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# Measuring Hospital Accountability

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## Abstract

Although the principle of accountability around the world across organizations is similar, its implementations differ from one country to another country, as well among different industries. Previous research found the specific dimensions, variables, and indicators of accountability applicable for hospitals in Indonesia. This research is a continuation of the first research, with the aim to analyze the measurement model of accountability practices of hospitals in Makassar, Indonesia. The data used was obtained from questionnaires distributed to the top and middle managers of hospitals, including public and private hospitals. There are 77 indicators measuring eight variables, i.e., institutional aspect, healthcare delivery process, liability, financial, quality assurance and patient safety, accessibility clarity of information, and use of information. The validity and reliability of indicators are analyzed using confirmatory factor analysis. The result shows the variable of health delivery process is not reliable, while the other variables are reliable. This reflects that the health delivery process differs depending on the environment, including regulation applied. Further, two indicators measuring institutional aspects are not valid, while the rest are valid measuring each respected variables.

**Keywords:** Accountability, Institutional, Liability, Financial, Accessibility, Information

## 1. Introduction

An unaccountable functional and operational system in hospital management affects inefficiency in financial, human resources, time, and the decrease of stakeholders' satisfaction. (Sudirman & Sidin, 2014). Besides, accountable hospital management is expected to control unhealthy competition among hospitals (Sudirman, 2012). Data obtained from Indonesia Corruption Watch (ICW) also shows there are 220 cases of corruption in the health sector during 2010 – 2018 with the amount of state budget losses around IDR 822 billion (Kontan.co.id, 2018). According to ICW, the two potential aspects leading to corruption sources, i.e., health infrastructure and disease prevention programs. In regard to health infrastructure, the vulnerable crucial things are medical equipment, drugs, consumable medical material for hospitals. It is obvious, the absence of accountability principles in hospital management might cause losses for not only hospitals, but also for community, even state.

The above opinions are in line with the opinions from other authors who emphasized the importance of accountable hospital management in order to achieve the strategic goals of health care delivery in high competition and rapid changes in health sector environment, regulation changes, and the increasing demand of community to high-quality health services (Gamm 1996; Emanuel & Emanuel 1996a; Daniels & Sabin 1998; Lanier & Roland et al. 2003; Brinkerhoff 2004; Timmermans 2005). Most literature reviews on hospital accountability still use traditional approach since they just focus on vertical accountability and financial aspect. These aspects are considered insufficiently effective in evaluating the comprehensiveness of accountability of hospitals to fulfil high demands on New Public Management (Jessop 1998; Erkkila 2007).

Previous research has explored the practices of accountability of public and private hospitals in Indonesia. The result shows that, in general, the practices of accountability of public hospitals differ from private hospitals. The public hospitals tend to be more rigid and bureaucracy, while private hospitals are more flexible in the administration process. The distinct of public hospitals is in their answerability and transparency, while private hospitals distinction is they are more efficient due to flexibility. This indicating that both styles have their advantages and disadvantage (Sudirman, et al.; 2018). This finding is consistent with Mulgan (2000), who stated that private sector (for-profit) companies are more accountable in terms of their 'bottom line,' accountability requirements in the public sector are generally more stringent, particularly with regard to process and general policy.

The significance of variables and indicators found in previous research have not tested yet. That is the reason why it is important to further analyze the validity and reliability of the variables and indicators explored from previous research. The result of the analysis can be used to develop further the measurement model of hospital accountability practices in Makassar, Indonesia.

## 2. Literature Review

The way to improve the quality and safety of care, the control of costs, or the health of the population itself are among goals raised the issue of accountability (Denis, 2014). That is why accountability should take into consideration the shared goals of the authority of the governing bodies and providers to measure the achievement or the fulfilment of accountability principles. It is not necessary that the relationship between the governing bodies and hospitals in hierarchical order. It can be a dialogue between hospitals and governing bodies about their shared pre-defined goals (Saltman & Ferroussier-Davis 2000).

Despite the fact that the accountability can be viewed from different perspectives, the main principles widely accepted lie on responsibility and transparency. According to Jabbara dan Dwivedi (1989), who studied accountability from public policies, accountability can be defined as answerability. On the other side, Sinclair (1995), who approached accountability from the management point of view, stated that management control is a key point to improve hospital accountability. The disadvantage of accountability in the private sector has been widely discussed and reached to an agreement. Indeed, a reduction in accountability when contracting out may be one of the reasons why private sector provision is often more efficient (Mulgan, 1997b). Private sector providers are not subject to the same degree of political control such that they can operate more flexibly and economically. In general, then, while private sector companies may often have a stronger incentive to satisfy their customers, they are not subject to the same range of effective accountability mechanisms as is the typical government agency (Mulgan, 2000). Some of research in accountability have explained what dimensions should be accountable to improve governance effectively as well as efficiency in achieving goals. Some of authors have the same opinions concerning dimensions of accountability, such as organizational, administrative, professional, and financial performances (Daniels & Sabin, 1998; Brinkerhoff, 2001; Brinkerhoff, 2004; Bovens.M, 2007; Koppell, 2005; Blagescu & Lloyd, 2009). In the same tone, Emanuel & Emanuel (1996) stated that the domain of accountability consist of professional competence, management practices in accordance with the regulation and ethics applied, financial performance, accessibility, public health promotion, and the benefit of the community. It is consistent with authors' findings in previous research that the conceptual variables of hospital accountability consisting of institutional aspect, healthcare delivery

process, liability, quality assurance and patient safety, financial, accessibility, the clarity of information, and the usefulness of information.

### *2.1 Institutional Aspect*

Institutional plays an important role in hospital accountability. Therefore, it is important to identify the strategic level in hospital organization. According to Saltman et al. (2011), hospital governance is divided into three levels of governance. At the macro-level, hospital governance is the part of traditional national, regional and/or supranational policy-making that establishes the structural, organizational, and operational architecture of the hospital sector. At intermediate level, hospital governance is focused on decision making at the overall institutional level of the hospital. Lastly, the micro-level of hospital governance focuses on the day-to-day operational management of staff and services inside the organization. This level is, in fact, what is known as hospital management and incorporates such subsets as personnel management, clinical quality assurance, financial management, patient services, other cleaning services such as cleaning and catering services, etc. (Saltman et al.; 2011). (Mikhaylov et al., 2014).

Concerning human resources management, the contingency approach to strategic human resource management on firm performance is conditioned by an organization's strategic posture (Youndt, et al. 1996). Especially as a public sector, recruitment and hiring were planned strictly by local government. When facing the adjustment of organizational structure, initiative and flexibility were limited (Yang & Chen; 2015). Arthur (1992, 1994) found that human resources practices focused on enhancing employee commitment (e.g., decentralized decision making, comprehensive training, salaried compensation, employee participation) were related to higher performance.

According to Engelbrecht et al. (2002), financial management in public hospital is an integral part of district health management. The financial planning made up in cyclical way through a series of stages. The processes start from assessing the current financial position, linking financial to programs, and determining a budget. Based on the first process, financial allocated across district services. Service and district managers receive support from their finance sections to manage the finances. During the disbursement, managers keep ensuring that funds are spent and revenue collected according to the financial plan and according to the norms and standards set by the treasury or authorized bodies. They apply suitable internal control measures and monitor the process. At the end, they draw up an annual report.

### *2.2 Healthcare Delivery Process*

According to Ferlie and Shortell (2001), there are four levels of health care system i.e. the individual patient; the care team (clinicians, pharmacists, and others), the patient, and family members; the hospital that supports the development and work of care teams by providing infrastructure and complementary resources; and the political and economic environment (e.g., regulatory, financial, payment regimes, and markets). The last is the conditions under which organizations, care teams, individual patients, and individual care providers operate.

Further, Ferlie and Shortell (2001) added that the recent changes in health care policy reflect an emphasis on consumer-driven. The increasing expectation of the patients' demand among them are the availability of information and the establishment of private health care spending accounts. This shifting has driven the changes in the system for improved quality, efficiency, and effectiveness. In conclusion, there is a shifting role of patients from a passive recipient of care to a more active participant in care delivery. The article published by The Royal College of Radiologists (2012) emphasizes the importance of the involvement of patients in shared decision making process and agrees with the outcome.

The overall purpose of health care delivery is to provide holistic, patient-centred, respectful, timely, safe, high quality, efficient, and effective services to the patients addressing their individual health care needs in a safe environment (Alam & Alabdulaali, 2016).

### *2.3 Liability*

Adopting from Random House Dictionary of the English Language, Harris & Spanier, (1976) proposed the definition of liability related to accountability as a liable person is "subject, exposed, or open to something possible or likely, especially something undesirable." In other words, liability refers to people's obligations. Here, the obligation does not mean that the people will be subjected to sanction. It rather means the people are open to be sanctioned if their performance is unsatisfactory. According to Mahlmeister (1999), based on the principle of vicarious liability, the hospitals are liable for the negligent acts of its employees. However, the reverse has occurred in many settings in the name of cost containment. We have the same understanding with Sage (1997) that one of the purposes of managing care is to control costs. It can be understood if both patients and physicians are concerned with the cost of health services. At the patient's side, they are afraid the cost they paid is correlated with the quality of care they received. While at the physician side, they are in a dilemma between arbitrary contracting policies and administrative requirements and legal responsibility to optimize clinical outcomes. The implementation of hospital liability for medical malpractice may reduce conflict, curb abuses, and protect patients in managing care. Further, Kinney (1995) stated the challenge of hospital liability is how to promote fair compensation, clinical quality improvement, and administrative efficiency.

### *2.4 Quality Assurance and Patient Safety*

Patient safety has been becoming the most priority in health care systems. The topic of patient safety is a subject that should be taken up by all personnel working in health services (Dursun, et.al., 2010). One of the works on the idea of the importance of patient safety was released in the report entitled "To Err is Human: Building a Safer Health System" in 1999 by the Institute of Medicine (IOM). According to this report, almost 98,000 die in United States (US) hospitals every year as a result of preventable medical errors. Consequently, the occurrence of medical errors was highly considered by health policy-makers and stakeholders worldwide (Al-Ahmadi, 2009). However, Yaprak (2016) stated that medical errors cause by health workers is impossible to be annihilated. It might be possible to reduce at the minimum level by implementing patient safety culture in hospitals including employees.

### *2.5 Financial*

In both public and private hospitals, director medical services play a key role in providing in translating the pressures of cost efficiency into reality pressures upon acute units into operational reality (Jones, 1999). For example, a study of attitudes in a large acute hospital (Jones and Dewing, 1997) showed that the implementation of financial accountability for the director of a medical service focuses more on quality and quantity of care. While unit managers put financial accountability as their top priority. In addition, poor quality of management accounting reporting and under-developed costing only provides little information to pursue cost efficiency at the operational level.

That is why having clinical pathways are very important in the context of case tariff fees as a part of the International Statistical Classification of Diseases and Related Health Problems (ICD) for inpatient hospital services. Many authors agree that clinical pathways has significant contribution to reduce the period of hospitalization (Hommel et al., 2008; Ishiguro et al., 2008), reducing costs (Verdú et al., 2009; Barbieri et al., 2009; Rook, 1998) and increasing the quality of the services provided (Schwarzbach et al., management point of view, the clinical pathway can be used as a strategic management instrument for controlling cost continually, and also considered as a part of transparency health services. That is why very important to acquire relevant knowledge to quality and supply planning. Such that, the range of services, can be standardized without neglecting the individual requirements of the patients (Romeyke & Stummer, 2012).

### *2.6 Accessibility*

According to Pearson et al. (1999), equal access to information is very important to design, develop, and implementation of consumer health information systems, regardless of location and cost. Further, Bental et al., (1999), the consumer satisfaction and the willingness to use the information can also be affected by the complexity of the interface and content. It is recommended to develop customized information systems to provide more appropriate interfaces and content, such as able to provide equal access to information.

The study conducted by Milne et al. (2008) illustrates how important is the accessibility. Further, they concluded that the unavailability information in order to obtain support and advice from healthcare professionals when people being home might cause anxiety and uncertainty. Patients feel convenient when being able to access hospitals and healthcare when they are at home easily.

### *2.7 Clarity of Information*

According to Ranallo et al. (2016), the use of health information technology (IT) has a significant contribution to facilitating the delivery of safe, high-quality, and cost-effective health services. Asymmetry of information between patients and health professionals can be minimized by providing internet and customer hotline. It is very important to provide clear information in accordance with the level of knowledge maturity of each patient; such patients can understand (The Royal College of Radiologists, 2012).

The complaint centre also plays an important role in providing the clarity of information and handling the patient's complaint. The response of the complaint centre affects patient's satisfaction. As a matter of fact, many patients dissatisfied with the response of the complaint centre (Friele et al., 2008; Daniel et al., 1999; Doig, 2004). That is why very important to find such ways to handle complaints in meaningful ways for patients. Such ways should be more than just a common thing to do (Eaves-Leanos & Dunn, 2012; Duclos, 2005).

De Feijter et al., (2012) emphasized that improving complaints handling may reduce many some crucial things, such as the numbers of financial claims, prolonged legal disputes between patients and their physicians. Even, it can be used as a feedback information for quality improvement (De Feijter et al., 2012) as well as improving patient safety (Eaves-Leanos & Dunn, 2012; Haw et al., 2010).

### *2.8 Usefulness of Information*

The recent issues on accountability in health care systems show several concerns. Firstly, concerns are related to the unsatisfactory level of health care systems performance. There are different issues between industrialized countries and developing countries. In industrialized countries, the main concerns are on cost issues, quality assurance, and access. While in developing countries, in addition to the same issues in industrialized countries, the issues are more complex, including the availability and equitable distribution of basic services, abuses of power, financial mismanagement and corruption, and lack of responsiveness. Secondly, the requirement of specialized knowledge, complexity of the size, and scope of health care bureaucracies in both the public and private sectors lead to significant demand for the improvement of hospital accountability since it can affect people's lives and well-being. Thirdly, health care constitutes a major budgetary expenditure in all countries, and proper accounting for the use of these funds is a high priority (Brinkerhoff, 2003).

According to WHO (2016), health professionals have an obligation to inform the individual (or, where appropriate, their career) of the risks and benefits of the examination and, in doing so, explain the risks of not having the imaging examination in a form understandable to the patient. Patients should become a part of the decision making process concerning their care by providing clear information to enable their participation and being involved in the actual decisions (The Royal College of Radiologists, 2012).

### 3. Methods

The conceptual and measurement model of hospital accountability in this research using quantitative method approach. In this research, the validity and reliability of variables and indicators forming and measuring hospital accountability are tested. There are eight variables forming the construct of accountability consisting of institutional aspect, healthcare delivery process, liability, quality assurance and patient safety, financial, accessibility, the clarity of information, and the usefulness of information. The technique of analysis using confirmatory factor analysis (CFA). Data obtained from 60 top and middle managers of public and private hospitals in Makassar, Indonesia, who have a good understanding of hospital management practices. The questionnaires are prepared, referring to previous research that used in-depth interviews and literature review, as presented in appendix 1.

### 4. Result and Analysis

Based on statistical analysis, all variables are valid to measure accountability. However, the delivery process is not reliable in measuring accountability. This result reflecting the despites the same principles; the health care delivery process differs from one to another environment. This finding is consistent with the findings of Ferly and Shortell (2001), who wrote that the health care delivery process is also affected by the environment in which hospitals as an organization, physicians, and other care teams, as well as the patients, taken in place. The validity of each indicator to measure each variable is described as follows.

#### 4.1 Institutional Aspect

There are 28 indicators proposing to measure institutional aspect as described in table 1. Among 28 indicators, there are two indicators that are not valid to measure the institutional aspect. The t-statistic value for both indicators is less than 1.96, which is the threshold in assessing validity, as could be seen in appendix 2. Those indicators are consist of hospital should develop corporate social responsibility and performance contract signed between hospitals and staff. Based on the interview, the program of corporate social responsibility does not reflect the accountability since the services provided has been considered as the implementation of social responsibility itself. The second invalid indicator is also not suitable for hospitals. It is consistent with Han et al.; 2011, who stated the nature of health services in hospitals is unpredictable and uncertain. The number of patients and the level of severity are difficult to predict. As a consequence, the resources needed and performance is also difficult to determine. That is why it is difficult to prior determine the performance off staff.

#### 4.2 Healthcare Delivery Process

Conversely, five indicators measuring the health delivery process are valid since all t- statistic values are larger than 1,96. However, the reliability test shows the Cronbach alpha value is 0.3162, as could be seen in appendix 3, while to assess the reliability, the value should larger than 0.60. This circumstance reflecting that even though all indicators significant to measure the health delivery process, but the demand or standards using to deliver health services are different from one context to another context. This research is conducted in Makassar, Indonesia, which may be different from the standards using for another city or country. This finding is also consistent with the statement of Ferlie and Shortel (2001), who stated that regulatory bodies, regulation, financial aspects, payment regimes, and markets could affect the health delivery process. In Makassar, Indonesia, the health delivery process is different for out of pocket patients and patients who covered by social insurance. This is in line with Sparrow et al. (2013) research, which assesses the targeting and impact of subsidized social health insurance for the informal sector and the poor in Indonesia. It is obvious that in the beginning, the social insurance program is indeed targeted to the poor and those most vulnerable to catastrophic out of pocket health spending. Nowadays, the increasing health expenditure has slightly widened the access to health care the increasing utilization of outpatient care among the poor.

#### *4.3 Liability*

Among seven indicators measuring liability, none is eliminated. All indicators are considered valid since the t-statistic value is larger than 1,96, as could be seen in appendix 2. The indicators are mostly concerning about answerability, which accepted as the main dimension of accountability since five decades ago. According to Harris and Spanier (1976), a person who is liable is 'subject, exposed, or open to something possible or likely, esp. something undesirable. They believe accountability attaches liabilities to people's obligations, not in the sense that they necessarily will be subjected to sanction, but rather in the sense that they are open to sanction if their accounts are unsatisfactory.

#### *4.4 Quality Assurance and Patient Safety*

The same result with quality assurance and patient safety; all indicators tested are valid in measuring the variable, as could be seen in appendix 2. The seven indicators under the construct of quality and patient safety derived from quality and patient safety standards required to be implemented by any hospitals around the world. This is confirmed by the Institute of Medicine (IOM), which considers patient safety "indistinguishable from the delivery of quality health care." (Erickson, et al., 2003). Such a statement is quoted from Mitchell (2008), who concluded that patient safety is the cornerstone of high-quality health care. Further, Mitchell (2008) explain that there are workgroups, who have attempted to define the quality of health care in terms of standards. Initially, quality is defined as the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge. This led to a definition of quality in a list of indicators, which are known as standards.

#### *4.5 Financial*

The financial is measured by three indicators, which all are valid, as could be seen in appendix 2. Those three indicators are related to the implementation of clinical pathways to control the quality and cost, the importance of calculating unit cost for cost containment, and informed consent concerning the tariff of health services. The two first indicators are consistent with Engelbrecht (2002), who points out that the budget reflects the service priorities. Budgeting is an important framework for spending money and for assessing financial performance. The last indicator is might not directly related to the financial aspect, but it reflects the implementation of accountability as required by new federal law in health care.

#### *4.6 Accessibility*

Accessibility has eleven indicators measuring it, which all are valid, as could be seen in appendix 2. Millman (1993) defines access Hospital access is defined as the degree to which individuals and groups are able to obtain needed services from the hospitals. The terminology of access is referring to the equitability to access hospitals with insurance coverage and having enough doctors and hospitals in the areas in which they live. Nevertheless, having insurance or living nearby hospitals does not mean people who need health services are able to get them. Conversely, many who lack coverage or live in areas that appear to have shortages of health care facilities do, indeed, receive services (Millman, 1993). In this research, accessibility is not limited measured by distance or wealth, but more by the equitability in getting clear and asymmetric information.

#### *4.7 Clarity of Information*

There are six indicators analyzed to check their significance in measuring the clarity of information. All indicators are valid, as presented in appendix 2. This variable is closely related to accessibility. The clarity of information obtain by people will improve the ability to access hospitals. The clarity of information in this



research covers of understandability of information, lack of information gap between hospitals and patients, and patients' education.

A clear example of the clarity of information is federal healthcare law started to be implemented on 1st January 2019. The new federal law required all hospitals to post prices online for services they provide. This change in policy aims to help consumers in search of the most suitable healthcare services for them. Previously, these patients could request the information from the hospital, but the process was seldom smooth or easy. As a result of the new law, nowadays, patients are able to compare the tariff of one hospital to another hospital regardless of the hospital is near or far, and of all sizes. This changing behavior is reflecting more transparency to the consumer than ever before (NC Coalition for Fiscal Health, 2019).

#### *4.8 Usefulness of Information*

The ten indicators measuring the usefulness of information are valid, as could be seen in appendix 2. This finding is relevant since the essential aspect of hospital management quality is the availability of information about the processes of care delivery, as this provides input for improvement strategies. External accountability has become increasingly important over the last few years. As a result, hospitals are under increasing pressure to share indicator-based performance information with the government, regulatory bodies, health insurers, and the general public. Hospital performance indicators facilitate patient choice and hospital-insurer contracts and promote public accountability.

The information hospital provided cover management, quality, ethics, financial, staff competence, and patients education on hospital health services. From time to time, this coverage has changed from just provide information to principal in form performance reports. Then, new federal law in healthcare emphasize the importance to provide information on tariff. Overall, information should be provided to multi-stakeholders such they could make use of such information.

### **5. Conclusion**

The result of this research show that the institutional aspect, healthcare delivery process, liability, financial, quality assurance and patient safety, accessibility, clarity of information, the usefulness of information are valid in measuring accountability. However, the health delivery process is not reliable in measuring accountability. This result reflects that the health delivery process differs from one country to another country or even among districts. It depends on the environment in which the health services operated. Furthermore, the indicators to measuring those eight variables mostly valid except two variables under the institutional aspect that are the obligation of the hospital to have a corporate social responsibility program and the performance contracted between hospitals and medical staff.

### **6. Agenda for further research**

The results found in the previous research, and this research can be used as a basis to develop operational guidelines to be implemented in an effort to improve hospital management, especially in developing countries. Such guidelines should reflect the fulfillment of accountability dimensions in each functional management, such as monitoring and performance evaluation system, remuneration systems, employee career systems, and other related functions

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