Medical Knowledge Sharing Guideline
A Conceptual Model

Oktri Mohammad Firdaus1,2
1Ph.D student Industrial Engineering Department
Bandung Institute of Technology
2Industrial Engineering Department
Widyatama University
Bandung, Indonesia
oktri.firdaus@gmail.com, oktri.firdaus@widyatama.ac.id

Abstract—Increase the number and type of disease in the world need quality medical care. To produce high-quality medical treatment, necessary improvement in the quality of research related to medical care itself. However, an increasing number of research questions is not enough to be followed also by improving the quality of research that indirectly in desperate need of a good quality of communication between physicians, especially in the dissemination of research related to medical care. One of the main requirements for the dissemination of research results might work well is appropriate knowledge sharing between doctors, which eventually led to the need to improve knowledge-sharing between the base physicians. The main objective of this research is to explain the factors that influence the process of exchange of knowledge between doctors, which describes the process of knowledge exchange that occurs between the doctors that have been held, and learn about the factors that influence the effectiveness of the processes for the exchange of knowledge among doctors. In this study using survey methods, this is caused by the research focus on research on current conditions, then the form of research questions of who, what, where, how many / much and do not require control over behavioral events. The survey was conducted on 5 (five) parts, namely content and obstetrics (OBGYN), pediatrics, radiology, anesthesia and pathology clinics in teaching hospitals and non-teaching hospitals. The result end of this research is a guide for the head part in public hospitals and maternity hospitals as leaders and decision makers in implementing the process of sharing knowledge between doctors and international interaction between the hospitals effectively.

Keywords—knowledge management, knowledge sharing, doctor, hospital, medical treatment

I. INTRODUCTION

Health conditions in Indonesia experienced significant growth in recent decades. For example, infant mortality fell from 118 deaths per thousand births in 1970 to 35 in 2003, and life expectancy increased from 48 years to 66 years in the same period. This explained of development impact of the expansion of public provision of health facilities in 1970 and 1980, and the impact of family planning programs [1].

Healthcare in Indonesia has improved, although some problems remain and new challenges continue to rise [1]. Progress achieved, including reduction in infant mortality and life expectancy increases, but maternal mortality and malnutrition in children remains a major problem. Demographic and epidemiological transition is accelerated by rising incomes and an aging population. This shift results in rapid improvement of health care are demanding more and better. The health system in Indonesia has to answer these demands by improving service quality and diversification of health financing [1].

In addition to the positive things above, Indonesia still has serious problems relating to health, particularly as a result of social and economic changes, among others [1]; 1. More complex the pattern of disease, 2. Regional socio-economic and high in the health system 3. A decrease of conditions and the use of public health facilities as well as the tendency of the main providers of health care facilities turn to the private sector 4. Health financing is low and 5 paralyzed. Decentralization creates new challenges and provide opportunities 6. Levels of HIV / AIDS has increased but it is still largely localized.

There are still major problems in Indonesia still high mortality. Mortality death that occurs within a certain period of time and place, due to certain circumstances, may be illness or other reasons [2]. Mortality is from the infant mortality rate (MMR) and child mortality rate, maternal mortality rate (IMR) and the crude death rate [2]. When is more detail the three (3) the mortality rate in Indonesia concerned with maternal and child health (children and toddlers). More serious treatment of the issue is needed.

Maternal Mortality Rate (MMR) is also an important indicator in determining the degree of public health. MMR describes the number of women who die of causes of death associated with pregnancy disorders or treatment (not including accidental or incidental cases) during pregnancy, childbirth and postnatal (42 days after birth) without taking into account the length of pregnancy per 100,000 live births [2].

If we do more to focus discussion on technology developments in the health world, it will not be released from the role of information and communication technology (ICT) to accelerate the improvement of technology.

Djailil (2010) actively participating will have to participate (public and private) in the planning process related to the technology and ICT. Government process requires interconnection communication to produce synergy.

To realize its role in all actors involved in the process of information and communication (ICT) including technical, intermediate connection, communication, information technology, knowledge occurring not only informal and efficiently.

The problem is particularly important in patients where its competence such as doctors who often need advice like these or sharing knowledge in the treatment of illness and knowledge transfer.

The full participation in the increasing number of problems need quality financial 

necessary to get treatment, the treatment does not only improve the quality of life. However, need good financial support and the dissemination of knowledge.

After discussing the importance of the quality of health conditions that had occurred, the benefits that can be studied for this knowledge management can be used to moderate the identified...
to accelerate the treatment process and the process of improving the quality of the service itself [3].

Djail (2005) also explained that Indonesia is already actively participating in the era of global trade, inevitably, will have to align the integrated health system more between (public and private) hospitals, health centres, pharmacies, pharmaceutical companies, the national of the family Board of planning (BKKB), insurance (as well as asked JAMSOSTEK) companies, local governments, the central Government to the public and consumers. This integration process requires a good system, with the support of the technology infrastructure of information and effective communication of the information systems of health in order to produce Indonesia integration (Indonesia e-health).

To realize all of the above, then one of the factors that play a role in communication, both direct communication between all actors involved in the health world by emphasizing the process of sharing information and useful knowledge (information and knowledge sharing) or through an intermediary good media software and hardware in connection with an effective strategy in running the communication process for sharing information and knowledge [4]. Implementation of knowledge-sharing can occur not only in the formal order, as well as in the form of informal arrangements that knowledge sharing can work more efficiently [5].

The process of sharing knowledge in the health world, particularly among doctors is needed. This happens especially when a physician with special expertise to find patients with specific cases and in fact not in accordance with its competence, then the doctor will itself consult another doctor who is more appropriate is competence. Conditions like these can be considered as the beginning of the process of sharing knowledge. Another thing is when a patient needs treatment not only by doctors, but by a team of doctors, knowledge sharing process is underway for this condition.

The full explanation before we could conclude that by increasing the number and type of disease in this world who need quality treatment. To obtain high quality medical care, necessary additions to the quality of research connected with the treatment itself. However, an increasing number of studies does not in itself enough to follow through improving the quality of scientific research, which indirectly desperately need good communication between physicians, particularly in the dissemination of research results related to health care.

After doing a search for certain items behind this research, it is expressly the main purpose of this study was to explore conditions under which the process of knowledge sharing that had occurred between the doctor, knowing what things that can be supportive and impeding the process of sharing knowledge and also trying to identify exactly the things that can be used as both research variables that are predictors or moderators. This is done to simplify the development process from the conceptual model of this research. With the identification of things that can be used as a research variable, then this is worth doing research as well as both a measuring tool used and the research methods used can be said to be realizable.

### Table 1 Research Position

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### II. LITERATURE REVIEW

#### A. Knowledge Management

In a broad sense, knowledge management (KM) is a business concept, which includes a concerted effort, coordinated and deliberately to manage organizational knowledge through a process of creation, dissemination arrangement, and apply them to improve organizational performance and create value [6].

Healthcare Knowledge Management (HKM) can be characterized as, modeling the systematic creation, sharing operations, and the translation of health knowledge to improve the quality of patient care. The purpose of the HKM is to promote and provide optimum health knowledge, timely, effective and pragmatic for health professionals (and even to patients and individuals) where and when they need to help them create high quality, well-informed patient care decisions and cost savings [7].

#### B. Knowledge Sharing

Shin, 2004; Albino et al, 1999; and Lee & Suliman, 2002 explained that Knowledge sharing (KS) is represented as a set of behaviors that involve the exchange of knowledge about the actors, content knowledge, organizational context, appropriate media and social environments [8].

Abidi (2007) said that in the language of knowledge management, knowledge sharing can be considered as an activity planned and managed systematically involving a group of like-minded people committed to sharing their knowledge of resources, ideas and experiences to the goals set [9].

Sharing knowledge in health care can be characterized as an explanation and dissemination of health knowledge by and for health care stakeholders through a collaborative
communication tool for advancing knowledge of health stakeholder participated intelligences.

Abidi (2007) explained that the purpose of healthcare knowledge sharing can be described as follows [9]: 1. To ensure effective access and focus on evidence-based sources of knowledge, or to direct users to the artifacts or knowledge, to ensure equal tips to help you find relevant knowledge artifacts. 2. In order to explain and share "unpublished" internal know-how, views, opinions and solutions strategy stakeholders to complete scientific knowledge. 3. In order to build a culture of cooperation among like-minded stakeholders in order to promote collaborative learning, problem solving typical training evaluation, critical assessment of the evidence, practices and results, using the experience and expertise of colleagues, and feedback on practice and policy.

Abidi (2007) explains what sort of things that can support the process of sharing knowledge in the world of health, particularly that occurs among doctors that began with the initial inputs in the form of an electronic medical record (EMR) comprehensive information about the condition of the patient as well as some method is better known as the modality of medical knowledge about population health data warehouse, the best evidence, discussions of specific problems, tacit knowledge of experts, educational content modules and clinical decision support knowledge—all of which are steps toward the realization of the process of sharing knowledge among doctors [9].

Based on these explanations, then the scope of the research focuses on the process of sharing knowledge among international physicians and inter-section between hospitals with respect to factors that affect the process of sharing knowledge to measure the effectiveness of the process of sharing knowledge among physicians as described in Figure 2. It is also the starting point for the establishment of a conceptual model of research by conducting further exploration of things that can affect the mechanism of the community of practice (CoP), social networking and analysis, and collaborative team care toward knowledge sharing between hospitals effective intra and inter-inter-physician described in Figure 3.

As an initial basis to strengthen the research process for the community of practice (CoP) there are some important questions to be answered and discussed further in this study, namely: 1. Anyone? 2. Places where? 3. Derived from whom? 4. Whether internal or external? 5. What are the challenges? 6. How is management support? 7. How is management commitment? 8. How IT infrastructure?

III. RESULT AND DISCUSSION

Based on the results of the analysis of several previous studies directly related to this research, especially regarding the process of knowledge sharing that occurs between doctor and also the results of initial studies beginning in the field, then the main problem in this study is how the process of knowledge sharing that occurs between physicians, what factors that affect the ongoing process of sharing knowledge among doctors, how to influence the community of practice (CoP), social networking (SC), and collaborative team care (CTC) in the knowledge effectiveness of sharing between physicians and how the effectiveness of knowledge sharing between physicians among the parts of both inter-and between hospitals.

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The main purpose of this research was to describe the factors that influence the process of knowledge sharing among doctors, described the process of knowledge sharing that occurs between physicians that have taken place, describing the influence of the CoP, SN and CTC on the effectiveness of knowledge sharing between doctor and determine the factors that affect the effectiveness of the process of sharing knowledge among physicians.

This study uses only one measure to answer some research questions posed. Measuring instrument used was a questionnaire with open questions. The questionnaire was used to explore the conditions of the process of sharing knowledge between doctors who had been held. Charging is done by giving the questionnaire directly to the respondents using interview. If the factors that influence the range of knowledge among physicians have been identified and a conceptual model by defining a few variables that are predictors of good research and moderators have been successfully constructed, then for the next stage of research will be used another gauge of the questionnaire with closed-form questions. The purpose of this questionnaire is to conduct a confirmation test of the consistency of each variable on the final results of this study. Conceptual model development process and the determination of the research hypotheses using the help of SEM (structure equation modeling).

The end result of this research is a guide for the head part in public hospitals and maternity hospitals as leaders and decision makers in implementing the international sharing of knowledge between doctors and the inter-section between the hospitals effectively. Result of Guidelines from this research is expected to serve as a comprehensive rule that apply to doctors in particular to improve the quality of medical care.

This guide contains instructions for the head section in order to evaluate the organization, especially the behavior of organizations and organizational structure, guidance in preparing the standard operating procedure (SOP) to make sharing between physicians in part to internal and external interests, guidelines for determining rewards and punishments physicians in implementing knowledge sharing, as well as instructions for setting up tools and IT infrastructure capable of supporting the process of effective knowledge sharing among physicians.

IV. CONCLUSION

The research is expected to have a positive contribution as follows: 1. Contributions for scholarships in specific areas of knowledge management in industrial engineering studies is to generate new theories that can support quality improvement process of knowledge sharing especially in the field of health. 2. Contributions to the practical world, particularly in the areas of health care in general hospitals or maternity hospital is to help physicians to improve quality and accelerate the process of medical treatment and may also improve the quality of health care in Indonesia in general with the use of information and effective communication.
Further research is to design and prepare research instruments in the form of a questionnaire with respect to the factors that have been accommodated within the conceptual model. Conceptual model generated in this study will serve as a reference for subsequent data collection process. The resulting conceptual model does not preclude the addition or subtraction has a number of factors that influence the effectiveness of knowledge sharing between physicians and also allow for the emergence of moderating variables that could affect the role of each factor after the data collection through survey methods.

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Abstract—

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