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INVESTIGATING HEALTHCARE MANAGEMENT SYSTEM AND ITS STAKEHOLDERS: A CASE STUDY OF KOREA'S MERS OUTBREAK

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ABSTRACT

Recently, there is a worldwide increase in the epidemic disease outbreaks. Whenever these emergencies happen, they challenge the health systems and their procedures. Many of the established systems fail in the process and precious time is lost while trying to contain the diseases. In 2015, it took more than two months to contain Middle East Respiratory Syndrome outbreak in Korea. Considering the fact that Korea's geographical location allows travel abroad only by air or sea, control of a Middle East origin disease outbreak should have been easier. However, examination during the outbreak period shows that the country was not prepared for emergency management especially in terms of healthcare management culture. In this study, we present problems and difficulties Korean healthcare organizations confronted during the outbreak and critically review management of Korean healthcare organizations from stakeholder theory's point of view. By taking one of the biggest hospitals in Korea as a representative case, it can be seen that Korean healthcare organizations do not fulfill accountabilities toward their stakeholders and it led the whole country into chaos both socially and economically. Analysis of the case shows that Korean healthcare organizations' great focus on financial profit and their corporate structures caused a failure in protecting the hospitals' main ethical priority: patients' welfare. Failures of the system show that evaluations of healthcare organization should be solely based on healthcare quality provided by the organization, not by the name value of any related corporations.

1. Introduction

In the last three decades humanity faced an exponential growth in the number of infectious diseases. Majority of these cases can be classified as zoonoses which are transmitted from animals to humans (Smith et. al., 2014). Many of these zoonoses such as bird and swine flu have cost many human lives and also gave serious economic damage. Zoonoses are not limited to flu variants, there are also unique diseases such as Ebola, Zika and MERS. Ebola outbreak in West Africa which is believed to be transmitted from infected animal was very fatal, having a fatality rate as high as 50%. The symptoms begin with fever, headache, and sore throat, and further develop to diarrhea, organ damages and bleeding. 28,646 people were confirmed and 11,323 people lost their lives from the virus (World Health Organization, 2016a). Latest Zika virus epidemic began with mosquito bites from *Aedes* mosquitoes. The virus is threatening not only because it causes skin rashes, conjunctivitis, and neurological disorders but also microcephaly for newborn babies (World Health Organization, 2016b). The risk of disease infection grows as contacts and exchanges among people increases. Since air transportation provide long distance travel, it is very likely that virus outbreak occurred in one area can spread to not only in nearby regions but also remote countries. For example, the first laboratory-confirmed case of Ebola in the United States was from a man who visited Liberia (Centers for Disease Control and Prevention, 2014). Zika virus was also transmitted through the globe as people who visited virus reported areas contact with other people. It is very likely that virus outbreak will occur more as population grows, and spread of the virus will be accelerated through frequent human exchanges. Therefore, it is critical to effectively manage virus outbreak once it is detected.

Lately, Middle East Respiratory Syndrome coronavirus (hereafter MERS) outbreak in Korea resulted in a health crisis as alarming as Ebola and Zika outbreaks. The virus is originally transmitted from camels and can spread to human-to-human through close contacts. As the virus name implies, the virus is first identified in Saudi Arabia and mostly occurs in Middle East regions. Korea is the only place where reported greatest number of confirmed cases other than Middle East regions (World Health Organization, 2015). The outbreak began with a man who travelled Middle East regions on May 20, 2015. The number of confirmed cases had been increasing for the next two weeks and it reached its peak on June 6 and 7 as 22 patients and 23 patients were newly confirmed respectively. Deaths among the infected patients were reported for every two or three days (Korea Centers for Disease Control and Prevention, 2015b). Fortunately the number of confirmed cases turned decreasing and the government announced on July 28, that the most difficult time of outbreak has passed. However, it took for a while to officially announce the end of the outbreak. The last patient who was released from hospital on October 2 was again confirmed positive of the virus ten days later. On November 25, the patient died and there was no MERS infected patients left in Korea. Following the World Health Organization's standard, Korea Centers for Disease Control and Prevention (hereafter KCDC) announced official end to MERS outbreak on December 23, 2015. The country was negatively influenced by the outbreak socially and economically. During the outbreak 186 people were confirmed, 38 were dead, and the number of people who experienced quarantine was approximately 17,000.

Korea's distinct location and characteristics make this a very unique case to study. Korea is geographically far from Middle East. As S. Ahn (2015) reported, the country has only 47

camels, and except for camels imported from Australia most of them were born in Korea. These camels are mainly for exhibitions in zoos. If we look at the human interaction, we see Korea's interaction with Middle East population is very low and mostly business related. Considering all these facts, Korea is not expected to be highly threatened by MERS. Then why the country has suffered from MERS outbreak? In order to answer this question, there is a need to closely examine management and governance of Korean hospitals. Because one of the biggest hospitals in Korea was the spreading center for the virus. Healthcare organizations which have responsibility to protect the public health showed serious deficiencies in controlling the epidemic. However, it seems that majority of studies published regarding MERS outbreak focus on epidemiological research, public healthcare system, governance structure of Korean government, or Korean culture of healthcare shopping and visiting the sick (Jun, 2015; K. M. Kim et al., 2015; Y. Kim, 2015b; E. C. Park, 2015; Y. S. Park et al., 2015). Since the outbreak is strongly related with medical institutions in healthcare business, we believe that perceiving the outbreak from healthcare management's point of view will provide a deeper insight into reviewing the outbreak that will help in understanding the event better and preventing similar failures from happening.

We aim to examine MERS outbreak and explain the outbreak period concerning characteristics of Korean healthcare organizations and critically review problems and issues revealed during the outbreak in order to give insights for possible disease outbreak in the future. During the illustration, stakeholder theory which emphasizes organization's obligation toward stakeholders will be helpful to take account management of healthcare sector in Korea. The next section reviews previous studies of stakeholder theory and stakeholder theory approach in healthcare organizations. Stakeholder accountability map of healthcare organizations (E. J. Emanuel and Emanuel, 1996; Werhane, 2000) as framework of this study will be illustrated. The whole period of MERS outbreak such as how the MERS virus has entered the country, how it spread widely in short period and how the hospitals responded to the outbreak will be described in the following sections. By analyzing accountability domains of healthcare organizations toward stakeholders, we will present how and why MERS virus could bring the significant damage to Korean society. Management system of Korean healthcare organizations and their attitude during the outbreak will be closely examined. Finally influence of MERS outbreak in social and economic aspects and ethical evaluations of healthcare organizations in Korea will be discussed, together with future implications for management of healthcare sector in Korea.

2. Stakeholder Theory

Stakeholder concept was first introduced in management in 1963 and it was defined as "those groups without whose support the organization would cease to exist" (Freeman et al., 2010). Ever since, stakeholder discussion in management literature has been accelerated and researchers define stakeholders as individuals or groups who bear significant influence on organizations' performance and survival (Donaldson and Preston, 1995; Freeman, 2004; Garvare and Johansson, 2010).

When it is associated with various ideas and notions that consider business and ethics together, stakeholder concept can be called as stakeholder theory (Freeman, 1994). Stakeholder theory is a genre that combines value-creation business and moral activities together. Following stakeholder theory framework Freeman recommended to

consider three principles in organization legislation process; organizations should operate for the interest of stakeholders (the stakeholder enabling principle), managers have responsibility in business operation for stakeholders (the principles of director responsibility), and stakeholders can take action in case managers fall behind their responsibility (the principle of stakeholder recourse). Freeman et al., (2004) also stated that stakeholder theory asks two questions to an organization: *'what is the purpose of the firm'*, and *'what responsibility does management have to stakeholders'*. By answering these questions, organizations integrate values they pursue, aware the importance of stakeholders in pursuing their values, and consider how to perceive and manage the relationship between stakeholders and organization. In other words application of stakeholder theory in business context emphasizes morality which is necessary in business operation.

Although there are some controversies of stakeholder theory such as the theory is vaguely defined and hinders free market exchange (Stieb, 2009), it is without doubt that stakeholder theory is one of the most influential theories in contemporary management literature especially when moral behavior and ethical obligations of mangers are highly required as nowadays.

Stakeholder Theory in Healthcare Organizations

Stakeholder theory has been applied in diverse disciplines and studies of healthcare organizations were not exceptional. Stakeholder theory played a role as a framework to perceive accountability and ethical obligations in both macro and micro perspective of healthcare organization management.

L. L. Emanuel (2000) presented accountability and moral obligation of healthcare structure. According to the author, structure is referred as a term which includes organization, system, or institution. Healthcare organization, system, or institutions have their own purposes which require morality. Therefore, it is possible to evaluate whether the structure of healthcare organization and healthcare system is ethical or not by concerning purpose of organizations and system. There are three models that can explain purpose of healthcare organizations; professional model, economic model, and political model (E. J. Emanuel and Emanuel, 1996; L. L. Emanuel, 2000). Professional model believes that healthcare is a service provided to patients and top priority of healthcare professionals is to improve well-being of patients. Economic model on the other hand, perceives healthcare sector as a business market. Patients are consumers and healthcare professionals provide commodity to consumers. Purpose of healthcare organizations is achieving financial benefit. In political model both patients and healthcare professionals are citizen-members of a society and patients can raise their voice to receive equal healthcare treatment opportunity with others. Among these models, when professional purpose is concerned as top priority by healthcare organizations and healthcare professionals, it is possible to say that structure of healthcare organization is ethical. Specifically, E. J. Emanuel and Emanuel (1996) recommended professional model for patient-physician relationship, political model for healthcare organization governance, and economic model for relationships among healthcare organizations.

Considering stakeholders of healthcare management, E. J. Emanuel and Emanuel (1996) presented accountability map of healthcare professionals. Werhane (2000:176) adapted this map and presented accountability map of healthcare organizations. Table 1 shows comparison of the two maps.

	E. J. Emanuel and Emanuel (1996:231)	Werhane (2000:176)
Focus	Physician	Healthcare Organization
Stakeholders	Government Private payers Employers Investors Managed care plans Hospitals Professional associations Lawyers and courts Patient	Government Payers Managers & Nonprofessional employees Investors Managed care plans Community Healthcare professionals Professional associations Lawyers & Courts Patients: Primary stakeholders
Accountability	Professional competence Legal and ethical conduct Financial performance Adequacy of access Public health promotion Community benefit	Professional competence Legal and ethical conduct Adequacy of access Public health promotion Public health/access Financial performance Community benefit
Relationship	One way	Reciprocal

Table 1. Comparison of Accountability Maps Presented by E. J. Emanuel and Emanuel (1996) and Werhane (2000)

The map of E. J. Emanuel and Emanuel (1996) includes nine stakeholders and six accountability domains which are defined as "activity, practice, or issue for which a party can legitimately be held responsible and called on to justify or change its action" (1996:230). Among the domains of stakeholder accountability, professional competence can be summarized as six core competencies required for physicians (Holmboe et al., 2016); patient care, medical knowledge, professionalism, interpersonal and communication skills, practice-based learning and improvement, and systems-based practice. Access in healthcare is defined as "the opportunity to identify healthcare needs, to seek healthcare services, to reach, to obtain or use healthcare services and to actually have the need for services fulfilled" (Levesque et al., 2013). Therefore, adequacy of access refers that healthcare organizations and professionals should attempt for the public to receive appropriate healthcare as much as possible. Legal and ethical conduct refers any medical performance or business operation conducted by healthcare organizations and professionals should comply with legal regulations and ethical principles. Financial performance refers overall finance-related aspects of healthcare organization such as cost of the healthcare service, efficiency of the service provided, insurance fee from healthcare insurance payers, and profitability of the organization. Public health promotion regards well-being of the public, ultimately pursuing community benefit such as low mortality rate or low disease rate (E. J. Emanuel and Emanuel, 1996).

Reforming the accountability map of healthcare professionals by E. J. Emanuel and Emanuel, Werhane (2000:176) illustrated accountability map of healthcare organizations. Werhane added public health/access in accountability domain, but this domain appears overlapped with adequacy of access and public health promotion. Therefore, we maintain six accountability domains. Werhane also included reciprocity in the accountability map. Since stakeholder relationships are reciprocal in that stakeholders not only influence on organization but also are influenced by organization, Werhane represents bilateral accountability by drawing bi-directional arrows between healthcare organization and stakeholders.

According to Werhane healthcare organizations are unique from ordinary business organizations since their mission, values, and purpose concern patients' health, not maximizing profit; payer of the service (insurance agency) and recipient of the service (patient) are different; healthcare professionals are employed by organizations but at the same time they are independent professionals; activity is not limited as individual patients but promoting health of the public and community is also required; there are information asymmetry between management of organization and professionals and between patient and professionals; and there are supply/demand asymmetry because not all the patients can receive desirable medical service depending on their financial condition. As healthcare organizations have distinct characteristics from ordinary business organizations, it is noteworthy that purpose of healthcare organizations should not be profit-seeking. Although financial performance is important, it is not the primary purpose for healthcare organizations. The fundamental goal of healthcare organizations must be well-being of patients.

Application of stakeholder theory in studies of healthcare ethics has several advantages. Stakeholder approach helps policy making of healthcare organizations. By identifying key stakeholders and drawing stakeholder map to

evaluate the relationship among the stakeholders and healthcare organization, the analysis can be used for healthcare organizations' decision making process and strategic management (Brugha and Varvasovszky, 2000). Also healthcare organizations can distinguish importance among numerous stakeholders, and the theory performs as ethical guideline to assess performance of healthcare organizations in terms of moral obligations (Werhane, 2000).

By looking into stakeholder management of Korean healthcare organizations during the MERS outbreak, we expect to figure out crucial stakeholders and management structure of healthcare organizations, and evaluate whether the structure of the organizations meets ethical requirements.
Before analyzing MERS outbreak according to accountability map of healthcare organizations, the progress of MERS will be presented in the following section.

3. MERS Outbreak

a. Beginning of MERS virus

A man in his sixties traveled three Middle East countries Bahrain, Saudi Arabia, and United Arab Emirates for 11 days and returned Korea via Qatar on May 4. On May 11, he had fever and coughing. Before he was diagnosed with the MERS virus on May 20 in hospital D, he visited three hospitals A, B, and C. The names of the hospitals are referred as alphabet according to the order of patient 1's visit. This study followed this method as used in original article published by Korea Centers for Disease Control and Prevention (2015a). Korean government numbered patients according to the order of confirmation, thus he is referred as patient 1.

b. Transmission of MERS virus

From May 11 to May 20, patient 1 has closely contacted more than 700 people including his colleagues, family members, and medical staffs and people who stayed in the same hospitals.———Also, epidemiological investigation found that 26 people who had contact with the patient 1 in hospital B were infected. However, the initial surveillance failed to confine all the possible virus carriers; 8 people who were not included in the surveillance left or were discharged from the hospital and moved to other medical institutions (KCDC, 2015a). A man who had visited his father in hospital B on May 16 flew to Hong Kong on May 26 and moved to China via public transportation. Although his father was confirmed as MERS on May 20, the surveillance was not effective to prevent his travel, and he was confirmed and isolated by Chinese authorities (H. W. Jeon, 2015). Visiting different hospitals, people who were not detected from the initial surveillance transmitted the virus to people in other medical institutions. According to KCDC (2015a), patient 14, 15, 16 who were infected from patient 1 transmitted the virus to 85 people, 6 people, and 23 people respectively. Also, patient 76 who was infected by patient 14 transmitted the virus to 11 people. KCDC defined MERS patient who transmitted the virus more than 4 people as superspreader and stated that the 5 patients; patient 1, 14, 15, 16, and 76 infected more than 80% of the whole MERS patients. The number of newly confirmed cases decreased after one month of the first diagnosis and there were no more newly confirmed cases after July 5. After 28 days passing without any infected case, Korean government announced on December 23 that MERS outbreak has ended, 7 months after the first diagnosis (KCDC, 2015b).

4. MERS and Stakeholder Accountability Map of Healthcare Organizations

On June 12 merely 20 days after first diagnosis 126 cases were confirmed, 11

people were dead, and more than 3,500 people were under surveillance (Korea Centers for Disease Control and Prevention, 2015b). Searching for the reasons of the fast spread of the virus, it is necessary to examine hospitals where virus transmission among patients, healthcare workers, and visitors occurred. Especially, examining management of hospital D during the outbreak is important because it was the center of virus spread. Hospital D belongs to 'Big 5 hospitals' which means the five biggest hospitals in Korea. These tertiary hospitals feature themselves with high medical technology and high medical service quality. Therefore, if there are problems and difficulties faced in hospital D, these are likely to occur in other healthcare organizations in Korea. Considering hospital D as a representative case of Korean tertiary hospitals, we adapted stakeholder accountability map of healthcare organizations suggested by E. J. Emanuel and Emanuel (1996) and Werhane (2000), and analyzed activities of hospital D and other healthcare organizations and their attitude toward stakeholders during the outbreak.

a. Map of Stakeholder Accountability

From the accountability map of Werhane (2000:176), we made a few changes adjusting to Korean context. As seen on the Figure 1 below, the accountability map represents related stakeholders and accountabilities of a healthcare organization in Korea; patients, healthcare professionals, outsourcing company, non-regular employees, government and legal authorities, community, other healthcare organizations, health insurance payers, and investors. Non-regular employees are employed by outsourcing company of the hospital, so they are connected with healthcare organization through outsourcing company in the map. These employees include security workers, administrative workers, care-takers, and cleaners. Government and lawyers & courts are combined as government and legal authorities. Managed care plans and payers are combined as healthcare insurance payers. In addition to six aspects of accountability suggested by E. J. Emanuel and Emanuel (1996), we added hospital competence which refers required abilities and obligations for hospitals. E. J. Emanuel and Emanuel initially presented professional competence as accountability of physician. While adapting the initial map, Werhane illustrated accountability map of healthcare organization maintaining accountability domains similar with the initial version. As a result, both physician and healthcare organizations have the same accountability named as professional competence. However it is preferred to distinguish them since accountability of individual and that of organization are not same. Therefore, we distinguished professional competence and hospital competence. Professional competence refers physician's competence such as patient care, medical knowledge, professionalism, interpersonal and communication skills, practice-based learning and improvement, and systems-based practice (Holmboe et al., 2016). As for hospital competence, The Joint Commission (2010) presented as hospital's environment of care for patients; effective emergency management; employing qualified workforce; leadership to manage the organization; provision of care, treatment, and services; rights and responsibilities for patient's personal values and beliefs; and transplant services for donating organs and tissues. Therefore, while professional competence regards qualifications required for healthcare professional individuals, hospital competence is related with facilities, cultures, and management structure of healthcare organizations. Also, since financial performance includes not only monetary aspect of healthcare organization

but also efficiency of medical service, we changed the term as financial requirements.

Although Werhane improved the original map by adding reciprocal relationship of stakeholders, the map did not clarify whether the responsibility is required for each relationship. For example, public health promotion, adequacy of access, and community benefit are healthcare organization's responsibility toward community, not community's responsibility toward healthcare organization. Yet Werhane's map says healthcare organization and community bear the same accountability between each other. Considering these details, we specified direction of accountability and accountability domains according to each relationship. Lastly, among the stakeholders of healthcare organizations the relationship between patients and healthcare professionals is as equally important as that of patients and healthcare organizations. Therefore we additionally included accountability direction and domains between patients and healthcare professionals.

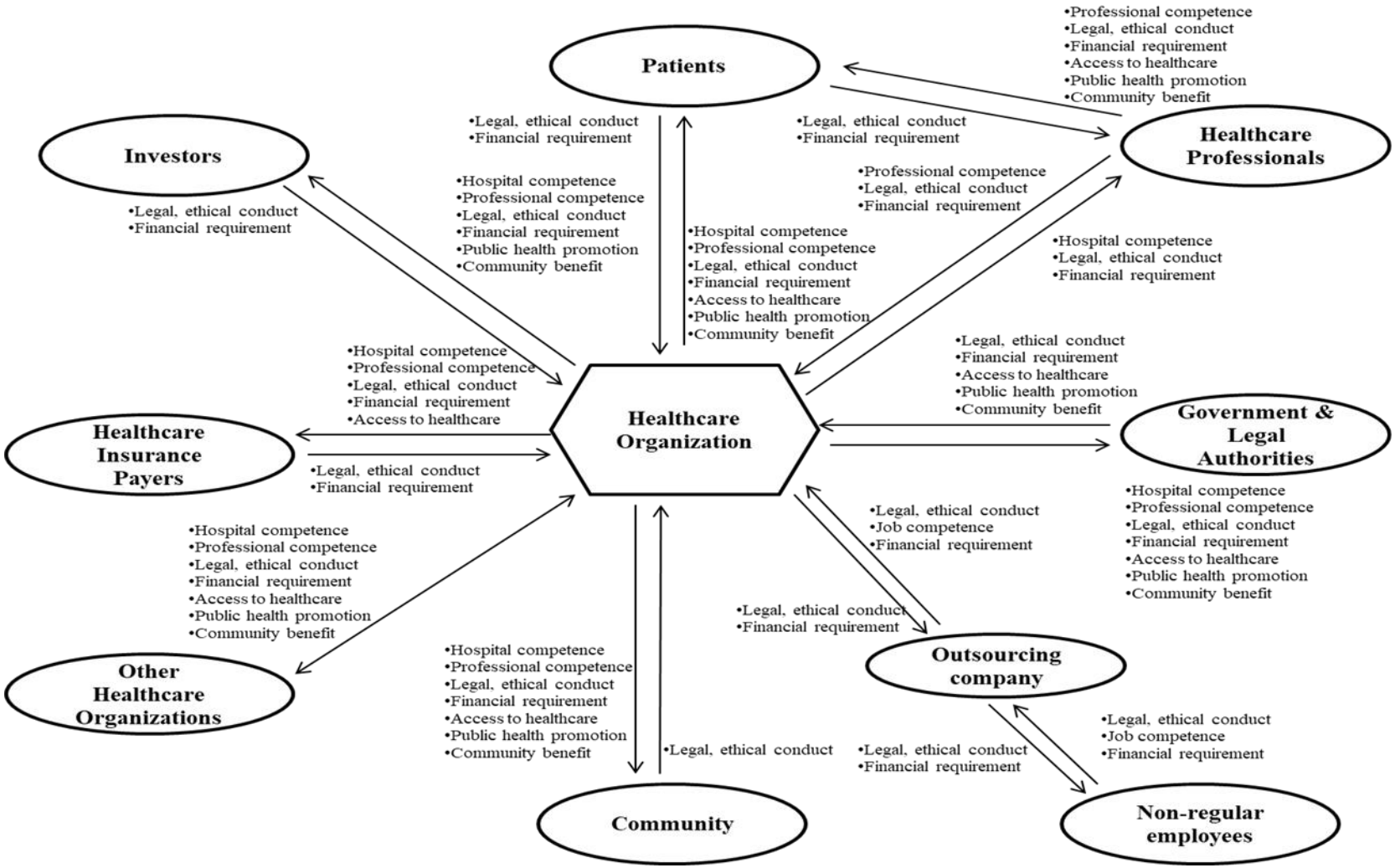

Figure 1.Stakeholder Accountability Map of Healthcare Organization adjusted to Korean Context (Adapted from E. J. Emanuel and Emanuel (1996) and Werhane (2000)).

In all the relationships, there are legal and moral obligations. For example, healthcare organizations are always expected to operate legally and ethically not only in their medical service but also in their management. Patients' giving honest answers for doctor's questions and following treatment direction provided are their moral obligations. Non-regular employees should perform their job in legal and ethical boundary. Community's legal and ethical obligation refers to maintaining their health by complying with directions provided by healthcare organizations or government for improving public health. Healthcare organization and other healthcare organizations share the same accountability between each other. Among the total seven accountabilities including hospital competence, healthcare organizations hold all the accountability for patients, government and legal authorities, community, and other healthcare organizations. Finally, job competence domain was added only for outsourcing company and non-regular employees, and required competencies may differ according to the job type of employees. The following part illustrates the reasons of rapid virus spread connecting activities of healthcare organizations with accountability domains presented in Figure 1.

b. Reasons for Rapid Spread

MERS virus spread rapidly due to the failure of stakeholder management of Korean healthcare organizations. While visiting 4 different healthcare organizations for over a week, patient 1 transmitted the virus to numerous people and they also transmitted the virus to the public. If any doctors had noticed that the patient 1 might be infected to MERS virus, the outbreak could have been under control earlier. This beginning of virus spread is strongly related with healthcare organizations' profit-seeking attitude. The larger the healthcare organization, the more the organization emphasizes on generating profit. In Korea, tertiary hospitals are assigned by the Ministry of Health and Welfare according to standards such as having more than 20 divisions, having more than 1 doctor per 10 inpatients and 1 nurse per 2.3 inpatients, functioning as educational institution, and so on (Ministry of Government Legislation, 2015). There are 43 tertiary hospitals in Korea (Health Insurance Review and Assessment Service, 2015). Kim (2013) found the reasons of large healthcare organization's overemphasis on profit from intensified competition in the medical market. As Kim (2013) reported two of the *Chaebol*s in Korea began their hospital businesses in 1989 and 1994. *Chaebol* is a unique terminology to refer Korean conglomerates. *Chaebols* are born and grown after Korean War with government's support to boost the economy. They have governance structure owned by family members and operate in diverse areas (Yoo and Lee, 1987). One of them was hospital D, and it advertised itself as '3 No Management' which means no caretaker from family required, no waiting, and no bribery. After a decade with support of their capital, these *Chaebol*-based hospitals became competitors of several big hospitals which have long history of over 100 years. The two hospitals are soon included in the category of 'Big 5' which means the 5 biggest hospitals. Competition among big 5 was intensified after 2000 as they build new facilities and purchase new medical equipments. This increased competition in the overall healthcare market. Hospitals demand return on investment from doctors by implementing performance-based payment and incentive system. According to a doctor interviewed by Kim (2013), hospitals require from doctors to set a goal for sales increase every year, which has to be more than 10%. Also promotion and evaluation of the doctors depend on their sales gain from patients.

In order to increase profit from highly competitive medical market, tertiary hospitals also accept mild case patients who can be treated in local clinics. K. H. Kim et al. (2015) criticized that although 15% of outpatients who visit tertiary hospitals have mild case which can be treated in a clinic, tertiary hospitals are reluctant to return the patients; only 1.6 patients out of 1,000 patients are sent back to clinic. This is because hospitals can gain profit from outpatients. Comparison of the cost of health insurance benefit among hospitals showed that the portion of clinics has decreased about 18% in recent ten years, whereas that of tertiary hospitals has increased about 10% during the same period. S. W. Lee (2015) reported that number of doctors working in tertiary hospitals have 43.2% increased in 10 years. Considering the fact that rate of increase in doctor is 8 times higher than rate of increase in population, this is a significant change. S. W. Lee stated that these doctors are mainly working for treating outpatients. Outpatients who visit, counsel with doctor, and leave are more profitable than inpatients who are hospitalized for several days. Hiring more doctors, tertiary hospitals accept growing number of outpatients and increase their profit. Profit of tertiary hospitals from outpatient treatment has increased to 161% from 2005 to 2014 (J. J. Ahn and Kim, 2015). However, as reported by H. W. Jeon (2015) doctors usually treat a patient merely about three minutes in order to accept as many outpatients as possible. If any doctors had talked with patient 1 at least about 10 minutes, the patient's MERS infection would have been found earlier.

Since hospitals are mostly focused on accepting more outpatients, there is a problem of lack of bed and caretaker for inpatients. Thus, a standard patient room for 6 people is always crowded with not only patients but also their family members who care for the patients (Jun, 2015). Emergency rooms are in similar condition. Choi (2015) reported that emergency departments of 10 hospitals are highly overcrowded; the most crowded emergency room was in one of the tertiary hospitals, as full as 175%. Also, number of hospitals where patients have to stay at least 10 hours to move to other department or patient room was as many as 20. Emergency rooms are always crowded with not only patients who came for emergency treatment, but also who want to be admitted but could not find a patient room, who came for outpatient treatment referred from previous treatment, and their family members (Y. Kim, 2015a). Considering these facts, it was natural that more than half of the whole confirmed cases were infected from emergency rooms of healthcare organizations.

Among the tertiary hospitals the five biggest institutions are so called 'Big 5', and hospital D is one of them. As reported by Choe (2015), hospital D is perceived as one of the medical institutions that provide highest quality of medical service. The fact that the chairman of the biggest conglomerate in Korea is hospitalized after his heart attack also reinforced the reputation of hospital D. The hospital has nationwide patients with as many as 1,800 beds and 8,500 outpatients every day. Relative survival rate of stomach cancer of the hospital is as high as 67.5% which plays as catalyst to attract more patients (J. S. Lee, 2015) However, MERS outbreak showed that hospital D give priority to financial benefit than patients' well-being and their stakeholders. As similar with other tertiary hospitals, hospital D focus more on accepting outpatients and have problem of lack of beds. Overcrowded emergency room was center for virus spread; when patient 14 who was infected by patient 1 in hospital B stayed for three days in emergency room of hospital D due to lack of bed, the virus was already transmitted to more than 80 people.

Among the three models of healthcare organization's purpose, professional model which gives priority to patients' well-being represents ethical structure of healthcare organization (E. J. Emanuel and Emanuel, 1996; L. L. Emanuel, 2000). However, Korean healthcare organizations emphasize profit over patients' health and their structure is not ethical. As for hospital D based on the stakeholder accountability map, it harmed effective treatment of patients, lacked hospital competence and professional competence toward patients, further threatening public health and community benefit.

As Jung (2015) reported when patient 14 transmitted the virus to more than 80 people in hospital D's emergency room, the representative of hospital D excused that they were not aware of the fact that patient 14 had visited hospital B. The representative blamed government for not sharing the information of hospitals where MERS virus was confirmed. The representative stated that *'it is not our hospital but the nation whose line of defense was penetrated'*. However, according to the report of state auditors (The Board of Audit and Inspection of Korea, 2016), management level of hospital D was aware that patient 14 had visited hospital B, but they did not share the information with medical staffs and it resulted mass infection in the emergency room. The organization failed to provide hospital competence and legal and ethical conduct toward their healthcare professionals, which deterred efficient medical performance of healthcare professionals. Also, hospital D was reluctant to cooperate with the authorities. The Board of Audit and Inspection of Korea (2016) reported that even though hospital D was requested from the authorities to submit the list of people who had contact with patient 14 on May 30, they submitted the list of only 117 people on May 31, whereas the total number of people who had contact with patient 14 was 678. The list of left 561 people was reported to the authorities on June 2, delaying efficient surveillance. Hospital D's blaming government instead of accepting their fault was unethical. When government and legal authorities need support of healthcare organizations in such emergency situation, hospital D could not present required hospital competence, professional competence, and financial requirements, harming public health promotion and community benefit.

Also, the follow-up quarantine conducted by hospital D was not done tightly. It was revealed that three healthcare workers who had contact with patient 14 but were missed in the surveillance continued working in the hospital for several days contacting more than 200 people. Patient 137, a staff in emergency room working for transferring patients showed MERS symptoms yet continued working for over a week, and two doctors, patient 35 and 138, were also isolated too late (J. Jeon and Im, 2015). Patient 137 was one of the victims of cost-cut policy of the hospital. The hospital employs non-regular workers through outsourcing company to reduce the cost such as workers for transferring patients or security workers or cleaners. Although they are as many as 30% of the whole employees, when the virus was spreading non-regular workers were not considered as hospital's employees. They were neither included in the surveillance, nor proper information of virus infection was provided. This is why patient 137 was still working for over a week when he was confirmed as MERS (Kang, 2015). The organization did not fulfill their legal and ethical obligation toward non-regular employees who were employed by outsourcing company of the organization.

After receiving strong request from MERS Task Force to take necessary actions, hospital D opened a press meeting and apologized for their mistakes. They announced to partly shutdown the hospital to prevent further virus

transmission (J. Jeon and Im, 2015). This harmed patients' right of access to healthcare. Similarly, the organization could not fulfill their duty toward government to guarantee the public's access to healthcare.

Under the unethical structure of healthcare organization whose primary purpose was pursuing financial benefit, healthcare professionals could not provide high quality medical service to patients. Being not informed by management level, they not only exposed patients but also themselves to the threat of MERS virus. As a result, efficiency of medical performance was decreased and partial closure of the organization made healthcare professionals unable to guarantee access to healthcare to patients, further damaging public health and community benefit. Therefore, it can be said that healthcare organizations failed to fulfill their obligations both toward healthcare professionals and patients, and healthcare professionals failed their obligations toward patients.

Examining the outbreak brings the discussion into professional resources and facilities in healthcare organizations as well. According to Organization for Economic Co-operation and Development (2013; 2015), number of doctors per 1,000 population in Korea was 2.0 which is lower than OECD average of 3.2 and number of nurses per 1,000 population in Korea was 5.2, which is much lower than OECD average of 9.1. During the outbreak, the problem of lack of epidemiologist was magnified. H. W. Jeon (2015) reported that since the division of infectious disease is not very lucrative, there are only 200 infectious disease specialists in Korea and they tend to be hired in big hospitals. Therefore, there is imbalance of distribution of professionals. For example, hospital D which is one of the biggest hospitals in Korea owns 10 infectious disease specialists and the number is the most among all the healthcare organizations. Also the president of hospital D during the outbreak was a professional in infectious disease. However, their professional resources were not enough to handle the emergency situation. The facility was not ready for the national disaster either. Kang (2015) reported that the hospital did not have negative air pressure room which is necessary for preventing cross-contamination of airborne contagious disease. Instead, the hospital modified air of patient rooms into negative using air-conditioning system while treating MERS patients. Since negative air pressure room requires certain amount of space, cost, and professional resources for management, the room is not profitable. This is the same reason for the hospital's crowded emergency room and lack of patient rooms. As one of the biggest hospitals in Korea accredited by government and highly trusted by the public, hospital D naturally bear obligation not only toward the public and government, but also toward other healthcare organizations to promote well-being of society. Having the most number of specialist in infectious disease additionally emphasize their responsibility in disease prevention and control. However, their overemphasis on capital budget prevented from performing hospital competence and professional competence expected from other healthcare organizations, damaging public's access to healthcare and public and community's welfare.

The expectation of healthcare insurance payers from hospital D was not fulfilled either. When the payers expect the organization to carry out medical service in terms of required hospital competence and professional competence following legal and ethical guidelines, hospital D was not successful in this. Also, temporary closure of the organization deterred access to healthcare and recorded loss in hospital operation.

Similarly, investors' trust to hospital D returned to them as lack of hospital

competence, and professional competence of the organization. Also, the overall loss of hospital D during the outbreak is claimed to be approximately 160 billion won ($140 million) (M. S. Kim, 2015). Hospital D's original image as privileged medical institution which provides high quality of medical care for public and community was damaged.

As a result, hospital D drove the whole community into chaos. Although it was a professional in hospital D who found that the patient 1 might have been infected to MERS, the follow-up quarantine and emergency management was a complete failure. Hospital D is to be blamed for accelerating virus transmission in emergency room and in the end they had no other choice but to partly close the institution making the public in confusion and panic.

When all the problematic internal factors such as unethical structure of healthcare organization, uncooperative attitude toward government, poor management of human resources and lack of facilities, and problem of communication between management and healthcare workers are confronted with external factor such as MERS outbreak, management of hospital D collapsed. Since hospital D takes large part in Korean medical sector, the whole country had to suffer from the damage. The failure of effective management of MERS outbreak in hospital D was criticized as due to 'hubris' (Jung, 2015), and 'carelessness and profit-seeking management' (Kang, 2015) of the conglomerate.

5. Results of MERS Outbreak in Social and Economic Aspects

Due to the MERS virus 38 people were dead, 186 people were confirmed, and approximately 17,000 people were quarantined in their houses. Patients who stayed in hospital D had to be moved to other healthcare organizations which have less possibility of MERS virus infection. Potential patients could not benefit from medical service because of partial closure.

The public had difficult time. Song (2015) collected internet documents such as online news, bulletin board, and social media related with MERS from May 20 to June 18. The analysis showed that more than 80% of the documents included negative words such as problem, danger, worry, and doubt, implying that the public was in fear of MERS virus. Feared from MERS infection, people refrained from going outside, not to mention visiting healthcare organizations. This influenced economic aspects badly and government and authorities strived to minimize the hit. Salmon (2015) reported that usually crowded places such as shopping malls, amusement parts, movie theaters, and restaurants showed drop in their sales. As many as 2,000 educational institutions such as kindergarten, elementary schools, middle schools and high schools are temporarily closed. International events such as briefings for World Military Games 2015, and Japan-Korea Goodwill Noodle Banquet were cancelled. Tourism sector also suffered from loss. According to Korea Tourism Organization, more than 20,000 foreign tourists cancelled their trip by June 7, two weeks after MERS outbreak. For tourists from China, Taiwan and Hong Kong who take large portion of Korean tourism, more than 80 percent of them cancelled their program giving harsh damage on tourism industry ("More foreigners," 2015). The total loss from MERS in foreign tourism sector from June to September is estimated as 2.23 trillion won ($1.95 billion). When the loss was combined with fall of domestic tourism, Korea Culture & Tourism Institute assumed that the financial damage in economy from MERS outbreak will be as much as 3.4 trillion won (more than 3 billion dollars) ("Tourism industry," 2015). The Ministry of

Culture, Sports, and Tourism (2015) announced that they provide special emergency loan to 17 types of tourism businesses which suffered from fall of tourists due to MERS outbreak. Prime interest rate was given to the loan, and a company could receive maximum 1 billion won. The Bank of Korea (2015) also reduced the standard interest rate from 1.75% to 1.5% hoping to recover domestic consumption.

6. Discussions on Ethical Evaluation and Practical Implications for Management of Korean Healthcare Organizations

Considering the fact that healthcare organizations hold the most number of accountability toward stakeholders such as patients, community, government & legal authorities, and other healthcare organizations, and hospital D violated all of these accountabilities imply that these stakeholders are the worst affected parties during the outbreak.

According to Winkler and Gruen (2005) healthcare organizations should follow four ethical principles which includes caring patients with competence and trust, guaranteeing employees' dignity and workplace safety, having responsibility to protect public's benefit, and managing resources efficiently. Competence of hospital D for managing MERS virus during the outbreak was far behind expectation which disappointed all of their stakeholders. Especially patients who trusted that the organization provides the highest quality of medical service had to suffer the most. Some of them were infected to the virus, some of them were exposed to danger of virus infection, and some of them had to move to other healthcare organizations due to the organization's temporary closure. Employees were discriminated as their position, and information about virus spread was not shared from management level which threatened safety of workplace. Public's health was not well protected by the organization. Capron (2007) pointed that implementation of quarantine and isolation threatens social justice and individual liberties such as freedom of movement and privacy. Although it was Korean government who decided to quarantine possible virus carriers, it should not be overlooked that failure of stakeholder management in hospital D left government with no other choice. When the violation of the three principles are combined with fourth principle, as the organization had problem of managing resources such as ill-prepared workforce, overcrowded patient rooms and emergency rooms, and lack of negative air pressure room, the government had to infringe individual freedom and privacy by implementing quarantine. As a result about 17,000 people were confined in their houses for two weeks only with foods and daily supplies provided from the authorities.

Also, numerous healthcare organizations had to close the institution temporarily in order to stop further transmission. This is the case of violation of distributive justice (Capron, 2007). Any healthcare institutions where reported confirmed patients or confirmed patients visited were recommended to close. Although they reopened when the risk of infection was gone, the number of visitors plummeted and it was not easy to recover operation. Korean Medical Association (2015) researched 70 healthcare organizations which had damage from MERS outbreak. The research was conducted for a month from July 28 when the government announced de factor end of outbreak. The report showed that these organizations closed for average 7.9 days and experienced decrease in number of visitors. When the number of visitors was compared with that of before closure, the result showed that in average one healthcare organization experienced 48.6% of outpatients and 64.3% of inpatients decrease in a day. And profit of

the organizations fell to 54.7% compared with that of previous year. In terms of non-financial damage from MERS outbreak, healthcare professionals reported high degree of stress and expressed concern for reputation of their organizations. Also from the anxious public more than 80% of healthcare professionals reported that they experienced disadvantage in community and 42.5% of them felt uneasy look on themselves.

As Freeman et al. (2004) suggested two questions posed for organization from stakeholder theory present directions and implications for organization's ethical operations. For the first question *'what is the purpose of the firm'*, the answer for healthcare organizations is to promote health of patients and community. However close examination on MERS outbreak showed that purpose of Korean healthcare organizations is to maximize profit, not to support well-being of the public. Among the three models of purpose of healthcare organizations, Korean healthcare organizations belong to economic model. Economic model emphasizes financial benefit and structure of healthcare organization with economic purpose is not morally acceptable (E. J. Emanuel and Emanuel, 1996; L. L. Emanuel, 2000). Considering unique characteristics of healthcare organizations such as engagement of public's health in management of organizations, dependant on the organization yet independent healthcare professional, information asymmetry, supply/demand asymmetry between organization and patients (Werhane, 2000), healthcare organization's having ethical purpose bears more importance.

For the second question *'what responsibility management have to stakeholders'*, the answer is discussed from stakeholder accountability map of healthcare organization. Korean healthcare organizations have 9 stakeholders and organizations bear as many as 7 healthcare accountabilities according to stakeholders. Those were hospital competence, professional competence, legal, ethical conduct, financial requirement, access to healthcare, public health promotion, and community benefit. Majority of these responsibilities however were not fulfilled during the MERS outbreak. The hospital was not ready for emergency management with lack of human resources and facilities. They also showed defects in communication inside the organization threatening employees' workplace safety. Overemphasis on financial profit made the hospital crowded without proper alternatives for emergency situation and it accelerated chaos of the community.

Therefore, considering ethical duties of healthcare organizations and their responsibilities toward stakeholders, managers of healthcare organizations must reexamine their stakeholder management in order to prevent similar disease outbreaks. Patients' welfare must be top priority for the organization, and structure and system of hospital management should adhere to this priority. Organizations must try to meet the legal requirements and provide the public high quality service in terms of organizations' culture, resource management, and medical treatment.

7. Conclusion

In the increasing threat of human infectious disease outbreak such as Ebola, Zika, and MERS virus, effective emergency management during the outbreak is getting more critical. MERS virus, which is believed to be prevalent in Middle East region occurred in Korea in 2015 and gave serious damage to the country. As Korea is in a peninsula and only land connection is blocked by North Korea, the transportation is limited to air and sea. Lack of direct land transportation should have made it easier for

Korea to provide disease control, but the MERS incident has proved it otherwise.

In this paper, role of healthcare organizations during the outbreak was closely studied under the frame of stakeholder management theory. According to the stakeholder accountability map of Korean healthcare organizations, the most important stakeholders of Korean healthcare organizations are patients, community, government & legal authorities, and other healthcare organizations. Obligations required from the healthcare organizations were discussed. The research showed that unethical purpose of Korean healthcare organizations and immorality of healthcare organizations' management are liable for MERS outbreak disaster. This paper is expected to be helpful in understanding reasons of MERS outbreak from alternative point of view and providing insights for preventing further similar disease outbreak. We recommend for future studies of organizations to integrate researches in hospital management to further investigate management structures of healthcare organizations. Especially when healthcare organizations are operating with the name of large corporations such as in case of hospital D in this study, evaluation of healthcare service and management should be solely based on those of healthcare organization, not confused with image of the corporation. As examined in this study, the name value of the largest conglomerate in Korea made the hospital D overestimated in their healthcare quality and emergency management system, which were actually behind the public's expectation. This process should be incorporated with government's initiatives. Chaos during the outbreak was not irrelevant with previous corrupted regime. One of numerous charges of recently impeached president Park Geun-hye was to give unjust favor and support to the largest conglomerate (Choe, 2017). Government's blatant support or providing unfair advantage to certain corporations must be avoided since it breaks balance of competition in market and is very likely to hinder public's objective evaluation on corporations. As virus outbreaks are increasing in number and in effect we hope that this study will be helpful in perceiving managerial context of virus outbreaks and their challenges.

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