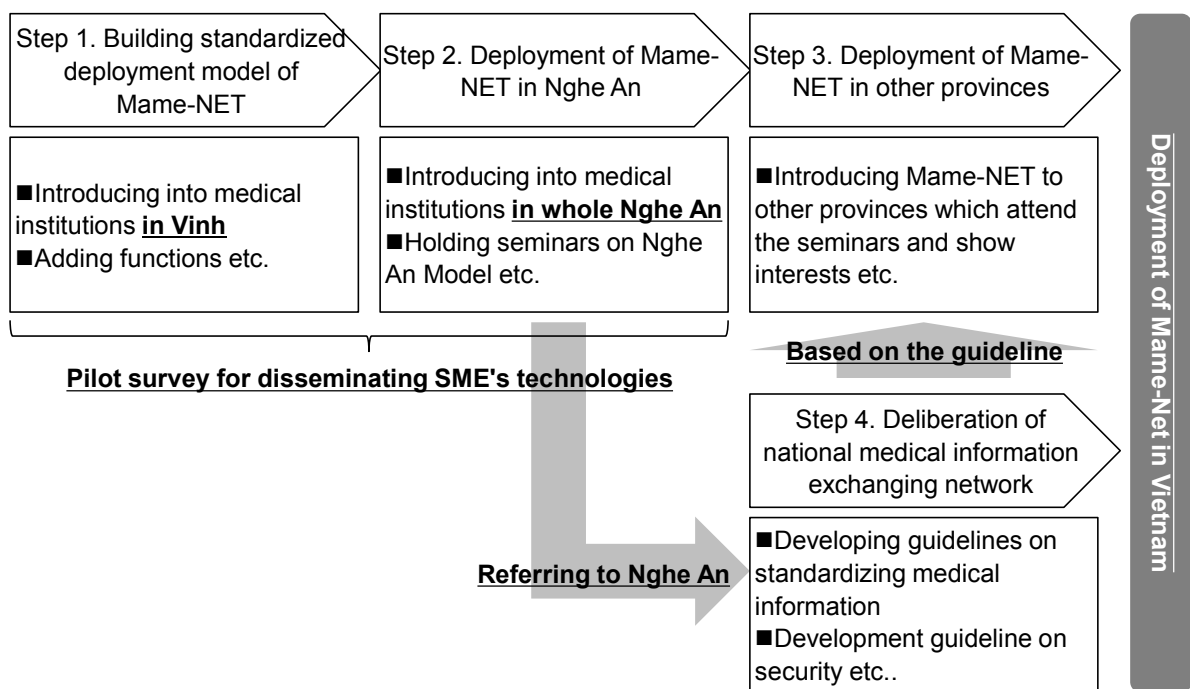


Figure i-2 Steps for deployment of Mame-NET in Vietnam

Based on the above steps, ODA projects for deployment of Mame-NET in Vietnam are as follows:

Pilot survey for disseminating SME's technologies: deployment of Mame-NET in Nghe An (tentative) [Step 1 and 2]

Computerization and standardization of medical information (tentative) [Step 4]

Attachment: Outline of the survey

Project Formulation Survey

Vietnam, Medical information exchanging network system for quality medical services

SMEs and Counterpart Organization

- Name of SME : Techno Project Co., Ltd.
- Location of SME : Matsue, Shimane Pref., Japan
- Survey Site • Counterpart Organization : Nghe An Province ,Vietnam • Department of Health, Nghe An Province

Concerned Development Issues

- Effective planning of health policy based on the change of disease structure from infectious to non-infectious
- Realizing role sharing of hospitals
 - Focusing on primary care of lower hospitals through improving medical services
 - Focusing on advanced medical services of upper hospitals through mitigating congestion
- Improving access to quality medical services of patients

Products and Technologies of SMEs

- Mame-NET of medical information exchanging network system of patients, based on “HL7” of standardization for medical information exchange
- Booking/referral
 - Sharing information
 - EMR, remote diagnosis etc.
- ⇒ Modifying to Vietnam (Vietnamese Mame-NET) and implementing experiment project

Proposed ODA Projects and Expected Impact

- Deliberating system and evaluating effectiveness of Vietnamese Mame-NET in Nghe An province with ODA
 - For Nghe An province: planning effective health policy through collecting medical information correctly and swiftly
 - For hospitals: realizing role sharing through improving medical services of lower hospitals
 - For patients: improving convenience by consulting any nearby hospitals

Future Business Development of SMEs

- Expanding sales channel in Nghe An and even In other provinces
- Expanding sales channel of Japanese medical devices along with the introduction of Japanese medical system

