

# Factors Affecting Healthcare Costs in Indonesia: What the Hospitals and Doctors Said

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**Abstract:** This study focuses on exploring and identifying the cost drivers behind healthcare cost in Indonesia, and particularly the role of the healthcare provider. A value chain analysis is used to identify strategic activities, strategic cost-drivers, and the behavior of hospitals and doctors. This study uses an exploratory case-study method, particularly focusing on the contribution of healthcare providers to the expensive cost of healthcare in Indonesia. Both secondary data and primary data have been used in this study. The main contribution of this study is to highlight strategic cost-drivers as well as business ethics and governance issues. This study demonstrates important findings relating to high hospital costs and the high cost of doctors.

## 1 INTRODUCTION

Healthcare has become a main concern of every nation in the world. To be healthy, everyone needs affordable healthcare. Compared to the OECD standard healthcare costs, which stand at 12% of GDP (Lock, 2013), the average healthcare cost in most ASEAN countries is still low (below 4%). In Indonesia, healthcare is the second-most important issue after education. Healthcare costs in Indonesia are also small compared to other ASEAN countries, standing at around 3% of GDP in 2013. This is the smallest percentage compared to Malaysia (3.9%), Thailand (3.9%), Philippines (4.6%) and Singapore (4.7%).

Health is a very important aspect with which to determine a nation's productivity. People with good health (both physically and spiritually) are able to contribute to Indonesia's productivity. In order to provide good-quality, cheap, and evenly distributed healthcare services, the government (as a regulator) and all of the healthcare provider players must come up with an affordable and efficient healthcare service. The main players in the healthcare industry consist of: (1) healthcare providers (hospitals, laboratories and pharmacies); (2) healthcare professionals (doctors and other medical services); (3) pharmaceutical companies; (4) suppliers of healthcare facilities and infrastructure; (5) insurance

providers (both government and private) and (6) the government as the regulator of healthcare facilities and infrastructure. Unfortunately, current healthcare costs are still high, and therefore not every citizen is able to have access to proper healthcare services.

The contribution this study makes is to provide strategic information about the strategic cost-drivers causing healthcare cost inefficiencies from the perspective of hospitals and doctors as healthcare providers in Indonesia.

This study also contributes to the field of management and accounting. It confirms how agency theory describes the importance of a congruent relationship between the principal (the community) and agents (players in the healthcare industry). Agents should act in accordance with the expectations of the principal. Otherwise, the agents may incur costs that harm the principal.

The practical benefit of this study is to clearly illustrate the unique pattern in the relationship between the players in the healthcare industry; especially that of the healthcare providers (hospitals and doctors) with the Indonesian community.

## 2 LITERATURE REVIEW

### 2.1 Agency Theory and Good Governance

Agency theory, proposed by Jensen and Meckling (1976), refers to the relationship between agent and principal. An agent is a party who does not have resources but who has the skills to manage those resources, while the principal is the party who has resources but who submits the management of those resources to the agent. The relationship between agent and principal is called the agency relationship.

The relationship between agent and principal does not always go well. In many cases, there are problems or conflict between the two parties. The conflict is mostly due to differences in objectives. What the agent wants is sometimes incompatible with what the principal wants. Conflict is also driven by different views of risk; as a result, the actions taken by each party also differ. The cost of this conflict is called agency cost, which includes all monitoring costs, bonding costs and residual loss (Fama & Jensen, 1983).

Agency theory is the foundation of the need for good corporate governance in modern organizations (Keasey & Wright, 1993). In the healthcare industry there are a variety of relationship patterns that can be viewed from the perspective of agency theory. In macro terms, the relationship between the community as the owner of resources (the principal) and the managers of healthcare resources (the agent) is clearly an agency relationship. Distorted behavior by agents in the healthcare industry clearly creates a loss (agency costs) to society as the principal. This is the time when good governance is needed within healthcare management.

### 2.2 Strategic Cost-Drivers

Value-chain management plays a strategic role in creating a competitive advantage. Value-chain analysis provides management with strategic information regarding the sources of cost leadership or differentiation. Furthermore, managers need to know what factors are driving costs in each strategic activity. Riley states that cost drivers can be divided into two categories, namely: (1) structural cost-drivers, and (2) executional cost-drivers.

Structural cost-drivers are those cost drivers that are associated with economic structure, including: (1) scale, (2) scope, (3) experience, (4) technology, and (5) complexity. Executive cost-drivers are associated with factors affecting the organization's

ability to execute a strategy, including: (1) workforce involvement, (2) total quality management, (3) capacity utilization, (4) plant layout efficiency, (5) product configuration, and (6) linkage exploitations (Shank & Govindarajan, 1993).

## 3 RESEARCH METHODS

### 3.1 Design of the Study

This study is designed as a qualitative case-study. The unit of analysis is the cost of healthcare in Indonesia. The informants in this study are actors in the healthcare industry, namely: (1) doctors, and (2) hospital directors. Because this study is exploratory in nature, no proposition has been formulated. Primary data is obtained by conducting in-depth interviews and secondary data is generated from the internet. The macro healthcare cost is reviewed from the perspective of the relationship pattern between actors or players in the healthcare industry and an analysis of how this relationship can trigger healthcare costs. Each pattern within the relationship between players is explored using theories that have been previously discussed.

### 3.2 Research Questions

This study focuses on the relationship between the pharmaceutical industry and healthcare providers in Indonesia, as expressed in the following research questions:

- (1) Are healthcare costs in Indonesia inefficient?
- (2) What are the factors and strategic drivers affecting healthcare costs in Indonesia, especially those that come within the scope of doctors and hospitals in their role as healthcare providers?

### 3.3 Analysis Technique

The analysis techniques used in this study include data reduction, data presentation, data analysis, conclusion and verification, as stated by Miles and Huberman (1992) and Neumann (2006). The results of this study are expected to produce recommendations for policymakers in regards to healthcare management in Indonesia.

### 3.4 Data collection

Data was collected from two main sources, namely: (1) informants, and (2) archival data. The informants of this study have more than 10 years of experience

in their fields; as such, they were considered to have sufficient knowledge to provide information about the main issues of the study. Archival data was also obtained from documents originating from both print and online media. The data was analyzed and summarized in order to address the major research issues.

## 4 RESULTS AND DISCUSSIONS

### 4.1 Research Question 1: Are Healthcare Costs in Indonesia Inefficient?

The World Bank data in Table 1 shows that the healthcare costs per capita in Asia from 2011 to 2013 vary significantly by country. Singapore leads in the first position, while Indonesia’s spending is stagnant and, by 2012, is only higher than India’s

Table 1: Healthcare Cost per Capita (USD) in Asia

No.	Country	2011	2012	2013	2014
1	Brunei Darussalam	938.5	961.9	1,022.90	957.6
2	China	279.5	328.7	375.1	419.7
3	India	65.7	64.9	68.5	75
4	Indonesia	99	107.2	106	99.4
5	Malaysia	393.7	421.5	427	455.8
6	Philippines	101.8	116.2	127.1	135.2
7	Singapore	2,086.10	2,310.40	2,531.50	2,752.30
8	Korea, Rep	1,650.50	1,714.90	1,870.10	2,060.20
9	Thailand	212.9	227.2	229.9	227.5
10	Vietnam	94.1	120.1	134.3	142.4

Source: The World Bank.

The World Bank data in Table 2 shows that the percentage of healthcare costs in relation to GDP in Asia from 2011 to 2013 also varies significantly.

Korea leads in the first position, while Indonesia is also stagnant at around 2.9 percent of GDP.

Table 2: Healthcare Costs in Asia as a percentage of GDP (%)

No.	Country	2011	2012	2013	2014
1	Brunei Darussalam	2.2	2.3	2.6	2.6
2	China	5	5.3	5.4	5.5
3	India	4.3	4.4	4.5	4.7
4	Indonesia	2.7	2.9	2.9	2.8
5	Malaysia	3.9	4	4	4.2
6	Philippines	4.3	4.5	4.6	4.7
7	Singapore	3.9	4.2	4.5	4.9
8	Korea, Rep	6.8	7	7.2	7.4
9	Thailand	4.1	4.2	4	4.1
10	Vietnam	6.2	7	7.2	7.1

Source: The World Bank.

According to the Indonesian Central Bureau of Statistics, the average monthly spending on healthcare costs per capita in Indonesia is 27,777

rupiahs for urban citizens and 14,895 rupiahs for rural citizens (or an average of 21,392 rupiahs per capita per month for both urban and rural). This

figure is considered to be low in the field of healthcare spending.

Table 3 shows the result of a study conducted by Tandon et al. (2000). It shows Indonesia’s position in terms of healthcare efficiency. Indonesia ranks 92nd of 191 countries. Compared to other ASEAN countries (Singapore, Brunei Darussalam, Thailand, Malaysia and Philippines), Indonesia ranks 6th with

an efficiency score of 0.66 (score 1 = more efficient). This means that the management of healthcare in Indonesia is still inefficient. The best healthcare management is found in Singapore. In addition, Bloomberg has released information about 50 countries with the best health management costs in the world, and Indonesia is not included.

Table 3: Healthcare Efficiency Score 2000

No.	Country	Rank	Efficiency Score
1	Singapore	6	0.973
2	Brunei Darussalam	40	0.829
3	Thailand	47	0.807
4	Malaysia	49	0.802
5	Republic of Korea	58	0.759
6	Philippines	60	0.755
7	Indonesia	92	0.66
8	India	112	0.617
9	China	144	0.485
10	Viet Nam	160	0.393

Source: World Health Organization.

From the previous discussions, it can be concluded that healthcare costs in Indonesia are still inefficient. Various factors may trigger good or bad performance within healthcare management in Indonesia. Those factors are interconnected in a complex way and include both macro- and micro-environment factors.

The influence of the macro environment on healthcare costs in Indonesia may include political, economic, socio-cultural, technological, environmental, and legal environments. The influence of the micro environment may relate to the parties operating in the healthcare industry in Indonesia and may include factors such as management expertise, the standard of equipment, utilization of information and communication technology, human resources, leadership, organizational culture, and others.

**4.2 Research Question 2: What are the factors and strategic drivers affecting healthcare costs in Indonesia, especially those that come within the scope of doctors and hospitals in their role as healthcare providers?**

**4.2.1 The Role of the Hospital**

The high healthcare costs in Indonesia are also contributed to by hospitals. The cost of inefficiencies in hospitals are contributed to by both external and internal factors, as follows.

**4.2.1.1 Marketing fees**

Medicine is a high-cost component in a hospital, especially patent medicines. Marketing costs are an external factor that makes patent medicines so expensive. One informant stated that:

“The cost of medicine includes swallowed medicine and injected medical materials, such as infusions, and other disposable materials, such as gloves, etc. Patent medicine is so expensive because of high marketing costs (promotions) and

R&D costs. If a patent has expired, a medicine turns into a generic product and its price will be cheaper. Producers should be efficient in internal business processes and in their business relationships with doctors. The production cost for manufacturers is around 30%, while the remaining 70% of costs are promotional costs. Meanwhile discounts for hospitals are only about 20%."

#### 4.2.1.2 Excessive Inventory

Inventory is costly, and excessive inventory is even more costly. At the end, these inventory costs will be charged to patients. Excessive inventory can be associated with a doctor's preference for a certain brand of medicine, which is caused by their arrogance, their confidence in the brand, as well as their close relationship with manufacturers. One informant stated that:

"Doctors have full authority to give a certain medicine to their patients. Periodically, manufacturers send doctors to attend domestic or overseas workshops for free. Doctors also sign agreements stating that these facilities will not affect their prescriptions, but in fact, this does not always happen. So, there is a tendency that even patients with similar diseases will be prescribed a different medicine to that prescribed by previous doctors, even though it has the same content. In a symposium organized by manufacturers, doctors will be informed about product knowledge, including contents, benefits, etc. This is why doctors will have the confidence to prescribe that medicine to patients. This doctor's confidence is expensive. This explains why different doctors give different medicines for similar diseases."

Purchasing decisions related to medicines, medical devices, and other medical support for hospitals are mostly determined by doctors. Often, they do not understand or consider economies of scale, resulting in excessive inventory or under-utilized medical equipment or drug supplies. Of course, this inefficiency is then charged to patients.

"Doctors have full power to determine the types of medicine in hospital. The medicine control function should be done by pharmacists. However, in many cases,

pharmacists are positioned as stock controllers only."

#### 4.2.1.3 Out of Stock at the Manufacturers

As a business, medicine manufacturers are always profit-oriented and follow economic principles. There are fast-moving and slow-moving products. Products also have expired dates. In order to manage their own risks, manufacturers will often reduce production or even stop producing slow-moving products to reduce losses. At the same time, from the perspective of hospital management, a medicine must be available when the hospital faces a certain disease that needs that medicine, no matter what.

Fast-moving products can also go out of stock as well. Fast-moving products make manufacturers panic because of an imbalance between high demand and limited supply. It needs a strong government commitment and assertiveness to force manufacturers to continue producing slow-moving products even though the profit margin on these is thin. The concept of price regulation using an e-catalog must be reviewed and the GOI is encouraged not to cut prices in a way that makes manufacturers limit the amount of a certain medicine they produce due to it being economically unprofitable.

"Manufacturers use their capacity to produce products with higher margins before producing [those with] smaller margins. That is why the government has to force SOEs in the pharmaceutical industry to produce generic products, then make an e-catalog. Then, when hospitals want to buy [a medicine], it is in the list of the e-catalog. However, slow-moving or fast-moving products are often out of stock or there are only a few in the market. So, even though there is an e-catalog, slow- or fast-moving products cannot be ordered, and the price of these products remains high."

#### 4.2.1.4 The role of ICT in Prescriptions

Receiving the correct medication is one of the key elements leading to the success of medical treatment; this is true both for patients receiving prescribed medication and those who are self-medicating.

Medicine has very complex attributes. The use of information communication technology (ICT) in hospitals will provide benefits in terms of medical safety and of accuracy when prescribing. ICT will

encourage efficiencies in hospitals. One informant stated that:

"ICT infrastructure also affects hospital productivity. In terms of prescriptions, a hospital that has good ICT will generate a notification that this medicine has been prescribed by other doctors before. However, once again, it depends on the arrogance of doctors."

#### 4.2.2 The Role Played by Doctors

As the main actor in a hospital, a doctor contributes to healthcare costs. Doctors' contributions to high healthcare costs can be traced to their level of education or rank or competencies, their prescription decisions, medical equipment decisions, medical treatment decisions, and unclear medical fees. The following statement by an informant confirms these issues:

"A hospital classifies a doctor's service fee based on [certain] criteria: whether a doctor is a general, specialist, and/or consultant. A higher education or rank, such as Ph.D. or "professor" matters. Doctors' fees are calculated based on the number of visits [they make] over the length of the patient's stay. Often, length of stay for patients is longer only because the doctor has not finished with their diagnosis."

#### 4.2.3. Role of Non-Doctor Medical Personnel

The capacity of the hospital also contributes to healthcare costs. Government regulations stipulate the terms of service, human resources, hospital equipment and buildings, as well as hospital infrastructure. To meet these standards, hospitals must pay relatively large operating expenses, especially those incurred by non-doctor medical personnel. This is revealed by an informant, who stated:

"A hospital must follow the requirements of regulations and standards. A hospital is a labor-intensive organization. A minimum standard for nurses follows the number of beds. Not to mention that hemodialysis units also have standards. Then, there are standards for pharmacies and a minimum standard for pharmacists. But this standard is sometimes not fully implemented by the hospital in order to save human resource costs. In terms of competence, ICU requires an advanced

nursing competence. The hospital must provide a training fund of about 15-20 million rupiahs, with a training period of six months. It's a similar situation for hemodialysis nurses. Operating rooms require anesthetic nurses, general nurses, surgical nurses and nurses to wash surgical instruments. The cost of training an anesthesia nurse is quite expensive and takes about a year. A hospital must prepare for retirement pension provision, accreditation fees, etc."

## 5. CONCLUSIONS AND RECOMMENDATIONS

### 5.1 Conclusions

From previous discussions, the following conclusions can be made:

- (1) Healthcare costs in Indonesia are still inefficient.
- (2) Strategic cost-drivers affecting healthcare costs in Indonesia, from doctors' and hospitals' perceptions, are: (a) high hospital costs (marketing fees, excessive inventory, out-of-stock medicine at the manufacturers, need for ICT implementation and the cost of non-doctor medical personnel); (b) the high costs incurred or charged by doctors (their level of education, rank or competency, their prescription decisions and their medical equipment decisions, as well as their medical treatment decisions and unclear medical fees).

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