journal ARPAP E-Government

by Mei Rina

E-Government Innovation in Service Excellence:

Implementation of E-Health in Health Care

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ABSTRACT

Health development has implemented evenly by the Government, not only physically but also the development of health service in terms of its quality. One of the efforts to improve the quality of health services is implementing e-health. E-health is a service in the form of information and communication technology applications are linked to the overall functional element supporting the health sector.

The application of e-health is identical to the e-government which is the utilization of information and communication technologies in implementing governance by government institutions to improve the performance and the Government's relations with other parties. E-health that was applied is affected of eight key elements of the success of e-government, i.e. 1). Political environment, a State or a political atmosphere where the project in question is or was implemented. It is related to top down projects and bottom up projects, 2). Leadership, leadership factors have an important role in influencing the implementation of policies or programs, 3). Planning, planning is done prior to the initial stage of a project or policy implementation, 4) Stakeholders, is the various parties who have an interest towards organizing projects, 5.) Transparancy visibility, implementation of e-government is expected to embody the transparency in each process, 6). Budgets, the size of the Government budget is highly dependent on the level of priority given by the Government against the status of related projects, 7.) Technology, the choice of technology used depends on the budget available,

8). Innovation, human resources involved projects must have a sufficient level of creativity.

Keywords: *implementation, e-health, service excellence.*

INTRODUCTION

Health is one of human needs in addition to clothing, food and shelter. Various people's needs are met through the development, including the development of health. Development in the field of health is equally by the government, not only physical development but also the development of health quality services.

In the provision of health services are often encountered problems, for example in the field of administration of medical records. Administratively, electronic medical records useful for storing information electronically, which contains of health status and health care of patients throughout his life. In addition to the electronic medical record provides benefits to physicians and health care workers to access patient information and ultimately assist in clinical decision-making. Record-keeping is mandatory for doctors who perform a medical procedure to the patient, in accordance with the rules so there is no reason for doctors not to make the medical record. Electronic medical records is a solution for hospitals to overcome the various problems that often occur in hospitals as places of storage, the loss of medical records, spending the required data, and others (www.mutupelayanankesehatan.net).

In addition to these problems, there are also inaccurate data or medical records of patients, which can lead to medical error. This happens because there is no medical records data sharing between health institutions. Each health institution has its own medical record. Medical error is caused due to lack of accurate medical record of the patient, due to the patient's medical record in several health institutions. Therefore it is needed a system that could save the patient's historical medical records from birth to death (dinus.ac.id).

Picture 1. Separate Medical Record
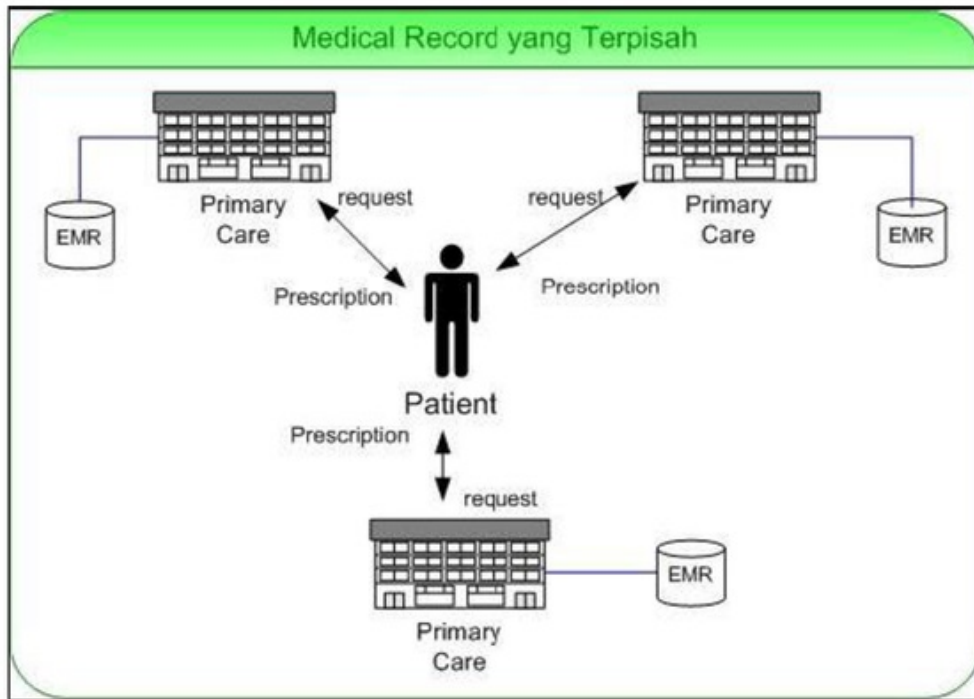
Source: Supriyanto et all in Kurniadi (dinus.ac.id)

Complaints about health care have prompted efforts to improve the quality of health services for the public.

PUBLIC SERVICE

1. Definition of Public Service

Talking about public service, many opinions are expressed by experts. As expressed by Widodo (2001:271) which says that the public service as the delivery of services to the person or people who have an interest in the organization in accordance with the basic rules and ordinances that have been stated. Opinion by Sinambela (2011:15) gives the definition of public service that is "the fulfillment of desires and needs of the people by State Administrator. According to Law No. 25 of 2009 on public service, mentions that:

> "Public service is an activity or series of activities in order to meet the needs of the service in accordance with the laws of every citizen and resident in the goods, services and/or administrative services provided by public service".

In the Decree of the State Minister for the Empowerment of State Apparaturs No. 63/KEP/M.PAN/7/2003, public services are grouped into:

a. Administrative Services group which services produce an official document required by the public, such as ID cards, marriage certificates, building permit.
b. Goods Services Group which service that produces various forms/types of goods used by the public, such as the telephone network, electricity supply, water supply and so on
c. Group Services are the type of services that generate various forms of services required by the public, such as education, health care, management of transportation, post and so on.

Based on the opinion of some experts, it can be concluded that the public service is an activity carried out by government agencies in order to meet the needs of the community through the provision of good service and quality goods and services that can ultimately give satisfaction.

2. Public Satisfaction

Public Satisfaction is a government's efforts to meet the wishes and demands of the public for services provided. According Sedarmayanti (2012:280) satisfaction is defined as the levels of one's feelings after comparing the performance (results) that is perceived to his expectations.

Decree of the State Minister for the Empowerment of State Apparaturs and Bureaucratic Reform of the Indonesian Republic Number 3 of 2003 on General Guidelines for the Implementation of Public Service stated that the level of public satisfaction as a measure of the success of the service is determined by the level of service recipient satisfaction. Satisfaction of service recipients achieved if the recipient of the service receive services in accordance with the required and expected.

Improving the quality of health care today can be achieved by utilizing technological developments. Utilization of technology developed is by providing information and computer-based data in support of governance and development, known as e-government.

ELECTRONIC GOVERNMENT (E-GOVERNMENT)

1. Definition of Electronic Government

The development of science, technology, information and communications in this century, making the government is trying to improve its performance in meeting the demands of society requiring professional services. In this case the government takes advantage of developments in information technology or electronic based or better known as e-

government. Young Opinions (2003:45) defines electronic government is the use of technology by the government especially the use of web-based internet applications.

In the opinion of the World Bank in Indrajit (2002: 2), defines electronic government as follows:

> "E-government refers to the use by government agancies of information technologies (such as wide area networks, the internet, and mobile computing) that have ability to transf, the internet, and mobile computing) that have ability to transform relations with citizorm relations with citizens, business, and other arms of government"

Thus the electronic government is the use of information and communication technologies by the government.

2. Benefits of Electronic Government

In the application of electronic government implemented through the reform of management information systems and communication among government agencies with optimizations of utilizing information and communication technology. There are several benefits to implementing Electronic Government at a government agency. According to Yustianto in Kurniadi (portalgaruda.ac.id) the benefits of the implementation of e-government are:

a. Improving effectiveness and efficiency performance of the apparatus in the governance process.
b. Improving Good Governance by control, transparency, and accountability.
c. Empowering society through the new community creation of technology concept and able to anticipate global changes.
d. Improving quality of public services from the government to the people.

According to Gore and Blair in Andrianto (2007:46) the following benefits are:

a. Improving the quality of government services to its stakeholders (community, business and industry), especially in terms of effectiveness and efficiency performance in various areas of the country life
b. Improving transparency, oversight and accountability of governance in order to implement the concept of Good Corporate Governance.

c. Significantly reducing the total cost of administration, relations and interactions are issued by the government and other stakeholders for the purpose of activity every day.
d. Provide an opportunity for the government to obtain new sources of revenue through its interaction with the parties concerned.
e. Creating a new community environment that can quickly and accurately answer the various problems faced in line with various global changes and trends that exist.
f. Empowering communities and other parties as the government's partner in the process of making public policies equitably and democratically.

The benefits of electronic government implementation by Presidential Decree of 2003 include two related activities, namely:
a. Data processing, information management, information systems management and electronic work processes
b. Utilization of information and communication technologies for improving public services that can be accessed easily and cheaply by people throughout the region

With the benefits generated through the implementation of electronic government make the activities of government easier in providing services to the public.

3. Types of Electronic Government Services

There are many types of services provided by the government. Grouping the types of services is influenced by aspects of the complexity and the beneficial aspects. In connection with these two aspects then by Indrajit (2002:29) the types of e-government services can be grouped into:

a. Publish (Publication)
    This type of service is a service with one-way communication. The government publishes data and information held to be accessible via the internet by the public and other interested parties.
b. Interact (Interaction)
    In this type of service has created two-way communication between the government and those who concerned. There are two applications, namely the form of portal sites that deliver searching facilities for people who need the data or information and the

government to provide channels so that people can have discussions with certain units concerned, both directly and indirectly.

c. Transact (Transaction)

In this type of service occurs two-way interaction, but there was transaction relating to money from one party to another party.

4. Success Elements of Electronic Government

Based on the research results in the of e-government field, led by Prof. David Darcy of University of Maryland, which resulted in the formulation of the eight elements of success in implementing electronic government. The elements of success are in Indrajit (2002:62) as follows:

a. Political Environment

At this element is the condition or a political atmosphere in which the project concerned is located or implemented. In connection with these elements, there are two types of projects, namely "Top Down Project" (TDP) and the "Bottom Up Project" (BUP). "Top Down Project" (TDP) type relating to the existence of a project is determined by the environmental initiatives of the executive (e.g. President or Prime Minister) as the highest authority of government, or sponsored by the legislature (House of Representatives) as a fiduciary. In the TDP, there are two important aspects, namely through campaigns (marketing) against the desire to build e-government services to all members of society with a view to creating an efficient government and put this project as one of the highest priorities in the implementation of the country's development.

While the type "Bottom Up Project" (BUP) executed for their ideas or initiative from the head unit or employee (bureaucrats) who are in one government agency or department. There are three important aspects to be considered for the success of a project is the ease of getting links from internal circles, the clarity of the e-government application, significant benefits gained by the users (end users) of the implemented e-Government project.

b. Leadership

Leadership factors have an important role is the responsibility of the project manager to execute a project from beginning to end in accordance with the executed project cycle (project life cycle). By Indrajit (2002:63) the scope of leadership in an e-Government project boils down to the ability to manage the three things, namely:

1) Various political pressure that occur on e-Government project which lasted from both optimists and pessimists

2) A variety of resources required and allocated by e-Government project in question, such as human resources, finance, information, equipment, facility, etc.
3) A number of interests from various parties (stakeholders) of the existence of e-Government projects are executed.

A leader in order to be successful must have ability to do things as follows:

1) Articulating the vision and mission of e-Government in the implementation of the project activities
2) Developing a careful project planning and comprehensive (overall)
3) Conducting lobbying and negotiation
4) Having the ability to detect and examine obstacles that appear to happen in the middle course of the project and find a solution
5) Knowing exactly and details of the business processes associated with the implemented e-Government project
6) Learning the technical matters related to information technology and the Internet (Indrajit, 2002:64)

Leadership is not only on the ability of a good leader, but it takes a leader who can professionally carry out the strategic functions.

c. Planning

Planning has an important role because it is used to measure the extent of the results to be achieved, and the methods used in the implementation of e-government. Good planning will have a huge contribution to the overall project implementation.

d. Stakeholders

Stakeholders are parties related in e-Government implementation project. Is the leader's job to understand the interests of each stakeholder there and tried to unite in order to achieve the vision and mission of e-Government (convergence). Parties are considered as stakeholders in the e-Government include: government (agencies associated with the entire device management and employees), the private sector, communities, non-governmental organizations, companies and others.

e. Transparancy/Visibility

According to Indrajit (2002:66) the transparency of e-Government project is closely associated with the presence of stakeholder, within the meaning of the word is that all the data and information should be

available on the ins and outs and the status of ongoing projects to be freely accessed by stakeholder that diverse, The availability of such information access project status, resource allocation, evaluation per stage of the project, and others aim to create credibility and legitimacy for both the organizers of the project or stakeholder as monitoring party. Allowing for the concerned parties to access the data and information related to ongoing projects indirectly a means of marketing (marketing) is quite effective, because there involved the seriousness of the government to always provide the best to its people through the implementation of numerous projects of e-Government.

f. Budgets

The strength of allocated financial resources to e-Government project is one of the strategic elements that determine the success of a project. Based on the facts, amount of the budget provided by the government (and the other sort of private or foreign aid) is very dependent on the level of priority given by the government against the related project

g. Technology

One of the important elements is technology. The technology started from the simplest and cheapest to the most sophisticated (state-of-the-art). Selection of the technology to be applied in an e-Government project is highly dependent on the available budget. The greater existing budget, increasingly sophisticated technology that can be selected and used, which tends to increase the probability of success of a project

h. Innovation

The final element that contributes to the e-Government implementation is an ability of the project's member to perform certain innovations. Innovation is not limited to the ability to create new products, but must have a sufficient level of creativity, especially in managing the e-Government projects that exist, so that many obstacles that are often encountered in a project can be easily removed.

E-government with this eight success elements can be implemented in all areas of public service, one of which is in the field of health. Utilization of information and communication technology in health sector is known as e-health.

ELECTRONIC HEALTH (E-HEALTH)

According to Kristianto e-health is a service in the form of information and communication technology applications are linked to the overall functional element supporting the health sector). E-health is a service in the form of information and communication technology applications are linked to the overall functional element supporting the health sector (portalgaruda.ac.id). On E-Health, data is transmitted, stored and retrieved electronically for the purposes of clinical, educational and administrative. Eysenbach in Kristianto explains that:

> Electronic health is an emerging field of medical informatics, refers to the organization and health services and information using the Internet and related technologies. In a broad sense, the term that is the way in technical development, but also a new way of working, attitude, and commitment to the network, global thinking, to improve locally, regionally, and worldwide health care by using information and communication technology (portalgaruda.ac id)

E-health is the innovation to improve the quality of health services based on the technology, as stated by the WHO, that e-health is:

> Utilization of the Internet and the technology associated with it in the healthcare industry to improve access, efficiency, effectiveness and quality of clinical and business processes that run by health care organizations, practitioners, patients and Consumers in order to improve the health status of patients (http://www.who.int/trade/glossary/story021/en/)

The WHO issued a resolution regarding e-health in 2005. In that resolution, the WHO encourages countries to:

1. Developing a long-term strategic plan to develop e-health services in various areas of health is good for health administration, legal and regulatory frameworks, infrastructure as well as public and private partnership mechanism
2. Developing ICT infrastructure for e-health
3. Building collaboration with the private sector and profit agency to support e-health
4. Developing e-health that reach people in particular are prone to health problems (vulnerable) and in accordance with their needs
5. Mobilizing cooperation across sectors in adopting the norms and standards of e-health, evaluation, the principles of cost-effectiveness in e-health to ensure the quality, ethics and security by promoting confidentiality, privacy, equity and equality
6. Developing a center of excellence and a network of e-health

7. Developing a model public health information systems for surveillance, response and emergency
(http://www.who.int/trade/glossary/story021/en/)

Eysenbach in Kristianto (portalgaruda.org) explains that the "e" does not only refer to electronic, but broken down as follows:

1. Efficiency. One objective of the e-health implementation is the health services efficiency, reducing health care costs, such as lowering cost to diagnosis or consultation between doctor and patient.
2. Improving the quality of health services with the qualified informations and the believed resource, expected that information obtained by patient is more precise.
3. Based on the evidence, where all information should be based on scientific research.
4. Empowering consumers and patients, with knowledge information on medicine, treatment and electronic records of personal, health care is expected to 16 centered on the patient.
5. Creating a new relationship between patients and health profrsional towards a true partnership where decisions are made jointly.
6. Education for doctors and patients are sourced from on line
7. Enables standardization of information exchange between companies that engaged in the health industry.
8. Widening the scope of global health information because information technology has been able to make it happen with Internet technology.
9. Ethics. New challenges in their professional ethics and patient privacy.
10. Equity, health services should be able to reach all people of all age groups.

According J.CHealy in Kristiarto (portalgaruda.org) starring role in e-health is:

1. UN Agencies and International Agencies related to health, telecommunications and trade.
2. The government authorities from the national to local health and communicationrelated.
3. Educational institutions and research
4. The health professionals and their associations.
5. The customers, patients and their associations
6. Government organizations
7. The health industry and telecommunications
8. The mass media

It can be said that e-health is a service in the form of information and communication technology applications associated with parties supporting the entire health sector, including health departments, hospitals, health centers, pharmaceutical, universities, polyclinics and others. According to Kurniadi (portalgaruda.ac.id) basically, e-health is a healthcare application that consists of several components. The most important component in the implementation of e-health is the Electronic Medical Record (EMR). EMR contained in the health care system remotely by using telecommunications and information networks.

By implementing an integrated medical record, known as the Electronic Medical Record (EMR), the benefits to be gained are:
1. Data is to be complete and standards-compliant
2. The searching process is faster and more accurate
3. Abstraction, reporting more easily and even automatically
4. Storage is more compact, does not require a spacious room
5. Data can be displayed quickly as needed
6. Integrated with LIS (Laboratory Information System) for the results of laboratory tests
7. Integrated with PACS (Picture Archive Communication System) for radiology results (MRI) (www.bvk.co.id)

Richard et al delivers the benefits of Electronic Medical Record in improving the quality of health services, among others:
1. Increasing productivity: the use of an EMR system can reduce costs
2. Efficiency: EMR system is adopted, it can reduce the available resources to improve quality of service
3. Reduce the incidence of side effects of drugs in the treatment of inpatient and outpatient
4. EMR system can integrate recommendations of evidence-based for preventive care (such as screening tests) with patient data (such as age, gender, and family history) to identify patients who need certain services. This system can alert providers to offer services during routine visits and reminding patients to schedule maintenance.
5. EMR system can be an instrument for the management of disease (for high-risk patients, case management system helps coordinate workflow, including communications between specialists and patients) (www.mutupelayanankesehatan.net)

Below is a picture of two health institutions that use the data in the medical record of a patient `together. With the EMR, it is possible to carry out the exchange of medical information from one place to another to assist the implementation of medical procedures with the aim of improving the quality of public health services.

Picture 2, Integrated Medical Record
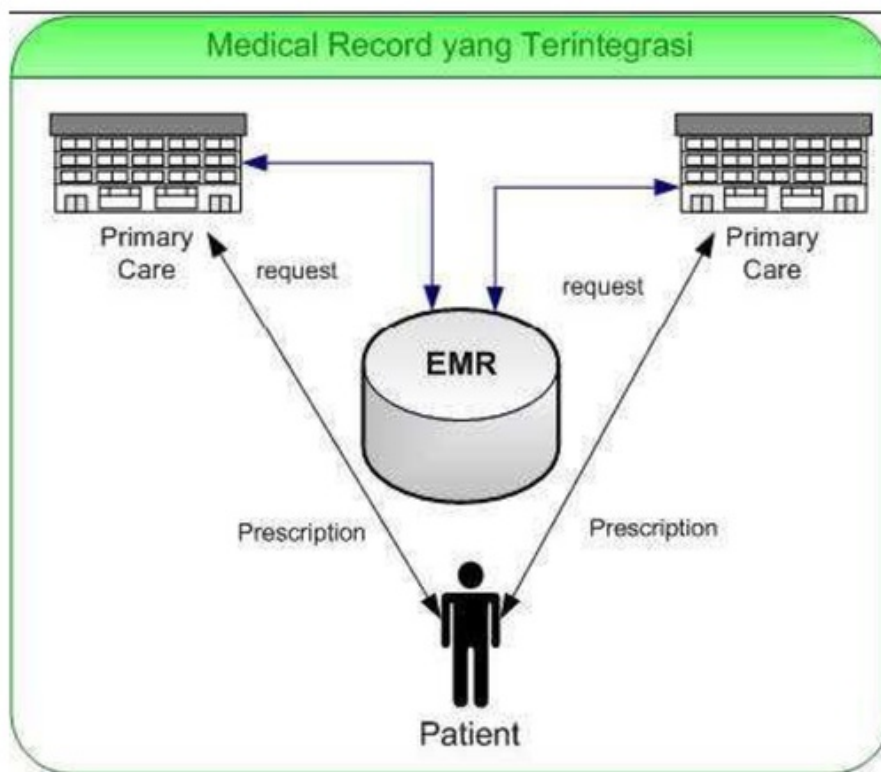
Source: Supriyanto et all in Kurniadi (dinus.ac.id)

The implementation of e-health not only in terms of EMR, but also when the community of health center patients is being treated. With e-health, each patient only needs to scan the fingerprints to be checked. In addition, enables patients to get health care at the clinic, patient data will be integrated with other health centers and hospitals. This is particularly important when the patient's health center will be referred to the hospital. Therefore, all the data can be known easily by the hospital. In addition, the existing e-health data collection of stocks of medicines in all health centers and hospitals so they can know the use and drug stocks every day. Data on the number of patients, the ten most prevalent diseases, the ten most services, the type of patient and examination by fingerprints (www.jpnn.com)

With the implementation of e-health, the quality of health services is expected to increase with the availability of information quickly, easily, and quality and satisfaction materialized society.

CONCLUSION

The implementation of e-health is a form of innovation within the framework of the implementation of e-governme. Eight important elements consisting of political environtment, leadership, planning, stakeholders, transparancy-visibility, budgets, technology and innovation are elements that are interrelated. By understanding the process of managing e-Government can improve success probalility for the organization of public services, especially in the health sector through the implementation of e-health.

E-health are supported and implemented at the national, provincial, district/city, can be application that support public health. Quality of health in health sector is expected to increase with the availability of information quickly and qualified.

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