Expanding Markets while Improving Health in Indonesia

The Private Health Sector Market in the JKN Era

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This publication was prepared by Kate Britton (Palladium), Sayaka Koseki (Palladium), and Arin Dutta (Palladium) of the Health Policy Plus project.

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Contents

Figures and Tables

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Abbreviations

AKT	Asuransi Kesehatan Tambahan
API	active pharmaceutical ingredient
ASEAN	Association of Southeast Asian Nations
BINFAR	Pharmacy Directorate
BKPM	Indonesia Investment Coordinating Board
BPJS-K	Badan Penyelenggara Jaminan Sosial-Kesehatan
BPOM	National Agency of Drug and Food Control/Badan Pengawas Obat dan Makanan
CADTH	Canadian Agency for Drugs and Technologies in Health
COB	coordination of benefits
DNI	Daftar Negatif Investasi
FDI	foreign direct investment
FORNAS	Formularium Nasional
GMP	good manufacturing practice
HHI	Herfindahl-Hirschman index
HIRA	health insurance review and assessment service
HP+	Health Policy Plus
HTA	health technology assessments
IDR	Indonesian rupiah
INA-CBG	Indonesia Case-Based Groups
INESS	Institut National d'Excellence en Santé et en Services Sociaux
INSW	Indonesian National Single Window
IPMG	International Pharmaceutical Manufacturer Group
LKPP	Lembaga Kebijakan Pengadaan Barang
JKN	Jaminan Kesehatan Nasional
MNC	multinational companies
MOH	Ministry of Health
NHIC	National Health Insurance Corporation
KARS	Komisi Akreditasi Rumah Sakit
pCPA	pan-Canadian Pharmaceutical Alliance
PLS	positive list scheme
QALY	clinical efficacy
RKO	Rencana Kebutuhan Obat
TB	tuberculosis
TNP2K	National Team for the Acceleration of Poverty Reduction
USAID	U.S. Agency for International Development

Executive Summary

Indonesia's national health insurance scheme (*Jaminan Kesehatan Nasional,* or JKN) supports the government's commitment to promoting health and wellbeing among its citizens. Responding to the demand for health services created through JKN will require strong partnership between the government and the private health sector. How have JKN policies affected the private health sector? Has the private sector's responses expanded access to high-quality healthcare at an affordable cost? Do JKN processes support the private health sector remaining robust and continuing to invest and grow?

The U.S. Agency for International Development (USAID)-funded Health Policy Plus (HP+) project and Indonesia's National Team for the Acceleration of Poverty Reduction (TNP2K) conducted an analysis to explore these questions, focusing on JKN's impact on pharmaceutical and medical device companies and private hospitals. We reviewed whether new actors have joined the market following JKN implementation—especially in geographical areas that were not well-served previously—whether the private sector's products or services have diversified, and whether JKN has motivated healthy competition between companies and hospitals.

HP+/TNP2K collected data through three approaches: (1) a survey of 73 private hospitals in 11 provinces, (2) 27 key informant interviews with private health sector leaders, and (3) a desk review of publicly available secondary data. The facility-based hospital survey gathered detailed quantitative trends on the volume and diversity of service provision, profitability, and perceptions on competition. Key informant interviews and a desk review allowed us to analyze trends to better understand market movements in the private health sector.

In absolute terms, Indonesia's pharmaceutical market has grown since JKN began in 2014. However, sales have slowed in recent years and are projected to decline in 2018 and 2019 for both patented and generic drugs. Only a few new companies have entered the pharmaceutical market since 2014, and there is little evidence to suggest that the variety of drugs has increased. But JKN has had an effect on market differentiation between multinational and local companies, with the former focusing on branded drugs while the latter focuses on generics. Competition among domestic firms has increased, though it is not clear that product quality has increased as a result of the competition. This could pose a concern for patients.

Indonesia's medical device market, valued at 10.2 trillion Indonesian rupiah (IDR) in 2016, is projected to continue growing. Before the launch of JKN, the market had a low base. It grew by 12 percent in 2016, is projected to grow by more than 16 percent in 2017 and 2018, and may reach 18 percent in 2019. The number of medical device companies has not changed. However, competition and growth into new geographic areas is increasing. The diversity of products offered has increased in some areas, specifically for diagnostic machines and consumable devices (tubes, catheters, etc.), which is linked with the private hospital sector trends discussed below. The reimbursement ceiling set by the Indonesia Case Based Groups (INA-CBGs) is affecting industry growth as facilities decide how patients should be treated to lower cost. Key informants said that increased competition is driving down prices, and firms are responding by ensuring that they are listed on the procurement e-catalogue, if possible (used for public sector procurements), and by investing in building brand recognition and client loyalty.

The number of private hospitals in Indonesia has grown since JKN implementation but remain concentrated in Java and Sumatra. For-profit hospital networks' investment since 2014 indicates a desire to benefit from the JKN market. Once the Java and Sumatra urban and peri-urban markets are saturated, expansion into rural areas is likely, where a lack of

trained doctors and nurses remains a concern and certain policies around facility construction and licensure may act as barriers.

Mixed evidence shows that the INA-CBGs are sufficient to incentivize private hospitals to offer more and additional services, especially those essential for public health, at higher quality. Hospitals with sufficient cash flow are expanding into higher complexity services with potential for higher net revenues. However, for most hospitals, types of service offered have not expanded significantly, and they maximize profit by reducing costs and offering more routine care. Regardless of profit-seeking status, private providers are price-takers on the INA-CBG tariff rates. Since the national health insurance agency (JKN's administrator) is now overwhelmingly the largest and most powerful purchaser of health services, providers are motivated to focus on cost control, not quality.

Our assessment suggests that JKN has grown some elements of the private market, incentivized investment, and increased competition, but has yet to holistically motivate greater geographic or product diversity. JKN could have a greater positive impact on the private sector if stakeholders would do the following:

- Clarify INA-CBG tariff rate setting processes, including pharmaceutical and commodity costs accounted for in rate calculation, so that private sector players can make informed decisions regarding treatment options.
- Further use health technology assessments (HTA) to focus beyond the drugs currently paid for using top-up payments by the national health insurance agency, *Badan Penyelenggara Jaminan Sosial-Kesehatan* (BPJS-K), to also help inform JKN-related procedure, drug and medical device selection processes.
- Improve e-catalogue registration and LKPP (Lembaga Kebijakan Pengadaan Barang) bidding process, especially to consider allowing multiple winners for pharmaceuticals, develop criteria in addition to price, and allow private provider access.
- Promote a more collaborative role of the private health insurance market to act alongside JKN in a way that is more robust than the current coordination of benefits, e.g., provide supplementary or top-up coverage to allow access to branded drugs and treatment procedures that may be excluded from JKN following HTA analyses.

Introduction

Indonesia's private health sector has seen robust growth over the last decade, in alignment with the overall Indonesian economy. Indonesia's economy has performed well and is expected to continue to grow at around 5 percent per year to 2020 (International Monetary Bank, 2017). Industries, including healthcare, have benefited from robust domestic demand. As the middle class has grown, demand for health services has also increased. With a growing and young population, social investments to generate a productive workforce can have multiplicative effects on economic growth.

Indonesia's national health insurance scheme, JKN, supports the government's commitment to ensuring a healthy population. Law 24 of 2011 established the national health insurance agency (BPJS-K), and JKN, rolled out in January 2014, covered approximately 75 percent of the population by April 2018. With the goal of covering 95 percent of the population by January 2019, JKN is rapidly increasing access to and demand for health services, especially for the poor and the near-poor (defined as the bottom 40 percent of the population by income).

The Government of Indonesia embarked on a comprehensive assessment of JKN's impact to assess the scheme's achievements and areas that need strengthening. Coordinated by the National Team for the Acceleration of Poverty Reduction (TNP2K) with support from the U.S. Agency for International Development (USAID)-funded Health Policy Plus project (HP+), this study assessed the scheme through four key perspectives: payer, patient, provider, and private sector. It aimed to understand the scheme's value for money given other demands on government spending. The evidence generated should inform policymakers to refine, put in place, or remove policies so that the scheme can achieve universal coverage by 2019 while ensuring the scheme's sustainability and improved access to healthcare for the population, especially the bottom 40 percent.

Responding to the growing healthcare needs of the population will require strong partnership between the government and the private health sector. BPJS-K has contracted with private hospitals and clinics since scheme initiation, and as of September 2017, 1,335 private hospitals (approximately 78 percent of private hospitals registered with the Ministry of Health) (Ministry of Health Database, N.D.) were offering health services through the scheme, making up 60 percent of all contracted hospitals (Idris, 2017). The Indonesian health system relies on private manufacturers and importers for essential drugs and medical devices. The significant increase in the population with ability to pay through a national health insurance scheme is a business opportunity. Prior to JKN, civil servants and formal sector employees had government-run insurance schemes that provided them access to health services through a limited set of private providers. JKN brought the poor and near-poor into the market, providing them with a benefit package equal to those previously only offered to the formal sector. The Government of Indonesia has invested heavily in JKN to improve health outcomes and provide financial protection for its citizens. Furthermore, it hoped the scheme would motivate health sector growth with additional employment opportunities and lead to a healthier workforce and a more productive economy. Various policies have been put in place to incentivize the private health sector market.

This report assesses whether the Government's intentions are being fulfilled through its current policies. Are the health facility gaps being filled through the private sector, and is the presence of a large single-payer program crowding private investment? Has the monopsonistic nature of BPJS-K and the concentration of purchasing power negatively affected the health sector? To assess the impact of JKN on the private sector, HP+/TNP2K posed the following three key research questions:

- What has been the impact of JKN on providers?
- Are the reimbursement processes (rates, performance adjustments, mechanism) attractive and fair for providers?
- Has the total market for healthcare in Indonesia increased choice and competition due to JKN?

This report focuses primarily on how the total market for healthcare has shifted due to JKN. To answer the first two research questions, HP+/TNP2K conducted a private hospital survey. The survey captured changes in services from 2013 (pre-JKN initiation) to 2016 (post-JKN initiation), such as patient volume, services offered, and human resources. Furthermore, it illuminated the private hospital sector's perspectives on how the reimbursement rates are influencing services provision. These insights are primarily captured in the Private Hospital Survey Report. Looking beyond the healthcare providers, the third research question focuses on how the total market has changed due to JKN, and whether that has increased choice and competition and has motivated improvement in healthcare quality, patient experience, and cost containment.

This study focused on the healthcare providers, pharmaceutical manufacturers, and medical device manufacturers. Understanding that the private health sector market is composed of a variety of players beyond these three, such as diagnostic service providers, importers and distributors, and medical training institutions, this assessment took a deeper look into subsectors that JKN directly impacts (i.e., directly paid by BPJS-K) and have direct impact on the financial sustainability of JKN (i.e., major cost drivers). Accordingly, private hospitals, pharmaceutical manufacturers, and medical devices manufacturers were the primary focus of this analysis, with supplemental insights into private health insurance.

The following chapters are organized by these three major private health subsectors. Each chapter starts with a rationale for the subsector's analysis focus and summarizes the subsector and government or JKN regulations and systems that have an effect on the subsector players. We then analyze whether the incentives placed by JKN and its policies are appropriately directing the private markets toward the intended effects. We conclude each chapter with a set of policy recommendations that can further incentivize private sector investments into health to achieve JKN's policy objective of improved access to high-quality healthcare, especially for the poor and near-poor. The conclusion summarizes the trends seen across the private health sector as a whole, incorporating learning from South Korea and Canada's single-payer programs to draw out insights that could inform improvements to Indonesia's system, and recommends policy changes that could ensure a robust private health sector remains to partner with the Government of Indonesia to grow and expand access to care.

Methodology

As part of the private sector component of the JKN comprehensive assessment, we collected data through the following three approaches:

- Facility-based provider survey
- Key informant interview
- Desk review and secondary data analysis of available data

A mixed methods approach was taken to provide different levels of detail and focus, allowing us to interrogate the issue from multiple perspectives. The facility-based provider survey focused on discrete information from individual private hospitals, and detailed quantitative trends for the biggest cost driver for BPJS-K (i.e., hospital care) through primary data collection. Key informant interviews allowed us to better understand why certain trends are being seen in the private health sector. Finally, the desk review and secondary analysis of already available data allowed us to capture the whole market of private health sector (see Annex A for detailed breakdown of research questions and their link to the three data collection approaches).

We gathered primary data from 73 private hospitals in 11 provinces through a facility-based provider survey. These facilities varied in location, class, ownership (non-profit, faith-based, individual, or networked commercial), and whether they accept JKN patients. Four data collection instruments were developed: (1) hospital director questionnaire, (2) finance director questionnaire, (3) clinical personnel questionnaire, and (4) service delivery and financial data collection instrument. Two versions of the questionnaires were developed to appropriately adjust for BPJS-K-contracting and non-BPJS-K-contracting facilities. Data were collected in two ways, through interviews with key informants at the facility (i.e., hospital director, finance director, and a subset of clinical personnel), and through data records and facility reviews. The former approach provided contextual qualitative information on facility decision making in response to JKN. The latter provided quantitative information on the changes within the facility over the last several years as JKN has rolled out, such as patient volume, types of services delivered, human resources, and finances. The data was collected from December 2017 to January 2018, recorded through the electronic data collection instrument, then reviewed, cleaned, and analyzed in STATA. These insights are primarily captured in the Private Hospital Survey Report. Select data on patient volume, revenue generated through JKN, perceptions on profitability, and experiences in the claims process were utilized in the hospital chapter of this report.

We conducted 27 interviews with key informants in leadership positions at private health sector organizations to gain their market insights. With the aim to gather diverse perspectives on how the private healthcare market has responded to JKN, including specific strategic business choices made by individual companies, we aimed to interview three to five key informants per subsector (pharmaceutical, medical devices, hospitals and clinics, and health insurance), including professional associations that represent the subsector. Given the difference in experience between multinational and local pharmaceutical companies, additional key informants were sought in this subsector. We interviewed senior leaders of the company who understood the company's business

Box 1: Key Informant Snapshot

- Seven multinational pharmaceutical companies
- Five local pharmaceutical companies
- Five medical device companies
- Seven hospitals and clinics
- Three health insurance companies

strategy, such as directors of government relations. Semistructured interview questions were developed for each subsector, targeting the business leader's perspectives on:

- How the market size and competition has changed as a whole
- How the company has been affected, how it has responded to JKN
- Their perceptions of the JKN reimbursement rate setting and claims process for providers
- Their perceptions of the purchasing mechanism by public and private health facilities and payment process for pharmaceutical and medical devices companies

Each interview concluded with their thoughts on policy changes that could improve the business climate and the subsector's participation in JKN. The interview lasted approximately one hour. Handwritten notes were taken, supplemented by voice recording when explicit approval was given. The notes were coded and strength of agreement or divergence across key informants was analyzed in NVivo. In addition, key informant interviews from the study conducted by HP+ in 2016 on the private sector's role in addressing maternal and newborn health were reviewed for additional information. Several insights from the key informant interviews are highlighted throughout this report.

We supplemented the insights gathered through the provider survey and the key informant interviews with publicly available secondary data. We sourced much of the company-specific data through annual reports, press releases, and news articles. We reviewed the pharmaceutical and medical device market data published by QuintilesIMS, BMI Research, and PharmaBoardroom. Ministry of Health database and annual health profile reports for 2011 to 2016 were used for analysis on the number and type of hospitals registered. BPJS-K data were reviewed to analyze the size and scope of private sector entities that are contracted for JKN. Indonesia's National Socioeconomic Survey (Susenas) data supplemented health insurance coverage information from 2011 to 2016. White papers published by various multilateral agencies and implementing partners such as the World Bank, German Cooperation (GIZ), and USAID were also reviewed.

The data presented in this report aggregates these insights, analysis by the authors, and consultation and validation with the Government of Indonesia and key private sector stakeholders. We held several meetings with Ministry of Health, Ministry of Finance, and BPJS-K, as well as private sector representatives such as the Indonesia Hospital Association (*Perhimpunan Rumah Sakit Seluruh Indonesia*), Indonesia Private Hospital Association (*Asosiasi Rumah Sakit Swasta Indonesia*), International Pharmaceutical Manufacturer Group, and the Domestic Pharmaceutical Manufacturing Association (*Gabungan Perusahaan Farmasi Indonesia*). We held consultative meetings as the private sector data collection was initiated in November 2017, and a consultative meeting to share preliminary findings and to gather further insights in February 2018. This final report reflects comments and feedback received from select private sector representatives and the Government of Indonesia, who reviewed the draft of this report in April 2018 and attended the dissemination meeting in May 2018. Through this consultative process, HP+/TNP2K developed the findings and recommendations for the Government of Indonesia and the Indonesian private health sector on how to further coordinate and establish an enabling environment in which equitable access to high quality healthcare can be achieved through JKN.

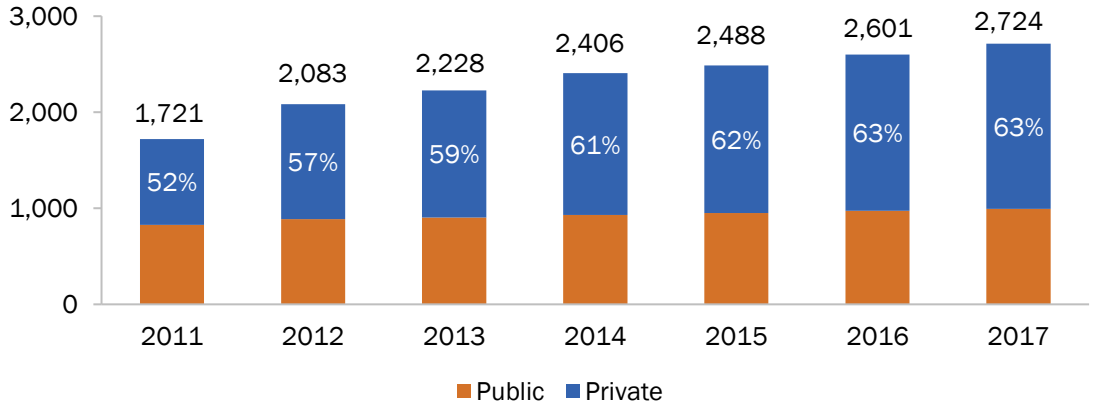
Impact of JKN on Private Healthcare Providers

BPJS-K directly contracts with private facilities with the aim to increase access to healthcare to members, and thus has the most immediate and clear effect on this subsector of the private healthcare market. This chapter focuses primarily on the effect of JKN on private hospitals, as a large portion of reimbursements are incurred at that level (over 80 percent of BPJS-K reimbursements are to public and private hospitals; see the Financial Sustainability report and the Benefit Incidence Analysis summary for more information). Primary care clinics form important gate-keeping functions, which we touch upon below. However, from the perspective of the scheme's financial sustainability as well as BPJS-K's ability to influence service delivery through their purchasing decisions, there is a likelihood of seeing a larger impact by focusing on the hospitals.

Sector Overview and Major Trends

The number of hospitals in Indonesia has grown. The health sector has been an attractive industry in general, and demand for healthcare has grown throughout this decade. In the seven years since 2011, Indonesia has added more than 1,000 hospitals (Figure 1). Interestingly, the average annual rate of growth has slowed since JKN initiation in 2014; between 2011 and 2014, the average annual rate of growth was 13.3 percent, while it was 4.4 percent between 2014 and 2017. While the government has had an infrastructure development strategy for the last several years, with targets to build 54 hospitals in 2018 and 64 hospitals in 2019, most of this growth has been seen within the private health sector. Private hospitals tend to cluster in urban areas of Java and Sumatra, as there is a higher concentration of people with the ability to pay out of pocket. The trends around geographic coverage of private hospitals is further explored below.

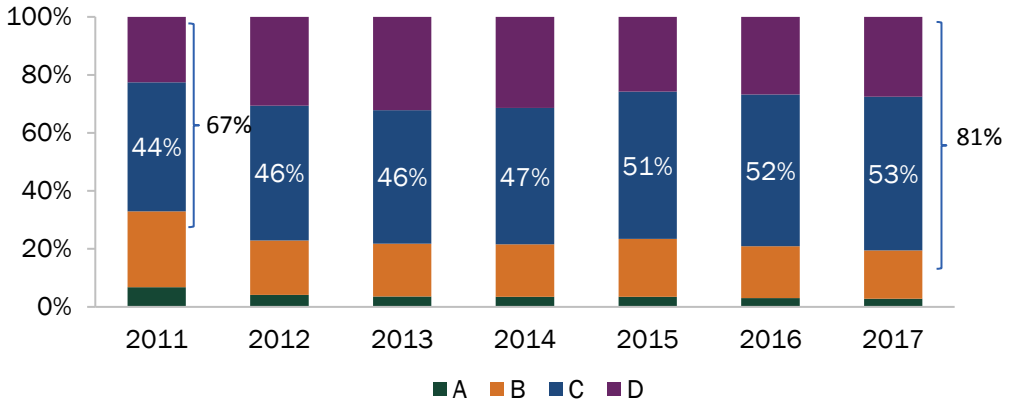
Figure 1: Number of Hospitals in Indonesia, by Sector (2011–2017)



Source: MOH Annual Health Sector Profile 2011—2016; MOH online database compiled by authors, Aug 2017

The number of lower level hospitals, which are gate-keepers to higher level specialist care, has grown faster. Based on BPJS-K regulation, patients should always access services first through the primary care level and be referred up to Class C and D hospitals should the need arise. If further specialist care is required, these hospitals will further refer up to Class A and B hospitals (referral mechanisms are detailed below). Stakeholders note that since Class C hospitals are a higher level than D and get higher reimbursement rates, but can still accept referrals directly from primary care, more facilities are upgrading to Class C hospitals. As can be seen in Figure 2, the proportion of Class C and D hospitals has grown.

Figure 2: Breakdown of Private Hospitals, by Class (2011–2017)



Source: MOH Annual Health Sector Profile 2011—2016; MOH online database compiled by authors, Aug 2017

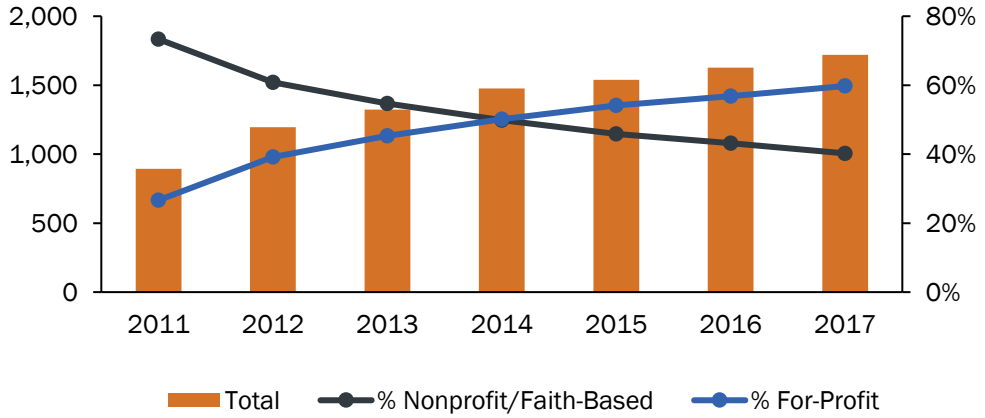
The private health sector is made up of nonprofit/faith-based organizations as well as for-profit entities. In either case, they could be independently owned, part of a network, or owned by a holding company or an umbrella organization. Typically, in this networked arrangement in the nonprofit sector, the umbrella organization provides quality assurance, management, and financial support through contributions of its members, although the hospital's finances may be independent from the umbrella organization. In the case of for-profit entities, while hospitals are individually managed with their own set of Chief Executive Officers and managers, they are owned by the holding company, which accounts for the profit of its hospitals. This holding mechanism allows for revenue sharing and cross-subsidization, e.g., when one hospital within the network may not have positive cash flow. In either the nonprofit/faith-based or for-profit model, the network may achieve economies of scale by procuring drugs and equipment collectively. Muhammadiyah, a faith-based organization, owned and operated 60 hospitals in 2017, comprising 8.7 percent of all nonprofit/faith-based hospitals in the country. However, as Table 1 shows, this network size is a rarity, and most hospitals in the country are independently owned. The recent growth in the number of private hospitals are primarily driven by increase in for-profit hospitals (Figure 3). In just seven years, the number of for-profit hospitals has surpassed the number of nonprofit/faith-based hospitals.

Table 1: Major Networked Hospitals in Indonesia

Network Name	Ownership Type	Number of Registered Hospitals
Muhammadiyah	Faith-Based	60
Siloam	For-Profit	32
Hermina	For-Profit	28
Nahdlatul Ulama	Faith-Based	24
Mitra Keluarga	For-Profit	13
Awal Bros.	For-Profit	11
Omni	For-Profit	3

Source: MOH online database compiled by authors, Aug 2017; Organization websites

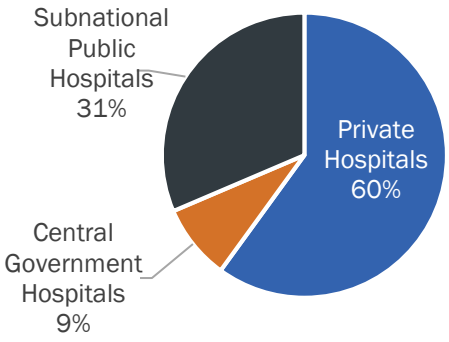
Figure 3: Number of Private Hospitals, Proportion, Nonprofit/Faith-Based, and For-Profit (2011-2017)



Source: MOH Annual Health Sector Profile 2011–2016; MOH online database compiled by authors, Aug 2017

Since the start of JKN, BPJS-K has been a major market driver that now affects most private health facilities. By mid-2017, 78 percent of the private hospitals registered with the MOH had contracted with BPJS-K. Private hospitals made up 60 percent of all contracted hospitals (Figure 4), and private clinics made up 63 percent of all clinics contracted by BPJS-K (Idris, 2017).

Figure 4: Proportion and Type of Hospitals Affiliated with JKN (Sept. 2017)



Source: Idris, 2017

With the arrival of JKN, the economics of healthcare provision have shifted, where the guarantee of payment by the government made the healthcare service delivery industry even more attractive. As the purchaser of health services, BPJS-K must ensure that they are contracting with private providers that offer high-quality service and are efficient and effective by enforcing referral mechanisms, and incentivizing capital investments and service expansion through attractive tariffs. Within this context, what policies and systems have been put in place by the Government of Indonesia as it relates to the private providers, and how has the market reacted? After exploring the policies and regulations in the next section, we analyze the following research questions in further detail from the perspective of private hospitals:

- Have new entrants joined the private provider market, especially in geographies that were not served previously?
- Do private providers offer more comprehensive services?

- Has JKN motivated increased competition among private providers and reduced dominance of any single/limited few players?
- Ultimately, has JKN been able to purchase affordable yet high-quality healthcare services, improving access and choice to the population on where to get care?

JKN Regulations and Processes Impacting the Private Providers

The decision by the Government of Indonesia to contract with private providers to offer the JKN benefit package grew the market significantly overnight. There were five major health insurance or financial protection schemes run by national or local governments prior to JKN. Targeting different segments of the population, these schemes offered health insurance or government-paid health services to almost 100 million people combined (refer to the Financial Sustainability report for more information). However, because the majority of this insured population (especially the poor and near-poor) were covered through a scheme that only provided access to public sector facilities, only about 20 million people in the civil servant and private employer schemes could access care from contracted private providers. With the initiation of JKN, these schemes were wrapped into JKN, in theory suddenly making a 100 million insured population market overnight for private providers to serve, if contracted with BPJS-K.

Not all facilities met the accreditation requirements before contracting with BPJS-K, weakening its quality assurance mechanism. The Indonesian Commission for the Accreditation of Hospitals (*Komisi Akreditasi Rumah Sakit* or KARS) set up by the Ministry of Health is the primary accreditation body in Indonesia. KARS accreditation is required by the government for the facility to operate, although only about 1,300 hospitals (public and private combined) were accredited by early 2015 due to low awareness and insufficient numbers of accreditation surveyors (Broughton et al., 2015). In 2012, KARS updated their accreditation standards to align better with internationally recognized Joint Commission International standards, although only 64 facilities had achieved this updated standard accreditation by early 2015 (Broughton et al., 2015). There has been concerted effort by the government to increase the number of accredited hospitals, especially in the public sector, with the target to reach 481 hospitals by 2019. By April 2018, 57 percent of hospitals were reported to have been accredited, although it is likely that vast majority that remain unaccredited are small private hospitals, which will require additional effort by the government to accredit (Dutta, 2018). The government also put in place a regulation that BPJS-K-contracted facilities must be KARS accredited, although due to challenges in meeting this requirement, the government amended the regulation so that hospitals have until 2020 to meet this requirement (Health Financing and Governance, N.D.). According to Broughton et al. (2015), weaknesses in the KARS system included:

- Insufficient independence of the Commission from the Ministry of Health, putting into question bias in the assessment process between public and private facilities
- Overemphasis on input indicators rather than patient safety, experience, and quality performance indicators
- Inconsistencies across the accreditation surveyors that caused variation in the application of the accreditation standards across facilities

These weaknesses, combined with unsuccessful enforcement of the KARS requirement, indicates that many private hospitals do not have a standardized mechanism to measure and assure quality. Without the accreditation being linked to licensure of the facility or BPJS-K contracting, the incentive to lower costs may put quality at risk.

The lack of clarity on governance over quality assurance and monitoring may be causing BPJS-K to default to quality control through the claims review process. According to the International Organization on Standards, quality assurance is the "part of *quality management* focused on providing confidence that *quality requirements* will be fulfilled," while quality control "is that part of *quality management* focused on fulfilling *quality requirements* (ASQ Audit Division and Russell, N.D.)." Quality assurance may be established through clinical guidelines, standard operating procedures, and accreditation standards, combined with the facility staff's ability and willingness to execute these standards. Quality control, on the other hand, is a process taken after services are performed to assess whether quality standards were met. Quality assurance allows for the payer and patients to ensure that high-quality service will be provided at the facility ahead of time, while quality control will not benefit the patient, since the assessment is made after the service is provided. Future patients could benefit from quality control. Current regulations lack clarity on who is responsible for setting and monitoring quality assurance systems at private hospitals. The 2004 Social Security law states that BPJS-K is responsible for setting these standards. Yet, the 2013 Minister of Health regulation No. 71 states that the Ministry of Health is responsible for ensuring quality (Health Financing and Governance Project, N.D.). Without clear authority over quality assurance, and accordingly, without any specific funding to set up and monitor quality for health facilities that it contracts, BPJS-K has primarily focused on quality control through the claims review process.

> *"In theory, payments will be made no later than 14 days after verification of claims. However, the verification itself is quite a lengthy process (up to one month after the patient is discharged) … since we became affiliated with the BPJS-K, we have never received a single timely payment."*
>
> *– Hospital Owner*

Many private hospital key informants comment that the claims review process has been unclear and unsystematic. Several key informants mentioned that each claims reviewer sets different standards on what is allowable. Without a standardized process, claims verification can take a long time, with multiple steps of data request and fulfillment between providers and BPJS-K. This is likely an area where efficiency could be improved, especially with an improved online claims filing process that reduces paperwork while articulating clearly the documentation that is needed for claims processing.

BPJS-K placed a gatekeeper system across primary care and hospitals with the aim to reduce costs. Primary care clinics are the first point of call for all illnesses unless they are emergencies or labor and delivery. As noted, if specialist care is necessary, the primary care clinic must refer the patient to either class C or D hospitals. These hospitals then become the gatekeepers for further specialized care, where the providers from these hospitals must refer the patient up to class A or B hospitals should the patient want or need care at that highly specialized level.

BPJS-K oversight and reimbursement mechanisms are not sufficiently incentivizing the gatekeeper system. In 2016, 1.2 million cases were referred directly from primary care providers to class A hospitals (Health Financing and Governance Project, N.D.). It is unclear why such referrals were needed, and it is likely causing healthcare expenditures to increase unnecessarily. For example, in tuberculosis (TB), uncomplicated cases should be managed at the primary care level, and cases may only be referred up for diagnosis before being down-referred for ongoing care. Similarly, as GeneXpert diagnostic equipment becomes more readily available at public sector primary care clinics (*puskesmas*), private clinics should refer patients to a nearby equipped *puskesmas* for diagnosis, and that public facility should refer the patient back to the private clinic for ongoing treatment. However, since JKN does not provide additional "non-kapitasi" payment for TB care, primary clinics would prefer not to hold on to the patient and keep the patient treatment at the hospital level. Currently, 48 percent of TB treatment occurs at the hospital level (Surya

and Setyaningsih, 2017). Alternatively, the private clinics have incentive to keep a patient at their facility to diagnose, even if they do not have the appropriate equipment to do so accurately, because if they refer to a *puskesmas* equipped with GeneXpert, a portion of their capitation payment will be transferred to the referred *puskesmas,* a loss of revenue for the private clinic (refer to the TB Brief for more information). Either way, the system is not incentivizing efficiency or quality of care, and without any penalty or recourse, the situation is unlikely to improve.

BPJS-K's payment arrangement aims to incentivize prevention, reduce medical interventions, and improve efficiency. At the primary care level, healthcare clinics are paid through a capitation scheme. The base rates were calculated using the capitation structure applicable under the Jamkesmas scheme (the social health insurance scheme for the poor and near-poor that was wrapped into JKN in 2014). The capitation rates for private facilities were then adjusted to account for higher cost structures in the private sector. Clinics are paid a set amount per month per member assigned to their clinics, regardless of whether they have provided any service to that member. In this payment arrangement, the highest profit can be gained if the patient does not get sick and need service; thus, it should incentivize providers to focus on preventive care. Some disease-specific services such as family planning are reimbursed separately (called "non-kapitasi"). At the hospital level, payments are made by BPJS-K to private hospitals per admission, outpatient visit, or procedure (called Indonesia Case-Based Groups or INA-CBG). The payment rates are determined based on the type of illness, severity of the patient's condition, and the hospital class. Beyond these criteria, the payments per admission are the same, and it is up to the hospital to determine the actual set of treatments, drugs, and interventions. In rare cases, such as chemotherapy and to treat chronic illnesses that are not stable, BPJS-K reimburses the cost of the drugs to the providers. Overall, the INA-CBG incentivizes the providers to be efficient, utilizing low-cost drugs and services to achieve the maximum health impact.

Summary of BPJS-K Payment System with Private Providers

Primary Care: Primarily capitation, except for specific disease areas such as family planning and HIV

Hospital: INA-CBG payment per admission/outpatient visit/procedure, except for chemotherapy drugs and drugs to treat patients with chronic illness not yet stabilized

JKN's payment mechanism forces private providers to assess treatment options to balance costs with the BPJS-K reimbursement revenue. There are no national treatment guidelines in Indonesia, except in cases with disease areas that had been traditionally funded through donors, such as HIV and TB. Since both the capitation rates and INA-CBGs do not specify how the patient should be treated, the doctor or hospital must decide what is medically necessary and assess how to lower the cost of the treatment. Since private providers must procure drugs, reagents, and equipment, and hire and pay for staff in advance of the reimbursement, the onus is on providers to find the lowest cost drugs, reagents, and commodities, maximize the use of the equipment that they have, and perform the task at the lowest allowable level of healthcare provider. As will be noted further, it is vital to recognize that this procurement decision making by providers impacts the pharmaceutical and medical devices market directly. The current government system of JKN does not link the clinical and economic assessment of drugs to price negotiation and tariff setting, which can lead to cost-effective drugs not being available to providers at an affordable rate (or conversely, the reimbursement rate not accounting for the market price of this drug). This issue is further explored in the conclusion of this report. As of this report's publication, private providers contracted with BPJS-K do not have access to the e-catalogue drug and medical device procurement system enjoyed by the public-sector facilities. All negotiated prices are public, to which the private providers may base their negotiations. However, without the consolidated buying power of the government through the Government Agency of Goods and Services (*Lembaga Kebijakan Pengadaan Barang Jasa*

Pemerintah or LKPP), key informants noted that many providers struggle to secure the same or similarly low price of drugs and medical devices directly from manufacturers and distributors.

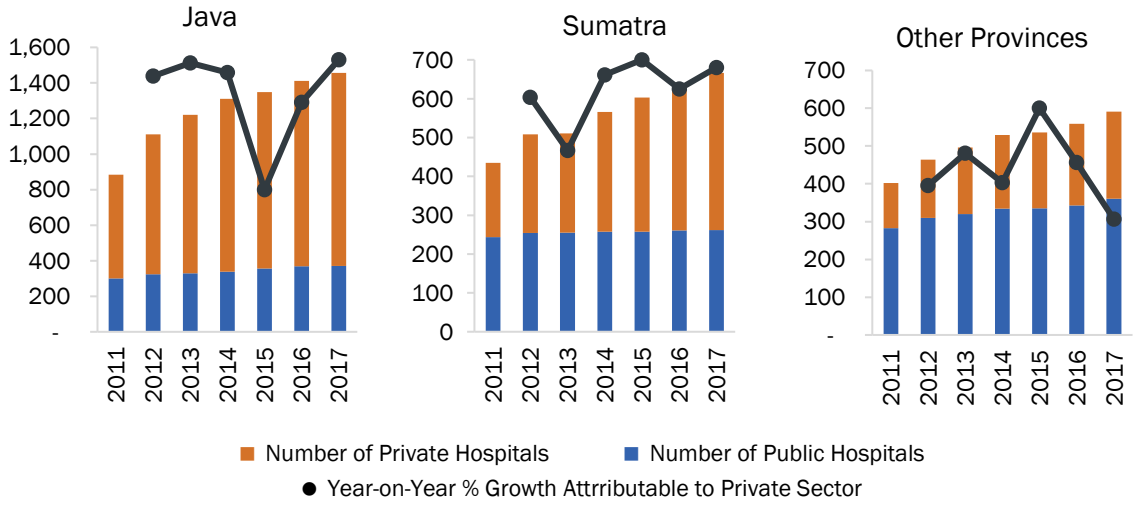
Market Change and Strategic Response in the JKN Era

Have new entrants joined the private provider market, especially in geographies that were not served previously?

With JKN reducing the financial barriers to care, we expect that new entrants will join the private provider market, especially in geographies that lack healthcare infrastructure. Prior to JKN, the population living in rural and eastern regions of Indonesia was not perceived as a high potential market for private providers. The ability to pay was lower, and the cost of service provision was higher than areas closer to Jakarta due to longer distribution distance and lack of providers interested in serving in these areas. With JKN, the poor and the near-poor, as well as those living in eastern Indonesia, acquire a means for paying for healthcare, which should make them a more attractive target market. This trend is expected to be stronger in areas where providers are limited, as competition is even lower.

The private sector is growing its footprint in the eastern provinces, although not at a rapid pace. As Figure 5 shows, provinces in the Java and Sumatra islands have tended to see growth dominated by the private sector. While there was a dip in private sector growth between 2014 and 2015 in the Java islands, by 2016/2017, all the new hospitals were in the private sector. On the other hand, in the provinces outside of Java and Sumatra, the proportion of new hospitals opened by the private sector has declined since JKN initiation. By 2017, only 44 percent of the total increase in the number of hospitals in this geographic region was attributable to the private sector. In the meanwhile, the public sector had invested in expanding healthcare access to these rural provinces. In 2017, 95 percent of hospitals newly set up by the public sector were in the provinces outside of Java and Sumatra, whereas only 18 percent of the new private sector hospitals were in this region.

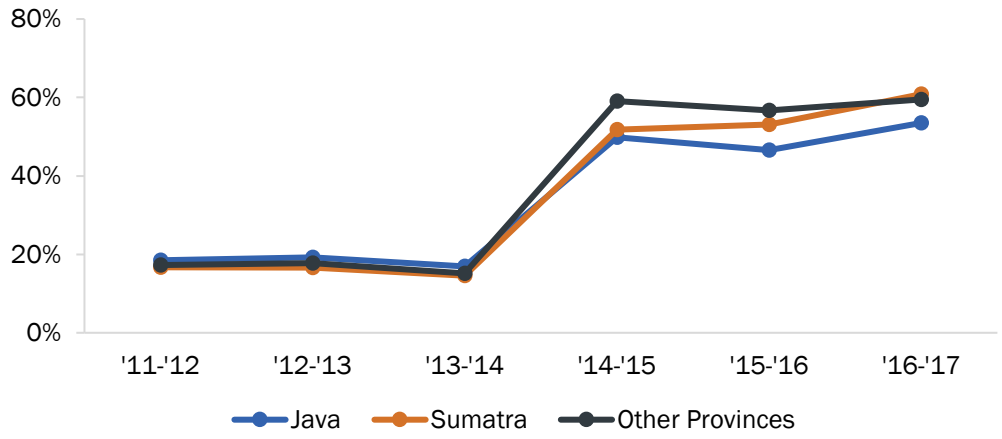
Figure 5: Growth in Number of Hospitals, by Sector and Geography (2011–2017)



Source: MOH Annual Health Sector Profile 2011—2016; MOH Online Database compiled by authors, Aug 2017

This is somewhat contrary to expectation, given that the JKN coverage is highest in the eastern provinces (60 percent by 2016, compared to 51 percent in Java) (Figure 6).

Figure 6: Percentage of Population with Health Insurance that Allows Access to Private Hospitals



Source: Susenas 2011–2016

Java and Sumatra, especially in the peri-urban areas, are still regarded as a higher potential market by private providers than the untapped opportunities in rural areas and eastern Indonesia. In absolute terms, Java still has more than double the number of JKN-covered population compared to Sumatra and other provinces. So the private sector still regards Java islands to have plenty of growth potential that should be tapped into first before significant expansion into eastern provinces. Mitra Keluarga, the largest private hospital network by patient volume, places focus on Greater Jakarta and Surabaya area, with significant unmet need still to be captured through expansion of their network and JKN population coverage (Mitra Keluarga, 2018). These hospital networks also have raised concerns about their ability to recruit and retain doctors (notably specialists) in areas beyond urban centers.

While the rate at which new hospitals are opened may not have increased since the launch of JKN, the acquisition of established hospitals by networks such as Siloam and Mitra Keluarga reflect the positive outlook of the private provider market in the JKN era. Siloam International Hospitals, the largest private for-profit hospital network in the country by number of facilities, had 20 hospitals in 2014, and is now managing 32 hospitals. While many were built from the ground up, leveraging properties owned by the parent company (conglomerate and land developer Lippo Group), all hospitals opened in 2017 were through acquisitions (Siloam Hospital Group, 2018). Twenty-one hospitals within the 32-hospital network now accept BPJS-K patients, and the company aims to expand this coverage and to own and operate more than 50 hospitals by 2019. Mitra Keluarga, which did not accept BPJS-K patients until 2016, acquired the Kasih Hospitals network of seven hospitals in 2017, specifically to target peri-urban markets and accept BPJS-K patients (Mitra Keluarga, 2018). There are numerous policies and regulations that must be followed to be able to build a new hospital, which can take significant time. To keep up with demand, private network operators may be opting to acquire to grow their networks, allowing them to grow significantly faster than if they grew through building new facilities. Facilitation of private hospital growth may require review of these policies and regulations around building and licensing new hospitals to streamline the process.

"Indonesia has a limited pool of doctors and health staff. Regulations are also strict on hiring doctors from abroad, as they must have a special permit from the Ministry of Health to practice in Indonesia"

– Mitra Keluarga 2016 Annual Report

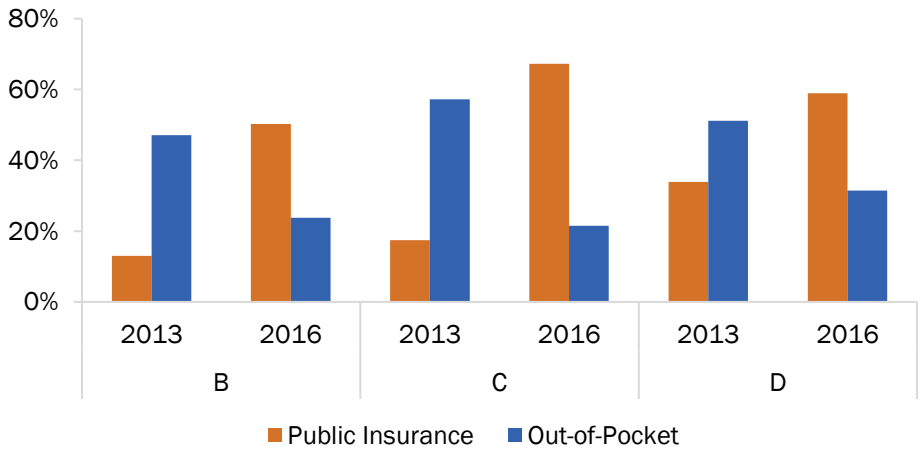
The number of private hospitals has grown since JKN initiation, although not as rapidly as between 2011 and 2014, and they remain concentrated in the Java and Sumatra islands. The investments made by for-profit networks indicate the desire to tap into the market created by BPJS-K, and mergers and acquisitions are quicker strategies to expand rather than to build new hospitals. Once these urban/peri-urban markets are saturated in the coming years, there will likely be expansion into more rural areas and eastern Indonesia, although lack of healthcare workers in the country remains a concern, and numerous policies and regulations around hospital construction and licensure may act as an additional barrier.

Do private providers have a more comprehensive service offering?

With JKN providing a relatively rich benefit package equivalent to that enjoyed by civil servants prior to JKN, private providers should be incentivized to offer a more comprehensive set of services. Before JKN began, private facilities may not have invested in services, specialists, or equipment if they felt most patients did not have the means to pay out of pocket for such procedures or services. With the introduction of JKN, services were now within reach for many, and the return on investment could be much higher for private providers that decide to expand popular and more profitable services.

As BPJS-K reimbursements make up a larger portion of their total revenue, hospitals are keen to understand the tariff rates and how to maximize the profitability of various services. The hospitals in the HP+/TNP2K survey, on average, relied on over 60 percent of BPJS-K reimbursements for their revenue by 2016 (Figure 7). Comparatively, out-of-pocket payments have declined significantly from before JKN rollout. Even for large, private for-profit networks like Siloam, 27 percent of revenue came from BPJS-K by 2017 (Siloam Hospital Group, 2018). Thus, private providers' cash flow is sensitive to the JKN tariff rates and the BPJS-K reimbursement timelines.

Figure 7: Sources of Revenue at Sample BPJS-K-Contracted Hospitals, by Type (2013, 2016)



Source: Ross et al., 2018

Capital injection by investors into the private hospital sector targets enrichment of more comprehensive and complex services to increase profitability. Several initial public offerings, share sales, and new entrants into the hospital sector show how investor funds are being used to expand services at established hospitals to keep up with the growing demand created through JKN. Knowing the impending launch of JKN, Siloam Hospital Group went public in 2013. Mitra Keluarga followed suit in 2015.

> *"The [Manado] hospital is fully equipped with the state-of-the-art equipment, including 1.5 Tesla MRI, 128 Slice CT Scan and Cath Lab, the first equipment of its kind in the area, facilitating this 224-bed hospital to be the feeder hospital on the eastern belt of Indonesia."*
>
> *– Siloam Hospital website*

Hermina plans to go public in 2018 and has secured IDR 600 billion in investment from Creador Group in 2017 to fund their growth strategy (Timmerman, 2017). Siloam also issued additional shares in 2016 and 2017 to gather resources for its aggressive growth plan. Its 2017 annual report notes that 88 percent of the funds raised would be used to acquire equipment or other assets to improve their service offerings at their hospitals (Siloam Hospital Group, 2018). Similarly, Selaras Holding Group – an Indonesian investment management and holding company with interests in real estate development, hospitality, and healthcare industries – acquired a 218-bed hospital in 2016. Selaras aims for year-on-year growth of 15 percent in 2017 and 30 percent in 2018 by investing in specialized equipment and human resources to offer higher revenue services and attract more patients with BPJS-K (Indonesia Investments, 2017). Siloam Hospital Group, with the widest geographic spread among the for-profit hospital networks, promotes several hospitals outside of Java and Sumatra as meeting the needs of the immediate catchment population as well as in eastern Indonesia.

However, for most of the private hospital market, which is independent and would not necessarily be the target of such large cash influx, expanding profit on basic care is more common. Based on the private hospital survey conducted by HP+/TNP2K, most profitable services were basic internal medicine, antenatal clinic, and eyecare (Table 2). While some hospitals ranked specialized services such as hemodialysis and MRIs, this was a minority among the survey sample, likely because most of the hospitals were class C and D and focused on less complex care. In such context, basic services such as antenatal clinics where one doctor can see a high volume of patients with a relatively basic set of equipment and limited dispensation of drugs and labs is seen as highly profitable. Conversely, for non-BPJS-K-contracted facilities that are financed primarily through out-of-pocket expenditure, a more complex intensive care unit was ranked most profitable. One key informant highlighted specifically that BPJS-K reimbursement rate for intensive care unit is especially low compared to market price charged for out-of-pocket payment, making it a difficult service to maintain and expand. Eighty-two percent of the BPJS-K-contracted facilities noted that their profitable services changed since starting to accept JKN.

Table 2: Most Profitable Hospital Service, by BPJS-K Contracting Status

Respondent Rank	BPJS-K Contracted
Most Profitable*	Basic Internal Medicine
Second Most Profitable	Antenatal Clinic/OBGYN
Third Most Profitable	Eye care

*Weighted score: hospitals named top three most profitable services; the most profitable service was given three points, second most profitable two points, and third most profitable one point. Services were then ranked based on aggregate points.
Source: Ross et al., 2018

BPJS-K's influence over private provider cash flow is a strong policy lever, yet the lack of transparency in rate setting is likely reducing incentives for providers to align with JKN objectives. All key informants noted the lack of transparency in setting tariff rates by BPJS-K. While the Ministry of Health has conducted a costing study that includes both public and private sector hospitals, the analysis of the data and method in which the INA-CBG reimbursement rates were set is not known. This lack of clarity makes it difficult for private providers to understand how best to align their costs

against the reimbursements. If the rates were based on a set clinical guidelines, it would provide facilities with some indication on how to offer services efficiently and effectively. However, most diseases do not have a national treatment protocol. Even if the protocols were known, private providers will likely have a hard time balancing revenue with cost, as they do not have the purchasing power to negotiate down the price of drugs and equipment to the level enjoyed by the public sector through the e-catalogue system. Ultimately, most private providers will have to make difficult decisions on cutting back on care to the minimum allowable level so that they can generate sufficient profit to continue running the facility. This is a trial-and-error process, as key informants noted that often the claims are not fully paid at the predetermined rate. Consequently, the private providers are making their own judgments about which services can be sufficiently profitable for them, and potentially risking quality to retain profit.

"[If we were to contract with BPJS-K, we must] change the paradigm so all staff can't use golden standard in healthcare, rather optimal health care standards as long as it's effective and efficient in terms of drugs, diagnostics, cost effective."

– Hospital manager of facility not contracting with BPJS-K

There is mixed evidence to show that the BPJS-K reimbursement is adequately pushing private providers to offer more and new essential services at higher quality. Hospitals with sufficient cash flow or an injection of funds through investors (usually high-end hospitals) are able to expand into high-tech services that have higher margins. However, for majority of hospitals, services have not expanded, and they are trying to maximize profit by reducing the cost of routine care, which may put quality at risk. Clarity around tariff rate setting and systematizing the claims validation process can improve private providers' understanding of how to provide services efficiently and effectively, while improving BPJS-K's administrative efficiency in claims processing.

Private Insurance Market since JKN: Boom or Bust?

The private insurance market was relatively nascent when JKN was rolled out in 2014. There were approximately 8 million subscribers to private health insurance at that time, mostly in the higher income population working in the private formal sector. JKN has generally been perceived as a positive market force that increases awareness and value of purchasing a health insurance product (EY, 2015). Furthermore, BPJS-K regulation permits a private health insurance product to be combined with JKN (known as "coordination of benefits" [COB]), with the aim to improve JKN in the eyes of the higher income population that seeks care at higher class service (Class 1 bed and above). With such a product, the private health insurers could retain their original wealthier target market, and potentially expand into middle-income population, with a tiered pricing COB product matching bed class to their ability to pay.

The COB products could also help counter the potential unintended consequence, where private providers with current BPJS-K reimbursements cut costs to gain profit, affecting service quality. The additional revenue that would be provided through the COB could make services sufficiently profitable – or at least generate enough revenue where the doctors can provide a full treatment course or lab tests to ensure that the patient is cured, if current BPJS-K reimbursement rates are not sufficient. Several hospital key informants noted the value of a robust COB product that allows them to cross-subsidize services that are reimbursed at a lower rate by BPJS-K.

Insufficient clarity on processes and procedures are a barrier to COB adoption. While 13 companies have signed an initial agreement with BPJS-K to develop a COB product as of February 2015, there has been insufficient clarity on the procedures and system requirements, and no notable COB product has emerged (EY, 2015). In June 2016, BPJS-K updated the COB regulation (BPJS-K Regulation #4). BPJS-K now allows the supplemental insurance providers (*Asuransi Kesehatan Tambahan* or AKT) to lead the BPJS-K premium collection process, so that employers who opt for COB products only have to make one premium payment. Furthermore, if the AKT has coverage arrangements with private facilities that are not contracted with BPJS-K, members covered by COB products are able to access services through those facilities paid for by AKT and not BPJS-K. Should the member need to be referred up for non-specialist care, they have the option of accessing BPJS-K-contracted hospitals and portions of the cost would be paid for by BPJS-K using INA-CBG. However, AKTs must align their COB benefits and reimbursement structures with those of BPJS-K, so that the payment responsibilities can be clearly articulated for the providers. Questions such as whether the provider needs to file the claims to BPJS-K and AKT, or if AKT will handle provider payment as well with separate reimbursement transactions with BPJS-K are still unclear and must be addressed if COB is to become a viable product.

Even with further procedural clarity, without broadening allowable upgrades through COB, widespread adoption is unlikely. Despite the amendments in 2016, key informants noted that limiting the COB benefit to bed class will not be perceived by consumers as valuable enough to purchase the product. A key informant noted that the national private insurance association conducted a survey of private hospitals, which indicated that only one facility received a patient using COB in the past year. All key informants agreed that added benefits such as access to branded drugs outside of the FORNAS and coverage of additional treatment courses and lab tests will round out the BPJS-K benefit package. If private health insurance companies are unable to negotiate better package options and get clarity on how to work with BPJS-K, their market will continue to shrink as clients shift coverage to JKN. Such situations can also negatively affect BPJS-K, as their ability to pull in higher income populations to contribute fully into the scheme will be harder, and the informal sector will also lose another incentive to buy into the scheme.

Has JKN motivated increased competition among the private providers and reduced dominance of any single/limited few players?

JKN levels the playing field with its flat payment structures, motivating competition among providers and incentivizing investment in quality, service offerings, and efficiency. As noted earlier, JKN created a huge market for private providers. Such positive business prospects should increase the number of hospitals within a catchment population, increasing competition between the public and private sectors as well as among private providers. All private hospitals of the same class (A, B, C, or D) should receive the same reimbursement rate per type of hospital admission. Since patients have the ability to choose their hospital, private hospitals should be driving investments toward those that increase their competitiveness, including through improved quality or patient experience. Ultimately, such competition should lower cost of service for BPJS-K and improve quality of services.

The private hospital market is growing and market share has concentrated further to them compared to the public sector. As noted in previous sections of this chapter, private hospital market has grown significantly over the last seven years, primarily among the for-profit hospitals. Nationally, the Herfindahl-Hirschman Index using the number of beds by hospital type rose from .27 in 2011 to .31 by 2013 and .32 by 2016.[1] This rising market concentration reflects the increase in the number of beds among private hospitals, but it is important to note that the index did not increase proportionately to the increase in the number of private hospital; data indicates that Ministry of Health-owned hospitals have significantly larger number of beds (on average 750 beds per hospital in 2016) compared to private hospitals (on average 96 beds per hospital in 2016) (Indonesia MOH, 2012-2017).

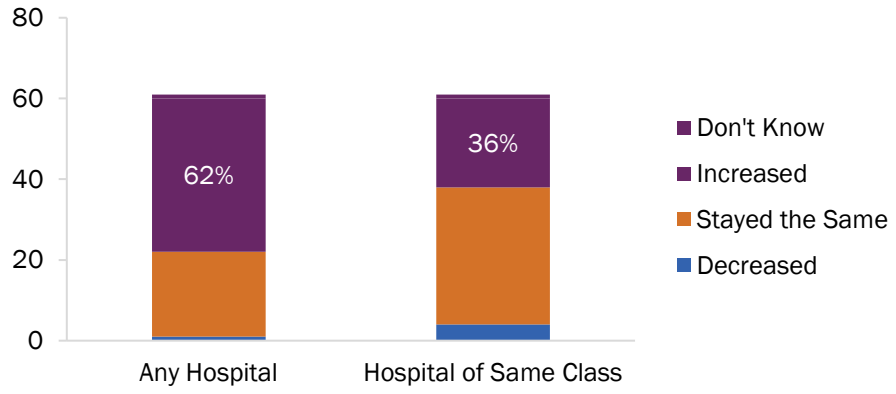
The increasing size of the market seems hard for many to ignore, especially for networked hospitals that have the ability to achieve economies of scale. The number of beds per 1,000 remain low even in urban areas such as in the suburbs of Jakarta, and growth has focused in these areas. Prior to opening their facilities to JKN patients in 2016, as recently as their 2015 Annual Report, Mitra Keluarga noted that they did not plan to accept JKN in the foreseeable future, given the lack of capacity available within their hospitals to manage the wave of new patients that would likely come (Mitra Keluarga, 2016). Despite not adding any facilities between 2015 and 2016, the hospital group started accepting JKN patients.

Despite the growth in the number of hospitals and their capacity to accept patients, demand seems higher than supply. According to the HP+/TNP2K private hospital survey, 62 percent of interviewed hospital administrators felt that the number of competitor hospitals have increased in the catchment areas (Figure 8), although for their specific class, majority (56 percent) felt the number of hospitals have remained the same. The study also showed that the number of outpatient visits per day and inpatient admissions per year grew across the board in both BPJS-K-contracting and non-contracting private hospitals (Figure 9). This seems to indicate that despite the reported increase in the number of hospitals in the catchment population, the demand for health services created by JKN is surpassing the supply of services. This could potentially explain why most BPJS-K-contracting hospital administrators felt that the number of competitors in their specific hospital class has not increased, as there has not been a perception of competition taking

[1] Herfindahl-Hirschman Index is a commonly used metric to assess market concentration. For this study's analysis, the number of beds per hospital type nationally was used as the proxy for market share. There were five hospital types based on their ownership: Ministry of Health, Provincial Health Office, City/District Health Office, police/military, parastatal, and private, including nonprofit.

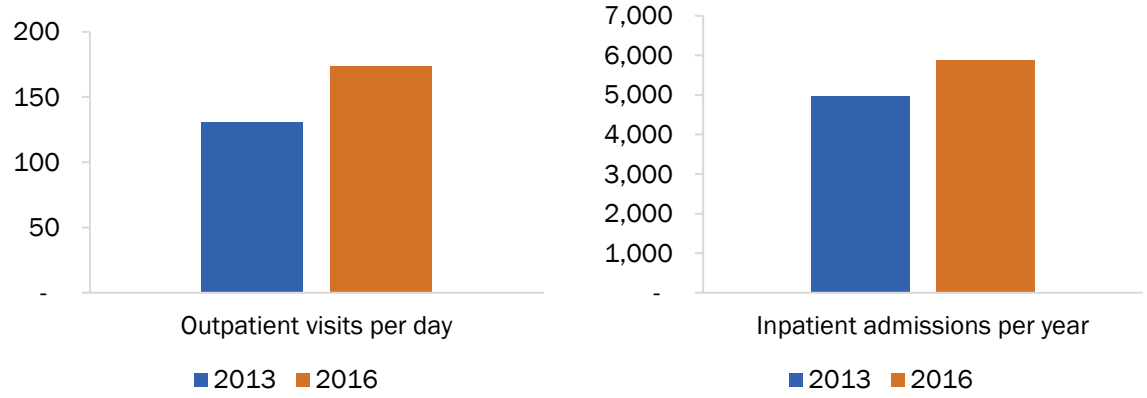
away patients from their hospital. In this regard, at least within the private hospital market, competition among hospitals has not significantly increased.

Figure 8: Perceived Change in Number of Competitor Hospitals in the Catchment Area



Source: Ross et al., 2018

Figure 9: Patient Volume (2013, 2016)



Source: Ross et al., 2018

Market demand seems to outpace the increasing supply of hospitals. Regardless of their ownership type, private providers have no negotiating power with BPJS-K on tariff rates. This has established a monopsony rather than the providers concentrating power. While the economy of scale achieved by networked hospitals is strong, they remain a minority, and the private provider market remains fragmented. The focus is on cost control, not necessarily quality.

Observations and Recommendations to Harness Private Sector Healthcare Providers

JKN has made healthcare provision an increasingly attractive market, but its policies have yet to successfully achieve its objective of expanding access to comprehensive, high-quality service, especially for the poor and near-poor. High-end private hospital network owners and external investors are injecting additional financial resources to expand their current hospitals and add hospitals to their networks. However, these investments are still concentrated in the urban and peri-urban areas, mostly in Java and Sumatra islands. Given the dearth of hospital care, even in these areas, private

sector investments will likely remain mostly in these geographic areas for the near term, and expansion will need to align with availability of qualified human resources for health and enabling policies.

Most private hospitals, which are independently owned, are not capable of investing in significant service expansion. Our study showed that BPJS-K has become a major revenue source, and private hospitals are trying to maximize their profit within the JKN tariff rates. Given the lack of clarity on how tariff rates are set and whether those full rates will be reimbursed through the claims validation process, private hospitals seem to prefer expanding basic services that require minimal investments in additional equipment, drugs, or specialized skills. While COBs may have a role to play in altering these incentives, no promising product has emerged.

The demand surpassing supply and perceived low tariff rates seems to have caused providers to focus on cost control rather than quality improvement. BPJS-K has established a monopsony, so competition by price is not possible. While that should incentivize competition by quality differentiation, our data indicates that the demand is higher than the (albeit increasing) supply of hospitals, so there is less need to try to differentiate by quality. On the other hand, many hospital owners see the immediate challenge of managing their cost against the tariff rates, which seems to compel them to focus on cutting costs rather than investing in service expansion and quality improvement.

Given these findings, the following policy recommendations can be made:

- **Review currently available human resources for health and consider expanding availability of certified education institutions.** The private sector will likely expand to more rural areas and eastern Indonesia in the long term; working on the human resource supply in advance of this expansion will ensure that this health facility growth can occur smoothly.
- **Conduct a thorough legal and regulatory assessment of hospital construction and licensure to streamline investments in new hospitals.** There are numerous steps that private hospital networks and investors must take in coordination with various government entities to build and open a new hospital. To reduce the barrier to investment in healthcare infrastructure, especially in rural areas and eastern Indonesia while ensuring quality standards are met, a policy review should assess whether laws and regulations could be consolidated and streamlined.
- **Give private providers e-catalogue access.** The government has long considered making the e-catalogue accessible to private providers. This will further level the playing field between public and private sectors. This can also act as one mechanism of quality assurance, where BPJS-K can know that high-quality, low-cost drugs are being used in the private sector as well. However, tendering and order fulfillment challenges highlighted in the following chapters should be taken into account, so that further increase in volume of purchase through the e-catalogue does not exacerbate these issues.
- **Clarify the tariff rate-setting process, including what types of costs are accounted for in that rate calculation.** BPJS-K should partner with private hospitals, potentially through a collaboration with the associations, to review and update the tariff rates and ensure that the providers understand what type of procedures, drugs, labs, and human resources are accounted for in the tariff rate. This will further rationalize the service provision and allow BPJS-K to modify rates in a way that incentivizes private providers to expand high-need services.
- **Improve the e-claims process to reduce administrative costs for both BPJS-K and providers.** There is indication that claims verification process and standards for determining allowability are inconsistent across the BPJK-K evaluators.

The e-claims process can systematize this process, reduce paperwork, improve turnaround time, and make clear to private providers that standards must be met to get full reimbursement rate. This can also help providers and patients respect the tiered referral system, ultimately lowering costs.

- **Further research with providers and consumers seem to be warranted to make COB a viable product.** There is significant desire by private providers to make COB regulation a reality, although there are varying perspectives on how the system should function and what benefits should be allowed to make COB an attractive product for the consumers. Policy amendment should allow additional benefits while safeguarding against inequity in service quality and skimming healthier patients to favor non-BPJS-K-contracted hospitals. Concurrently, cost-share arrangements with patients may be considered.

Impact of JKN on the Pharmaceutical Sector

The pharmaceutical sector comprises various players, from manufacturers to distributors, wholesalers, and individual pharmacies. From the perspective of BPJS-K as a purchaser of pharmaceuticals for care in the public sector, the Government of Indonesia directly negotiates with the pharmaceutical manufacturers. Tendering, price setting, and taking and fulfilling the orders are ultimately the responsibility of the manufacturers. Thus, JKN policies likely directly affect the pharmaceutical manufacturers, and their business decisions can then cascade throughout the pharmaceutical supply chain. Furthermore, this is the area with more data and information. Thus, this chapter investigates the effect on JKN specifically on pharmaceutical manufacturers.

Sector Overview and Major Trends

Pharmaceuticals can be broken down into several categories. Each country and region's definition and classification vary, particularly for generics (i.e., similar, copies, branded, authorized) (Alfonso-Cristancho, 2015). In this report, the categories of drugs discussed are generics, branded generics, and patented (or innovator) drugs (Box 2).

Box 2: Drug Classifications

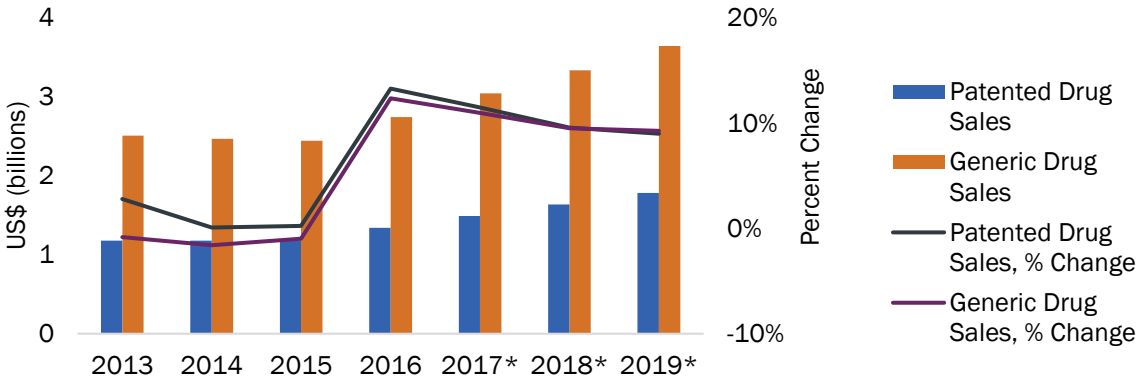
Generics can be defined as products that are comparable to a branded drug in dosage, form, strength, route of administration, quality, and performance characteristics.[1] Branded generics are either novel dosage forms of drugs that have lost patent production and were not developed by the company marketing the branded generic or a generic drug that is given a trade name. The branded generic is off-patent and generally higher priced than an unbranded generic. The generic name of a drug is the name of the active ingredient in the medicine. Patented drugs are often defined as originators, and they carry the brand name of the drug created by the pharmaceutical company that made the medicine.

As the largest pharmaceutical market in the ASEAN countries, the outlook of the pharmaceutical industry leading up to JKN was favorable in view of Indonesia's middle-income status, large population, and soon-to-be-acquired access to the bottom 40 percent of the population JKN. The market is split between multinational companies (MNC) and domestic firms, with the largest number of firms being domestic. The MNCs have a tendency to focus on patented drugs, while local firms tend to focus on generic drugs. The industry expected a positive economic benefit stemming from a guaranteed increase in patient access to care and higher treatment volume. It was expected that alongside JKN, an environment would emerge with an emphasis on low-cost generic drugs, increased sales volume of all drugs, a centrally managed procurement system including drug forecasts and a tendering mechanism. The cost of distribution is high because of Indonesia's landscape. Numerous MNCs have presence in Indonesia such as Pfizer, Bayer, Novartis, and Merck. Indonesia's protectionist measures generally require foreign firms to open manufacturing factories in Indonesia to sell their products in the Indonesian market, or partner with an Indonesian firm (Global Business Guide Indonesia, 2014). As of 2013, only Sanofi, Pfizer, Novartis, and Bayer had manufacturing plants, while other multinationals only had representative offices. Leading up to JKN, the Government of Indonesia urged pharmaceutical firms to increase their production in generics in anticipation of the rise in drug demand from JKN.

The total pharmaceutical market has continued to grow in absolute terms since JKN was implemented in 2014. The projected revenue for patented and generic pharmaceuticals combined was projected to be around US$3.5 billion by 2017 (Figure 10). However, there is a slowdown projected for 2018 and 2019 in both patented and generic

drugs, which is concerning, considering the optimism leading into JKN. Of note, patented drug sales grew by 13 percent from 2015 to 2016. Though sales continue to grow in 2016 to 2017, the growth has a lower projection at 11.5 percent. In 2018 and 2019 patented sales are projected to grow by only about 9.6 percent. Generic drug sales grew by 12 percent from 2015 to 2016 but grew only by 11 percent in 2016 to 2017, and are projected to grow by about 9 percent in 2018 and 2019 (BMI, 2018).

Figure 10: Patented and Generic Sales (2013–2017)



*Projection; Source: BMI, 2018

JKN enrollment will continue to increase, suggesting that in the short term, the number of prescriptions will steadily rise compared to before JKN initiation. The impact of JKN will vary depending on its influence on drug pricing, volume, and timing for manufacturing and distributing drugs. If carried out successfully, it is expected that JKN will focus on basic health services, increase sales in new geographies for both generic and branded products, and increase the competitive environment in the pharmaceutical market for companies producing both generic and branded drugs, which will drive down prices. The specific research questions of this analysis are the following.

- Have new entrants joined the pharmaceutical market, especially in geographies that were not served previously?
- Do pharmaceutical companies have a more comprehensive product offering?
- Has JKN motivated increased competition in the pharmaceutical sector?

Government Regulations and Processes Impacting the Pharmaceutical Sector

The pharmaceutical manufacturing, procurement, and distribution as it relates to JKN is overseen by several entities across the Government of Indonesia, and their policies (further detailed below) affect the volume of sales, prices of drugs, number of companies, and company sales (GIZ, N.D.):

- **Regulatory:** Indonesia's government regulatory authority is the National Agency of Drug and Food Control/*Badan Pengawas Obat dan Makanan* (BPOM). BPOM is responsible for protecting the public from unsafe prescription and over-the-counter pharmaceutical drugs, vaccines, biopharmaceuticals, dietary supplements, food safety, cosmetics, and traditional medicines. All medicines that are distributed across Indonesia must be registered with BPOM and receive a distribution license. Written approval must include a transfer of technology, so it can be produced locally within a five-year period, unless it has a patent. Before 2013, there was no expiration date for drug distribution licenses; now this registration only lasts five years.

- **Scientific/Expert Review:** Following BPOM registration, scientific review is completed by the Clinical Committees under the Pharmacy Directorate (BINFAR), MOH. These committees decide if the product should be listed on National Formulary (*Formularium Nasional* or FORNAS). Products listed on FORNAS are automatically reimbursable by BPJS-K.
- **Pharmaco-economics:** The MOH has two departments undertaking pharmaco-economic functions to better understand the cost and outcomes of pharmaceutical products and services. These are the Pharmaco-economics unit within the Pharmacy Directorate and the Health Technology Assessment (HTA) unit within the Health Financing Directorate.
- **Pricing and Reimbursement Rate Decision:** Pricing and reimbursement rates are decided by the Pricing Committee unit within the MOH's Pharmacy Directorate. The MOH sets a ceiling price for each region (MOH Decree No 092, 2012).
- **Purchasing and Providers Reimbursement:** Purchasing is split between the LKPP and BPJS-K. LKPP announces the drug volume for the winning manufacturer, while BPJS-K reimburses health services through INA-CBGs, regardless of the drug volume used.
- **Monitor, Control, and Feedback:** LKPP has data on volumes ordered by hospitals, while BPJS-K can report on claims received for each INA-CBG tariff. Otherwise, these functions are limited.

A direct impact of JKN on the pharmaceutical sector is drug selection for the National Formulary. Before drugs can be included into Indonesia's e-catalogue, the selected pharmaceuticals must be part of FORNAS, which was established in 2013 through ministerial decree and lists medicines that should be available in health facilities to ensure more equal access to medicine for the public. The drugs covered by JKN are built upon the FORNAS, although there are some inclusion and exclusion exceptions. Medicines not on the list are available for purchase on the open market (GIZ, N.D.). While the FORNAS aims to control quality, the e-catalogue aims to control costs. The FORNAS list should be based on standard treatment guidelines (Mahendradhata et al., 2017). The FORNAS lists products by generic name, with its usage and drug formulation information. There are several committees within the MOH Pharmacy Directorate who decide on the drugs to be included on the FORNAS; decisions are made based on disease and with limited information of the overall disease burden across the population. There is no overarching FORNAS committee. The Pharmacy Directorate decides on drugs based on clinical arguments, with direct and indirect comparisons. They look at studies and request additional information from manufacturers where necessary. The FORNAS does not consider the national need for the drug in terms of burden of disease or the volume of potential patients (GIZ, N.D.).

Currently, not all products listed in the FORNAS are listed in the e-catalogue, and conversely, all products in the e-catalogue are not listed in the FORNAS. This has resulted in the presence of drugs without an MOH-stated price, causing problems for BPJS-K reimbursement. About 83 percent of FORNAS drugs were included in the e-catalogue in 2014. This decreased to 75 percent in 2015. Similarly, the number of drugs in the e-catalogue decreased from 800 to 795 in 2015 (Hendarwan and Yuniar, 2018). Drug procurement is also affected when drugs are listed on either the FORNAS or e-catalogue, but not both, because not all drugs are available. Furthermore, the FORNAS list continues to grow, which has implications for the budget, as BJPS-K is required to reimburse for these drugs. While the list continues to grow, it becomes more difficult to ascertain which drugs have been added over a certain period (Hendarwan and Yuniar, 2018).

The Government of Indonesia introduced a new way of purchasing drugs in conjunction with JKN initiation, by introducing an e-catalogue procurement

tool. Public sector facilities are required to buy drugs, medical devices, and consumables through the e-catalogue on the LKPP portal. All drugs listed on the e-catalogue should first be entered in the FORNAS. There are two ways in which pharmaceutical companies can list their drugs on e-catalogue. There is a price ceiling set by the MOH for generic drugs, while there is price negotiation for patented drugs. First, for generic drugs, LKPP uses the portal for open auctions and selects the bidder with the lowest price. The tender process allows for one winner per region (Soewondo, N.D.). The price ceilings are based on anticipated volumes and production costs (GIZ, N.D.). The desired volume of drugs is determined by a plan of drug needs (*Rencana Kebutuhan Obat* or RKO). LKPP uses a bottom-up forecast mechanism to estimate the desired amount for each province, with estimates reported up to the MOH from *puskesmas*, district health offices, provincial health offices, and hospitals. Ideally, the FORNAS would be published before districts submit their RKOs, so that they can submit estimates with the most up-to-date list. The volume is not associated with BJPS-K claims or epidemiological data, suggesting that the request is budget-based. A committee within the Pharmacy Directorate of the MOH is responsible for assessing the economic impact of the drugs such as budget impact and days of hospitalization. The equation for deciding on a price ceiling is the production costs for the given volume multiplied by four. This information is mostly supplied by pharmaceutical manufacturers. There is no argument or analysis behind the calculation, nor cross-referencing with consumption data from BPJS-K (GIZ, N.D.). Key Informants claim there is no transparency in the pricing process. The second way of listing on the e-catalogue is through negotiation if the product is patented. Local companies generally dominate the e-catalogue tender with generics, whereas MNCs have patented drugs to negotiate entry onto the e-catalogue. Discriminatory behavior was highlighted by MNC firms who would like to play in the generics market but claim they are unable to compete.

> *"The e-catalogue requests a certain number of drugs … the estimate has been too high, and this becomes a loss. We import APIs then produce. This takes six months and then we have six months to sell it. We need more guidance, more efficiency."*

INA-CBGs were designed to reimburse hospitals per admission, per outpatient visit, or per procedure for different diagnoses, covering hospital overhead, labor, and consumables. INA-CBG tariff decisions were made before agreement on drug price and volume of patients. This has led to a potentially unrealistic reimbursement level for providers, depending on the diagnosis. The inpatient and outpatient tariffs are set and revised by the MOH. They vary based on geographic location (Regions 1-5), hospital level (Class A-D), classes of care, and levels of severity of the diagnosis. Key informants highlighted the impact of INA-CBGs on their business. For example, patients receive lower supplies of drugs than before JKN, and lower technology procedures that are less costly.

JKN is a reimbursement-based system. Hospitals submit a request for reimbursement from BPJS-K based on INA-CBG tariffs. The claim does not separately request the drugs used or the amount. Public sector facilities are required to purchase pharmaceuticals through the e-catalogue portal and pay the manufacturer directly from their global budget (GIZ, N.D.). Private hospitals must negotiate directly with pharmaceutical distributors for their projected needs. While there are plans for the BPJS-K contracted private facilities to be able to purchase their supplies through the e-catalogue in 2018, at the time of writing this report, they can only see the prices and must negotiate directly with suppliers.

> *"BPJS reimburses the hospital, the hospital pays the distributor, the distributor pays the pharmaceutical companies, but there is a lack of supply in hospitals because hospitals still owe money to distributor."*

Market Change and Strategic Response in the JKN Era

Have new entrants joined the pharmaceutical market, especially in geographies that were not served previously?

With the policy to insure the entire population by 2019, we expect there will be new entrants in the pharmaceutical market to respond to the increased patient population, especially in geographies that were not previously served adequately. Though local manufacturing key informants highlighted increased competition because of price, overall JKN has not impacted the number of pharmaceutical companies in Indonesia. The total number of companies has remained about the same since JKN was implemented. There were 259 pharmaceutical companies in 2012 and 264 in 2015 (Table 3). Domestic companies increased from 218 to 220, and MNC companies increased from 41 to 44 over this four-year period (Pharma Boardroom, 2017). Market concentration, measured by the Herfindahl-Hirschman Index (HHI), based on number of firms and market share (defined as IDR sales), demonstrates that the pharmaceutical sector in Indonesia is not highly concentrated; there was a slight decrease from an HHI of 3 percent in 2013 to 2.9 percent in 2015. The bottom 29 companies in terms of market share in 2015 did not show any sales, suggesting that they could be going out of business, which should be explored further.

"There are over 250 companies. Everyone wants to win something, even if the profit is lower than the cost. If you don't win anything, then you will lose more with your fixed costs. Each company has to win something."

"The companies who don't win will still produce and market their drugs outside of BPJS but with a decreasing trend of production."

Table 3: Number of Pharmaceutical Companies in Indonesia, 2012-2015

# of Companies	2012	2013	2014	2015
Domestic	218	223	225	220
MNC	41	41	41	44
Total	**259**	**264**	**266**	**264**

Source: QuintilesIMS

A negative impact of JKN is that MNCs are unable to compete in the generics market. According to key informants, MNCs have had to lay off staff and, in one instance, shut down their Indonesian office. Sandoz Indonesia shut down its commercial office, laying off more than 200 employees in late 2015 to early 2016. Other pharmaceutical companies that laid off employees during and after implementation of JKN include Novartis Indonesia, Sanofi Aventis, GSK, Johnson & Johnson, Merck (MSD), and AstraZenica (Duta, 2016). According to the Indonesian Workers Union, these layoffs occurred because of the desire to reduce production capacity (Duta, 2016).

"Many companies changed their business model… Novartis had Sandoz, who produces branded generic drugs, but they can't compete with local companies producing generic products because of the price issue. Sandoz closed its commercial office."

"We recently acquired a local pharmaceutical company. We are expanding our portfolio by acquiring generic products from other companies."

Regional investment for MNCs in Indonesia focuses mostly in or around Jakarta, with reduction in sales force beyond these populous regions. Sales and distribution networks are not being strengthened. With the announcement of JKN, Pfizer decided to increase its capacity in

manufacturing generic drugs. It announced in May 2012 that it would allocate US$3 million to increase factory capacity in generics (Jakarta Post, 2012). In 2015, Bayer invested in a factory in Cimanggis, Depok, West Java to increase production capacity. In the same year, Bayer invested US$8.9 million in the expansion of its factory (also in Cimanggis), producing OTC drugs (Jakarta Globe, 2015). MNCs highlighted opportunities to partner with local companies as a strategy in reaction to the current environment, though not necessarily a direct impact from JKN (Annex E). One MNC executive stated that in regional comparison, Indonesia is a more difficult market to work in; unit sales in Malaysia are lower but margins are higher, and Vietnam is friendlier to MNCs.

In terms of pharmaceutical manufacturing, there has been very little movement in terms of new entrants in the pharmaceutical market. The number of players does not seem to have been impacted by JKN. Most companies focus their operations in or around Jakarta.

Do pharmaceutical companies have a more comprehensive product offering?

With JKN providing access to a new segment of the population, it is expected that the drugs available will cover basic healthcare needs and have a lower cost (with generics) and a higher volume of sales. JKN has resulted in increasing sales volume while simultaneously lowering drug prices (Annex C). Generic drug sales increased by over 20 percent since JKN's implementation (2013-2017) and patented sales grew by nearly 27 percent in USD billion (BMI, 2018). Figure 11 demonstrates that the breakdown of patented and generic drugs as percent of total sales has not fluctuated since JKN. There are pricing restrictions on all drugs for JKN patients, and low generic pharmaceutical pricing is particularly influential in the bidding process to be listed on the e-catalogue. Prices of branded drugs increased by about 10 percent each year (Frost & Sullivan, 2016). According to key informants, generics prices keep dropping, and tender winners have a price lower than their previously set price each year (Annexes B and C). Though key informants claim that there are more drugs available now in terms of volume, they claimed that the variety of drugs has remained steady.

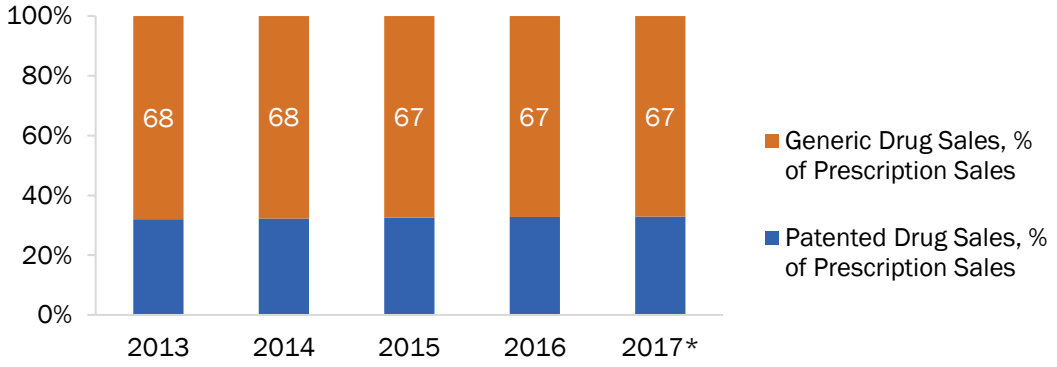
MNCs in Indonesia focus on branded and prescription-branded pharmaceuticals for their higher profit margin, while local companies dominate the generics market. Forty-three percent of MNC industry executives agree that non-JKN products are considered the growth driver for business, as they are unable to compete in price in the generics market. One MNC respondent claimed that their BPJS-K market was less than 10 percent, and the strategy moving forward would remain the same. Considering the focus on branded drugs, a responsive strategy undertaken by MNCs is through advocating JKN policies to include more innovative medicines. One key informant mentioned advocating to the Ministry of Industry to help with what they perceive as discriminatory behavior in allowing local firms to bid on generics first. MNCs have become adept at marketing branded prescription drugs. Furthermore, MNCs are looking at growth in areas that are not part of JKN, such as fertility products. While many interviewees highlighted their adopted strategies in reaction to JKN, others, unsure of the potential impact, have adopted a "wait and see" approach to better understand the impact before making a move. Local drug companies seem to be reacting to the government's 2016 presidential directive, a three-stage roadmap to transform the pharmaceutical sector into a

"What's available has always been the same. If there is variety it is the type of product (injection, table, etc.)."

"The variety of drugs depends on FORNAS. If FORNAS includes more variety, then the variety will increase."

local, innovative manufacturing industry; Kalbe opened a factory in 2017 to produce dialysis and cancer biosimilars for the domestic, and eventually international, market (Annex E).

Figure 11: Patented and Generic Drug Sales as Percentage of Total Sales, 2013–2017



* Projection; Source: BMI, 2018

Patients have more access to drugs, including high-technology treatments that they may have been unable to access before, but the variety of drugs coming from pharmaceutical companies has generally remained unchanged. A clearer distinction of JKN's impact regarding product offering is that MNCs' focus on branded drug sales while local companies focus on generics. The variety of drugs overall has remained the same.

Has JKN increased competition in the pharmaceutical sector?

It is expected that as the government demands lower prices for pharmaceuticals, competition will increase in both high- and low-technology drugs. Because of the use of the e-catalogue, competition has been increasing, particularly in terms of price, but with potential effect on quality. Price is the only obvious indicator that drives selection in the e-catalogue. Fifty-eight percent of key informants claimed there is a lack of transparency and coordination between government departments in key areas such as pricing decisions. Furthermore, with a single winner policy in place, there may be a disincentive for BPOM to monitor firms; if BPOM finds fault with a firm supplying the JKN population, there will be no other supplier in the e-catalogue. Providers are then forced to find a replacement drug, which will likely cost more (Hendarwan and Yuniar, 2018). Table 4 illustrates the top 10 companies in 2013 and 2016. Many of the same companies have remained in the top 10 ranking. Table 4 also illustrates the number of products that the Top 10 companies in 2016 have on the 2018 e-catalogue. Not all information in available.

"Competition has increased because all pharmaceutical companies must be more efficient. Now with the e-catalogue, the price reference will be based on this even for the private hospitals. They want a similar price."

"If you see the e-catalogue, the lowest price is 22.5 Rupiah. Even though that price includes production and distribution costs. Crackers are more expensive than this."

"Nobody is benefiting from JKN. JKN is killing MNC and local companies. We cannot survive… if the government doesn't care about us, we will die soon… It's hurting everybody, not only the pharmaceutical sector, but hospitals too."

Table 4: Top 10 Pharma Companies in Indonesia Based on Prescription and OTC Sales

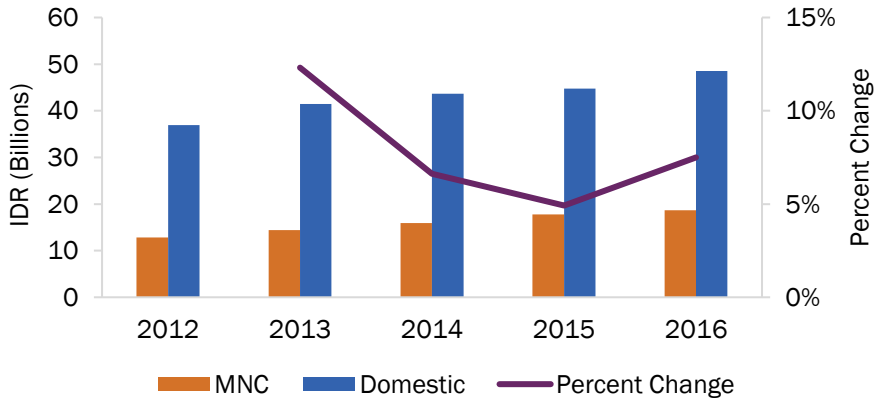
Rank	Top 10 (2013)	Top 10 (2016)	Number of Products Listed on E-Catalogue (2018)
1	Kalbe	Kalbe	-
2	Sanbe	Sanbe	37
3	Soho	Dexa Medica	49
4	Pharos Indonesia	Pharos Indonesia	-
5	Dexa Medica	Tempo Scan Pacific	19
6	Biofarma	Kimia Farma	81
7	Tempo Scan Pacific	Fahrenheit	-
8	Dankos	Sanofi	-
9	Fahrenheit	Soho	8
10	Sanofi	Novell Pharm	22

Source: QuintilesIMS; PharmaBoardroom 2013, 2017; e-catalogue Accessed March 2018

Initial optimism about the effect JKN on the private sector has not been realized; growth moved from double digits to single digits. The Indonesian pharmaceutical market grew at 7.49 percent in 2016, while in 2013, the sector experienced double-digit growth, at 12.31 percent (Figure 12) (Pharma Boardroom, 2017). Most key informants (58 percent) agreed that JKN was initially viewed as a good business opportunity, considering the expected increase in volume. Because of Indonesia's large population and emerging market status before JKN, Indonesia was a target market for pharmaceutical companies even before the influx of JKN patients. While about 30 percent of MNC companies claimed that revenue has grown since JKN, optimism leading up to JKN has not been realized for all companies. About 43 percent of MNC respondents stated that their profit has decreased since JKN was launched. In contrast, a large local firm, Kalbe Farma, showed sales growth of nearly 20 percent between 2015 and 2016 (Kalbe Farma, 2016).

> *"[Our company's] revenue is still growing but it is single digit growth. Very small"*
>
> *– MNC Firm*

Figure 12: Total Pharmaceutical Market 2012–2016



Source: PharmaBoardroom 2017, QuintilesIMS

With price as competition, a key concern is the e-catalogue tender winners' ability to supply the appropriate number of drugs. BPJS-K is considered a low

margin, high-volume business. The lowest bidder wins, who could be a new player with limited stocks of drugs, limited distribution channels, and a disincentive to produce quality products because of an unsustainably low price, potentially leaving providers without sufficient drugs for patients. In 2017, winning firms were announced in December. Once announced, the winner begins importing the APIs necessary for production; then they need to be certified. Manufacturing companies need several months to build up, produce, and distribute supplies. However, they will receive requests for drugs in January. Local pharmaceutical companies argue that in instances that the price point is too low, instead of compromising quality, manufacturers may choose to reduce or postpone the supply instead. LKPP has the authority to sanction firms that win tenders yet are unable to supply the needed drugs. However, it is not clear that they implement any sanctions. Industry experts suggest that if sanctions were implemented, a more reasonable price could be set from the start.

"There is no clear schedule for tender… if a tender is delayed this affects the availability of drugs in the hospital and disadvantages to patients. There is no lead time provided after winning the tender. Lead time is needed to import raw material and prepare production and packaging. This takes two to three months."

"For the most part revenue increased. However, it goes up and down because of the uncertainty of tenders and a low government self-estimated price (HPS)"

"Price is pressured by the HPS (Forecasted Price), the government always says it is based on a calculation, but that price is not rational… When determining the price, they have to calculate the impact to the pharmaceutical industry."

Decreased quality of drugs, associated with the increasingly low price, was highlighted as a concern from 25 percent of stakeholders. Nearly 80 percent of the pharmaceutical manufacturers in Indonesia are certified Good Manufacturing Practice (GMP) (Mahendradhata et al., 2017). With the GMP, the government can ensure quality products. The certificate is renewed every five years, but the years in between are not closely monitored. BPOM reviews drugs vigorously during the registration process; however, there are over 250 companies and thousands of drugs that BPOM is responsible for overseeing. With drug prices dropping (one interviewee suggested a drop in some drug prices by 70 percent and another interviewee stated that some drug prices dropped by 96 percent since JKN started) and margins potentially less than US$0.10 cents per pill, the resulting quality comes into question. Packaging is also reportedly decreasing in quality. Firms may compensate for low margins by lowering production costs in the manufacturing facility. For example, they could reduce air and water quality. BPOM's ability to control quality is cause of concern to some industry leaders.

Competition among domestic firms has undoubtedly increased in terms of price, not quality.

Observations and Recommendations to Harness Pharmaceutical Companies

Though anticipated impact of JKN was positive, several key issues have emerged since its implementation related to the pharmaceutical sector. The e-catalogue has undoubtedly increased transparency. However, the negative effects on the pharmaceutical industry need to be reviewed. The higher volume of drugs sales is welcome for the industry, but increasingly low prices are reducing margins every year and creating questions around quality. The sustainability of these low prices is unclear, especially as firms lay off staff.

In terms of pharmaceutical manufacturing, there has been very little movement in terms of new entrants in the pharmaceutical market. The number of players does not seem to have been impacted by JKN. Most companies focus their operations in or around Jakarta.

Patients have more access to drugs, including-high technology treatments that they may have been unable to access before, but the variety of drugs coming from pharmaceutical companies has generally remained unchanged. A clearer distinction of JKN's impact regarding product offering is that MNCs focus on branded drug sales while local companies focus on generics. The variety of drugs overall has remained the same and competition with domestic firms has undoubtedly increased in terms of price, not quality.

Given these findings, the following policy recommendations can be made:

- **Including the pharmaceutical industry, International Pharmaceutical Manufacturer Group (IPMG), and GP Farmasi in drug pricing dialogue would better guide the MOH in decision making.**
- **An increase in the use of HTA, applying it beyond the drugs that are eligible for additional payment and several other HTA studies that have taken place between 2015 and 2017, as a support tool could help direct the process in drug selection to better understand cost implications.** HTA requires a high level of technical capacity in compiling and analyzing clinical and economic data that Indonesia will need to build.
- **Consider other procurement improvements to mitigate effects on service quality.** Ensure sufficient timing of FORNAS publication, RKO estimates, and bid winner announcement (at least three months before the e-catalogue prices go live). Following international best practice, allow multiple winners to protect against supply constraints and ensure that the FORNAS and e-catalogue are consistent. It is important that the government commits to ensuring that the drugs listed on FORNAS and e-catalogue are available. If pharmaceutical companies are unable to supply as promised, they should be sanctioned. Lastly, develop criteria beyond price such as quality and ability to supply.
- **Beyond the e-catalogue, there should be a precise reflection of drug cost within the INA-CBG tariffs.** The current price of drugs on the market should be accurately reflected in the next tariff revision process. The current tariffs are updated periodically based on facility-based costing using a top-down approach, conducted based on a sample of facilities by the MOH. This costing process does not necessarily lead to detailed estimates of the underlying costs of carrying out all specialist clinical visits, procedures, and inpatient admissions, and this lack may be translated to the final tariffs, which have been reviewed and updated twice since JKN began. Improved tariff-setting practices would benefit hospital cost management and allow physicians to focus on providing quality treatment to patients, rather than focusing on keeping costs within a low tariff.
- **Lastly, develop clear guidelines regarding patient ability to pay out of pocket as a supplementary payment for branded drugs or procedures if the patient prefers.** Without established guidelines for JKN patients to supplement the JKN payments to gain access to branded drugs, providers are hesitant to make decisions that they fear could affect their BPJS-K reimbursement.

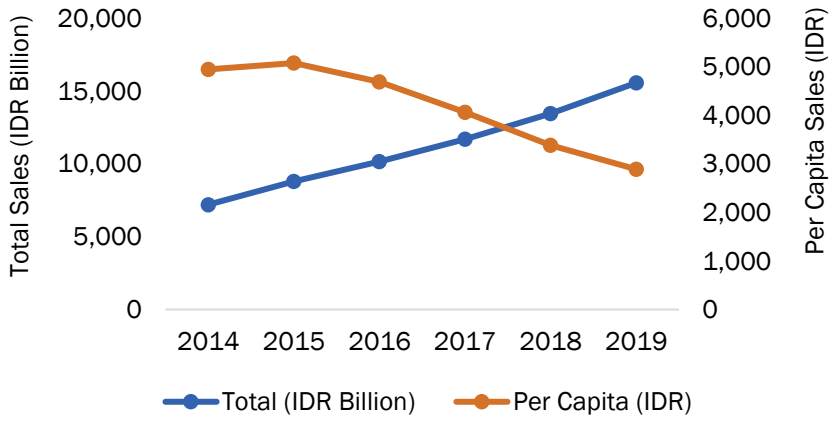
Impact of JKN on the Medical Device Sector

Like the pharmaceutical subsector, the medical device market grew indirectly through the implementation of JKN as the rich benefit package increased the need for more diagnostic tests, equipment and supplies for more sophisticated surgeries, as well as higher use of consumables. Since the majority of the medical products and devices are imported, the subsector can be divided into three major players: foreign manufacturers that are importing their products, local manufacturers, and distributors working with either type of manufacturer. Approval of the permanent business license goes through the Indonesia Investment Coordinating Board (BKPM). LKPP lists medical devices in the e-catalogue; however, there is no single winner or RKO. The focus area of this report seeks to understand the effect of JKN on medical device manufacturers/importers who negotiate the prices with LKPP. Following industry standards, we included the following medical device product areas in this analysis: consumables (mostly syringes, needles, and catheters), diagnostic imaging, dental products, orthopedics and prosthetics, patient aids, and other medical devices such as surgical sterilizers, wheelchairs, and hospital furniture.

Sector Overview and Major Trends

The medical device industry had a positive outlook leading into JKN, considering the large new group of JKN patients entering the healthcare market, and a growing middle class. The medical devices market, valued at IDR 10.2 trillion in 2016, is projected to continue growing (Figure 13). The market grew by 12 percent in 2016 and is expected to grow by more than 16 percent in 2017 and 2018 and reach almost 18 percent in 2019. Meanwhile, per capita spending is expected to continuously decline, and the demand for medical devices is still centered in Indonesia's capital, Jakarta. In 2013, 56 percent of CT scanners were located in the Java-Bali regions, and all PET scanners were located there (Mahendradhata et al., 2017).

Figure 13: Medical Devices Market, 2015-2019



Source: EIBN, BMI Research

The medical devices category encompasses a large set of commodities, supplies, and equipment used in a healthcare setting, and it is grouped into three categories of sophistication by the Government of Indonesia. Medical devices are defined as instruments, apparatuses, machines and/or implants that do not contain drugs used to prevent, diagnose, cure and relieve diseases, treat sick people, recover health of human beings, and/or form the structure and correct body function (Angel, 2017). There are three classes of medical devices based on risk: Class I (e.g., elastic bandages) is low risk,

Class II is moderate risk (e.g., pregnancy test kits) and Class III is high risk (e.g., implantable pacemakers).

"[Before JKN] we didn't know how it was going to be implemented… We saw it as an opportunity to penetrate the government sector. We are still trying to push for the government sector because they are spending a lot of money on medical equipment. Since they closed the e-catalogue it's been difficult for us to list new products there."

Indonesia is highly dependent on foreign companies to meet demand; imports make up more than 90 percent of the medical devices market (Budiardjo and Nugroho et al., 2017) (Annex F). Imports are mostly high technology equipment, while exports are mostly disposable medical devices. Domestic production from local companies focuses on basic hospital and disposable items such as gloves and contact lenses. Medical device suppliers are dominated by companies from Europe, Asia, and the United States (Table 5). Of note, Malaysian imports in the diagnostics imaging market grew quickly from 2016 to 2017 from 1 percent to 15 percent of all diagnostics imports, establishing itself as Indonesia's second leading supplier in diagnostics (BMI, 2018).

Table 5: Top 10 Medical Device Suppliers by Country, 2016

Rank	Country	% Total
1	Germany	17.7
2	China	15.7
3	United States	12.2
4	Japan	11.0
5	Singapore	6.7
6	South Korea	3.7
7	Malaysia	3.5
8	Switzerland	3.2
9	Italy	2.6
10	France	1.9
Subtotal		**78.2**
Other Countries		**21.8**

Source: BMI 2018

Both domestic and foreign companies face a unique set of challenges to produce, market, and distribute in Indonesia. For foreign companies, barriers to entry are high, as medical devices are on the negative investment list (*Daftar Negatif Investasi* or DNI). This means that foreign manufacturers must set up a limited liability company in partnership with a local company. The DNI was updated in 2016 to allow Class A (the simplest type) medical equipment 33 percent open to foreign direct investment (FDI) and the remaining classes 100 percent open, subject to obtaining a license from the Ministry of Health (Indonesia MoH, 2016). Despite these barriers for foreign companies, domestic manufacturing capacity has not grown significantly. Reasons include lack of supportive regulations, limited technological support, 5—20 percent import tax on raw materials despite limited availability of local raw materials that meet standards, lack of manufacturer's research and development plans, limited production capacity, insufficient capability of local manufacturing plants to meet national and international standards, limited laboratories for testing, lack of skilled labor with medical device expertise, and limited capital (Budiardjo and Nugroho et al., 2017) (Annex F).

Like the pharmaceutical industry, with the coming into JKN there was an expectation of rapid growth in the medical devices subsector. The influx of population newly accessing a wider spectrum of health services was expected to increase sales volume, especially in new geographies. There was an assumption that JKN would incentivize a more diverse and comprehensive health market with an emphasis on basic health needs, but also an increase in the volume of higher technology products like ultrasounds. While competition was expected to grow, given the relatively small market size that the medical devices subsector was starting at, market players expected to capture more of the growing JKN market. How does BPJS-K ensure appropriate instruments and tools are used in the service provision process? The following sections review the policies, regulations, and JKN systems in place related to the medical devices subsector. We then explore the

following questions to assess whether these mechanisms set up by the government are appropriately increasing access to high-quality medical devices.

- Have new entrants joined the medical devices market, especially in geographies that were not served previously?
- Do medical device companies have a more comprehensive product offering?
- Has JKN motivated increased competition in the medical devices sector?

We conclude this chapter with a set of policy recommendations based on these findings, whose aim is to improve the medical devices subsector's contribution to the government's objectives for JKN.

Government Regulations and Processes Impacting the Medical Device Sector

Medical device regulation is overseen by several different agencies. The Ministry of Health's Directorate General of Pharmaceutical Services and Medical Devices manages medical device registration. Devices are also regulated by the Directorate of Medical Device Production and Distribution Development and the National Agency of Drug and Food Control (or BPOM). The distinction in roles between these institutions is unclear. Registration is implemented through the Regulation Regarding Marketing License of Medical Devices and Household Products. Generally, those products that are approved by the U.S. Food and Drug Administration and sold in the United States are approved to enter the Indonesian market. Distributors and manufacturers need to apply for product registration and distribution licenses through an online portal, the Indonesian National Single Window (INSW) database. Distribution licenses are valid for five years (Angel, 2017). Registration time depends on the class of medical device but can be expected to take about six months from the date of submission. Since 2017, the registration process has improved: Class I is 30 working days after preregistration, Class II is 60 working days after preregistration, and Class III is 90 working days after preregistration (BMI, 2018).

Despite not having a direct link to the manufacturers, the Ministry of Health has significant control over the medical device use for JKN-funded services, at least for public sector health facilities that procure through LKPP. The Ministry of Health periodically approves a list of products and their respective categories, and this list forms the basis on which products can be listed on the e-catalogue where public sector facilities can purchase their medical devices. While it is unclear how this product list and categories are defined, approved products are recommended by the Ministry of Health to LKPP to tender and have available in the e-catalogue. The e-catalogue was lauded as a system that would minimize corruption, provide greater transparency and accountability, and streamline procurement (Wicaksono and Dekar, 2016). However, medical device companies argue that LKPP lacks the capacity to appropriately assess, select, and price the medical devices for the e-catalogue, because they are not trained health professionals. Informants claim that there are no caps to the number of companies that can sell one product type on the e-catalogue (a major distinction to the e-catalogue rule for pharmaceuticals), although negotiations appear to be solely based on price.

> *"Once documents are submitted to LKPP you go into negotiation. They will say, "This is the price. I will give you a 1.6 markup. That markup has been going up and down."*

LKPP's restriction on adding products to the e-catalogue is perceived to unfairly disadvantage companies who did not get to list their products in the first set of tenders. LKPP allows each company to request to list only two new medical devices per day on the e-catalogue. For large companies with hundreds of products to list, this restriction can establish a barrier to entering the public facility market. Further exacerbating the restriction,

as of February 2018, the e-catalogue was closed, and no new medical devices could be added, even though product negotiation is supposed to occur twice a year. Firms who were able to list their products in the earlier tender can continue to sell through the e-catalogue. Key informants said this advantages local companies, as they are often the first selected for negotiation when the window opens, and thus have a higher likelihood of being able to list their products (Annex F). Even though only public-sector facilities currently procure through the e-catalogue, the visibility of the platform can effectively raise brand and product awareness among the private sector facilities and manufacturers and distributors will have an easier time marketing and selling products that are in the e-catalogue.

Hospitals pay distributors for the medical devices they need, and hospitals then seek reimbursement through BPJS-K. As described previously, facilities are not directly reimbursed by BPJS-K for the equipment and products they purchase. Rather, the facilities pay for these purchases up front to the distributors (who then pay back the manufacturer); then the facilities receive payments to cover this cost through the INA-CBG or capitation reimbursement rates from BPJS-K. It is up to the health facility to decide whether a specific medical device intervention should be taken, and if so, what product/brand should be used. Given the flat-rate INA-CBG or capitation reimbursement, there is incentive for the facility to choose lower cost products. Like pharmaceuticals, late BPJS-K reimbursement to health facilities creates a domino effect, impacting the medical device distributors and manufacturers. As hospitals increasingly face cash flow problems when they do not receive timely payments from BPJS-K, they are unable to pay their distributors, who are then unable to pay the medical device manufacturers.

> *"It is challenging because manufacturers must operate under the INA-CBG and the deficit in the government creates a deficit in the hospitals (because they are not reimbursing claims), and the hospitals cannot pay suppliers for the medical devices."*

Market Change and Strategic Response in the JKN Era

Have new entrants joined the medical devices market, especially in geographies that were not served previously?

Considering the growing number of patients, it was expected that the medical devices industry will grow into new geographies not previously served. The basic medical products, such as sutures, are mostly available throughout Indonesia, although severely remote areas still face challenges in securing supplies as well as human resources. On the other hand, the penetration of higher technologies was limited, due to high cost and many populations' lower ability to pay. With JKN, patients who previously did not have access to healthcare are now able to seek treatment when needed. As such, it is expected that the volume of medical devices sold will increase throughout Indonesia, especially to the east.

The number of medical device manufacturers has remained relatively stable since JKN was launched, but competition for customers and sales has increased. In 2013, there were 220 firms, while in 2017 there were 216 (BMI, 2018). Several investments have taken place in the medical device industry, including the German medical and pharmaceutical producer, B. Braun, investing US$68 million in an infusion and injectable manufacturing plant in West Java. This changed B. Braun from its role as a distributor to both a manufacturer and distributor (Indonesia Investments, 2018). There was also recent investment in a coronary stent manufacturing plant in Tangerang, worth US$6.7 million and a surgical suture factory in Cikarang worth US$1.2 million (Indonesia Investments, 2018). Most medical device distributors are based on Java and Sumatra. They tend to focus on Indonesia's major cities with a higher concentration of hospitals (BMI, 2018).

> *"JKN has not been bad for us. More money goes to healthcare. More hospitals are being built or refurbished… Sales are really going up in some areas…The impact is more product category specific… capital equipment and commoditized consumables are doing well, while high tech consumables are suffering."*

In terms of revenue, growth prospects have not been affected significantly by JKN as compared to pharmaceutical subsector. Increased access to healthcare has provided opportunities for medical device companies. Sales in consumables are increasing as more procedures are being delivered to a higher volume of patients. One informant mentioned that there has been growth in regions beyond Java, especially to the east. Growth however, has been in the context of small margins. Sixty percent of key informants claimed that margins have decreased since the launch of JKN. The e-catalogue is transparent: all market players can see the pricing strategies of competitors, placing price pressures. Furthermore, LKPP negotiates on price with individual companies (Export.gov, 2018). That said, since the e-catalogue allows a product type to have multiple suppliers, there is still room for manufacturers to strive for product differentiation, marketing their product value and justifying a price that may be slightly higher than their competitor's. Several key informants noted that while price pressure is high, product selection by the health facilities is often based on a provider's relationship with the manufacturer, and price is less important.

Medical device companies have taken different strategies to adapt to the lower margins and increased competition under JKN. For example, one key informant mentioned increasing the number of staff in geographies with high concentrations of hospitals. To accommodate lower margins, some businesses moved away from distributors and added to their own sales force. Before the e-catalogue, firms could sell products at a higher margin, with the distributor receiving a large portion of the margin. But with increased competition and lower margins, companies are finding that the distributor model is no longer feasible. There is also a strengthened focus on advocacy to make a case to the government for facilities to have advanced medical devices that may be costly.

Successful growth of the medical devices market, especially beyond basic consumables, may require other supply-side interventions to ensure facilities have staff that can use sophisticated equipment. One reason the expansion of medical device product sales into rural areas and eastern Indonesia may be that there are fewer trained healthcare workers in these regions who can use the specialized tools and equipment. The Government of Indonesia should ensure that there are adequate numbers of skilled health workers who know how to use these medical devices. Key informants representing foreign companies that tend to disproportionately manufacture and import advanced products mentioned that they partner with local healthcare training institutions and universities as part of their growth strategy to build skills of medical professional to perform more skilled procedures.

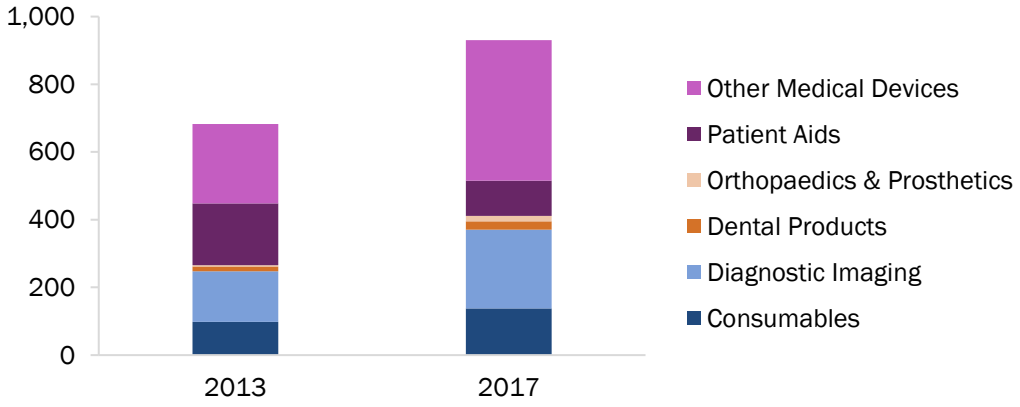
The number of medical device companies has not fluctuated. While JKN and the e-catalogue system that provides companies access to health facilities have been seen positively as a better way to expand the customer base, there is significant pressure to lower costs. The inconsistent approach to tendering seems to have inadvertently favored companies (especially local manufacturers) that have been able to list their products. Competition is increasing, and growth to new geographies is also a strategy for medical device companies, but supply-side challenges, notably the lack of a skilled healthcare workforce that knows how to use advanced medical devices is a bottleneck to market expansion.

Do medical device companies have a more comprehensive product offering since the launch of JKN?

With increased access to a rich benefit package, it was anticipated that medical device companies would bring a larger selection of products to the market. The Government of Indonesia has promised to offer a comprehensive benefit package through JKN that meets the expectations of formal sector workers. This includes expensive interventions such as diagnostic imaging using MRIs and CT scans, implants and stents, and intensive care. What may have been previously unaffordable for the poor and near-poor could be accessed through JKN. Thus, overall use of medical devices, especially costlier devices, was expected to increase.

Following JKN, the medical device market grew in every category except for patient aids (Figure 14).[2] The largest growth was seen in diagnostic imaging, which grew by 56 percent, and consumables, which grew by 40 percent. Comparatively, there was a sharp decrease in patient aids (43 percent) (BMI, 2018). The consumables market is dominated by syringes (56 percent), bandages (18 percent), and sutures (16 percent), and expected cumulative annual growth rate is 8.8 percent between 2016 and 2021, reaching US$201 million by 2018, and diagnostic imaging by 7.6 percent cumulative annual growth rate over the same period (BMI, 2018).

Figure 14: Medical Device Market by Product Area, 2013–2017 (US$ Millions)



Source: BMI Medical Devices 2018

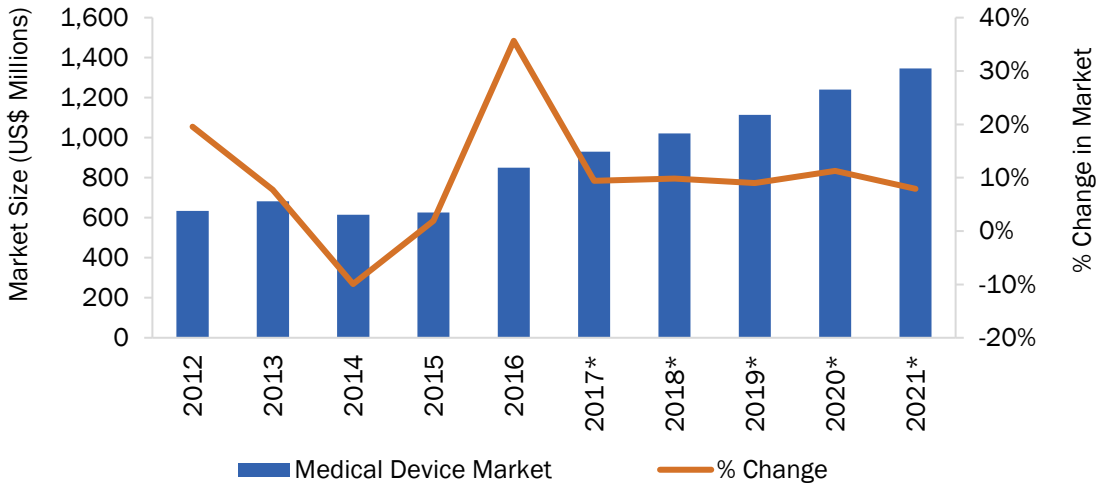
The medical device market is expected to continue to grow for the foreseeable future. In 2012, the market was estimated at US$633.7 million, and is forecast to reach US$1.3 billion by 2021 (Figure 15) (BMI, 2018). There was a large jump of 35 percent from 2015 to 2016, followed by 9 percent growth in 2017 and 2018, which is projected to continue in 2019. Much of this growth can be attributed to surgical equipment, diagnostic equipment, and medical imaging (Frost and Sullivan, 2014).

"The hemodialysis tariff is high under JKN. Five years ago, patients couldn't find hemodialysis centers. Now they are creating hemodialysis clinics. At [confidential] company, the business for hemodialysis improved by 400 percent in the first couple of years of JKN."

"Reimbursement levels from the cost of the device, the doctor's fee, anesthesia, etc., are low. Because of the budget, hospitals are doing suturing instead of using the best technology."

[2] Patient aid medical devices include hearing aids, pacemakers, and therapeutic respiration apparatus. Other medical devices include a variety of products such as wheelchairs, ophthalmic instruments, hospital furniture, and surgical sterilizers.

Figure 15: Medical Device Market, 2012–2021 (US$ Millions)



Source: *Projection; BMI Medical Devices, 2018

INA-CBG reimbursement may influence medical device use by providers, most notably in the use of consumable products. INA-CBG's set reimbursement rates incentivize providers to conduct procedures in the most cost-effective manner. For example, a physician may use sutures as opposed to staples to keep the cost of treatment down. Key informants noted they have observed an increase in sales of simpler, less expensive treatments, such as single- rather than dual-chamber pacemakers.

The product offering has increased in some areas, specifically diagnostics and consumables. Provider decisions on how patients should be treated to remain within the INA-CBG tariff may affect the change in product areas.

Has JKN motivated increased competition among medical device companies?

The introduction of e-catalogue was expected to increase competition and drive down prices of both high- and low-technology devices. Fast adoption to list products on the e-catalogue proved lucrative for first mover firms, i.e., firms that were able to familiarize themselves with the e-catalogue and list their products at e-catalogue launch were rewarded with a large slice of the JKN hospitals and patients. In fact, one local company claimed that while previously they served the public and private markets equally, since JKN was launched, 60 to 70 percent of sales are now from the public sector, as the private sector is more concerned about their financial position than the public sector. Those companies that were wary of participating in the e-catalogue learned that without the listing, they would have a harder time reaching JKN patients; public facilities are procuring from e-catalogue only, and even the private facilities that cannot purchase through the e-catalogue refer to it for reference pricing and benchmarking. The e-catalogue, in essence, has become free marketing for medical device companies to build their sales outreach. As such, companies now realize there is an urgency to be listed and competition has increased significantly. They also realize that relationships with hospitals play an important role. If there are five brands of stents on e-catalogue, the

"Government hospitals are purchasing more than before… the private sector is more profit driven and their purchasing decisions concern their financial position at that time. When a private hospital wants to make a purchase, it takes more time than public."

provider will likely select the brand it is most comfortable with, as opposed to the cheapest product.

Increased competition is driving prices down in the medical device market. Companies are reacting to increased competition by ensuring they are listed in the e-catalogue (when possible) and also through building brand recognition and loyalty with clients.

Observations and Recommendations to Harness Medical Device Companies

While 80 percent of medical device representatives had a positive perception of the future impact of JKN, there are some negative effects that should be addressed. Increased sales volume is encouraging for industry, though simultaneously the industry faces increased competition and reduced margins.

- **The impact of the INA-CBG payment system has affected medical device growth; the impact needs to be better understood by policymakers.** For example, procedures that have adequate reimbursement rates are growing. For procedures that have a lower reimbursement rate, there are consequences to the type of treatment patients are receiving to stay under the tariff, such as using lower technology treatments.
- **The e-catalogue for medical devices needs to be evaluated**. Regarding entry into the e-catalogue, a transparent and well-planned system that actively supports firms in their business processes for getting the right devices registered and listed onto e-catalogue is needed.
- **The responsibilities of LKPP and MOH are unclear and ill defined.** It is essential for stakeholders (LKPP, MOH, and industry) to discuss and understand the roles of stakeholders, processes, and potential delays and share this information with industry.

"If you look at other markets in Southeast Asia, they are using HTA. That's lacking here."

- **Expand use of HTAs beyond certain categories of more expensive pharmaceuticals.** HTAs were mentioned by 60 percent of medical device stakeholders as an option that could positively impact the reimbursement process. It is recommended that HTA begin to be integrated into the decision making and selection process to better understand the quality and clinical outcomes of medical devices and align reimbursement processes with these outcomes.

Conclusion

Our assessment suggests that JKN has continued to grow the private market and increase competition. Across the three subsectors investigated in this report, sales volume of products or patient volume for health services have increased. More private facilities are trying to contract with BPJS-K. Concurrently, pharmaceutical and medical device companies are pushing to get their products in the e-catalogue so that BPJS-K-contracted facilities purchase their products. However, there is a projected slowdown or decline in pharmaceutical sales in 2018 and 2019 for both patented and generic drugs. Furthermore, there is concern about the quality of drugs at such low prices.

While the market actors are competing to increase their market share, BPJS-K has yet to motivate greater geographic and product diversity holistically. This push seems to have been most successful with the medical devices subsector, which had a relatively low sales volume to start with and fewer constraints around e-catalogue listing. Compared to the pre-JKN era, when investment in medical devices may have been secondary to providers and pharmaceuticals, the arrival of a single-payer system with a rich benefit package brought about significant market growth. Since multiple companies can list the same product in the e-catalogue, the market place was slightly more level across companies. In such an environment, medical device companies were motivated to push sales harder and across broader geographic areas, and to bring in more new products into the market to expand their market share. Private hospitals are similarly motivated in growing their market share, but their investment is currently focused on urban/peri-urban areas because even in such areas, there is still a need for more health facilities. Once this low-hanging fruit is plucked, it is likely that geographic expansion will follow. In comparison, the pharmaceuticals have been hit hard by the one-winner policy, which has made maintaining the manufacturing presence for a wide geographic area and variety of products difficult.

The current JKN governance system does not widely link clinical and economic benefit with the availability and purchase price of pharmaceutical and medical device products, contrary to global best practice. In other single-payer programs, such as South Korea and Canada, the payer (the insurance agency) negotiates the price of pharmaceuticals directly with the industry. This negotiation is informed by assessments of cost alongside clinical effectiveness (e.g., using HTAs) and other economic assessment conducted by independent agencies that recommend whether to list the product in a purchase-oriented registry. The price is negotiated thereafter by the payer or other agency involved in the system, keeping in mind the price ceilings suggested by the cost-effectiveness threshold, often set in terms of the country's maximum affordable cost per additional quality adjusted life-year gained. As much as the payer relies on these institutions for listing and insight on affordable price, these independent assessment entities also gain access to claims-related information to use in their evaluation, so that their assessments reflect the actual demand of services and the type of drugs and medical devices being used to treat a specific condition (see Annex D for summary of the South Korean and Canadian System). In Indonesia, upstream entities conducting HTAs and economic assessments have only recently been linked to BPJS-K's determination of which drugs should be reimbursable, and this is currently limited to the question of the affordability of certain high-cost drugs, e.g., for cancer treatment, paid using a top-up model to hospitals. The Ministry of Health, alongside representatives from academia, is involved in the HTA. Overall, BPJS-K is not involved in the price negotiation or economic assessment process.

BPJS-K should be involved in the process of determining volumes for and prices of priority drugs that it routinely reimburses, or that incur significant expenditure under JKN, in coordination with the Ministry of Health and LKPP. BPJS-K currently receives very limited data on the front-end of drug procurement or at the point of use. It receives limited data on drug use as part of the hospital system it contracts

with, mostly for top-up drugs that are paid for separately from the INA-CBG tariff. It receives no information on drug use at the primary care level for which it provides capitation and fee-for-service financing. There is a case for its wider involvement in the procurement process, but the extent and feasibility require further discussion. As the main government procurement agency, LKPP is likely achieving good cost reduction through its aggressive negotiation process. However, it is unclear whether the focus on price is actually reflecting quality, and ultimately the value of the product given current use in the JKN system. While BPJS-K may not have the immediate skills, capabilities, and systems to be involved in the price negotiation process for priority products, there should be further discussion on how it can become more involved in this process with LKPP. The price-quantity negotiation process should also reflect the HTAs/Economic Assessment results more broadly beyond certain high-price but low-volume top-up drugs, reflecting the affordability and cost-effectiveness thresholds that Indonesia wants to set.

In this context, the following policy recommendations to improve the JKN governance system could be made:

- **Health Technology Assessments:** BPJS-K could share claims data, including specific drug-use related data – though BPJS-K does not, and needs to, collect enough information on pharmaceutical products other than the top-up drugs – to be used as key inputs in HTAs
- **Top-up payment drug listing decisions:** BPJS-K should coordinate with the Ministry of Health on HTAs, economic assessment, and in the establishment of ceiling prices, to establish a transparent and systematic method for including and excluding drugs to be listed alongside INA-CBG as requiring top-up payments.
- **Price negotiation:** Given that JKN now dominates the market, it is fair that current INA-CBG tariffs and rates paid for top-up drugs should be considered in the tender negotiation process to determine the appropriate final purchase price of drugs and commodities, given how private hospital providers especially will be reimbursed. Also, LKPP and BPJS-K should find a platform for coordination on procurement for JKN-affiliated facilities (see Annex D for ideas related to this coordination, including best practices from other single-payer systems).

Ultimately, the disconnect between BPJS-K's reimbursement mechanism and LKPP's procurement system is pushing the market prices paid for pharmaceutical products down, but also likely lowering the economic output of the private health sector. The total sales revenue for the pharmaceutical subsector is projected to start declining as early as this year. The MNC pharmaceutical companies are starting to lay off staff to maintain. While not necessarily directly relevant to JKN, other pharmaceutical policies, such as the local content law and halal laws can affect the cost of production in Indonesia (Annex E). Furthermore, for the MNCs, the government's interest in making Indonesia an innovation hub with research and development capabilities may affect future investment decisions in a complex way. Key informant interviews suggested limited desire to bring new patented products into the country if MNCs must partner with local firms and share proprietary scientific and process information within five years of registration. Ultimately, these other costs of doing business may cause pharmaceutical manufacturers, especially MNCs, to question their investment.

The private hospital and medical devices markets remain a growing sector, although they face similar challenges in profitable business growth, when laws, regulations, and JKN-related reimbursement rate-setting are still unclear. The sales volume increase seems to be making up for the lower per unit/per patient revenue in these two subsectors. However, the local content law highlighted above also will apply to medical devices (Annex F) and will be even larger problem for this subsector, as the majority of products are currently imported. The medical device market may come to an almost

complete stop should a stringent interpretation of the law be applied. For private hospitals, the lack of consistent understanding about how reimbursement rates were set to ensure some level of marginal profitability is likely limiting the subsector's growth. For the majority of the private hospitals that contract with BPJS-K, there are no economies of scale that they can achieve independently, causing them to focus on cost cutting rather than innovating and growing their business through investment in human resources or new equipment and services.

In all three subsectors, the lack of appropriately trained skilled workforce may be the biggest bottleneck in achieving the goal of realizing economic growth in the private health sector through JKN. Key informants across all sectors commented on how difficult it is to find skilled workers with the appropriate knowledge and training in the respective specialized area. In the pharmaceutical and medical devices sector, this is likely to impact the sector's ability to grow their manufacturing and R&D capabilities. In the case of private hospitals, they would not be able to secure sufficient number of healthcare providers, notably specialist doctors, to work in rural areas and eastern Indonesia. The scarcity of workforce inevitably increases operational costs, as they compete for talent and pay high salaries to retain it. Such potential source of cost increase should be managed, as it conflicts with the BPJS-K policies that aim to push the cost of health services down.

For the Government of Indonesia to achieve the secondary benefit of economic growth through the private health sector through investments in JKN, the following additional recommendations could be made:

- Review currently established pharmaceutical and medical device laws and regulations and consult with the private sector to amend them with more clarity on how the laws and regulations will be implemented and be enforced.
- Consider additional incentives for investment, such as tax holidays.
- Grow the available human resources for health by working with academic institutions to increase output of personnel in high demand. Notably, review and open opportunities for private universities to train more specialists.
- Consider alternative sources of skilled labor to meet interim gaps. For healthcare facilities, consider amending laws around how/to what extent foreign healthcare professionals can practice in Indonesia. For pharmaceutical and medical devices subsectors, further reduction in limitations in the negative investment list could enable foreign skilled personnel to work and train others in Indonesia.

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Annex A: JKN Comprehensive Assessment: Private Sector Component Research Questions and Data Collection Methodologies

What has been the impact of JKN on providers (public and other)?

1. *What has been the impact of JKN on facility capacity and inputs usage? (primary source of data: provider survey)*

   Relevant Areas of Investigation

   Capacity:

   - Average number of hours open per week, by patient type (e.g. JKN vs. non-JKN; VIP, I, II, or III)
   - Number of healthcare providers working at the facility, by cadre
   - Average number of hours worked by healthcare providers, by cadre
   - Healthcare provider allocation across inpatient wards and outpatient clinics
   - Type of services provided at inpatient wards and outpatient clinics
   - Installed bed capacity, by ward and bed type (VIP, I, II, or III)
   - Capital investments (infrastructure or equipment; e.g. expansion of a ward, maternity beds, MRIs, blood test machines)

   Capacity-Related Quality and Access Issues:

   - Frequency of equipment down times over the course of a 6-month period
   - Availability of spare parts for key equipment and staff/resource to repair if the equipment breaks down
   - Average wait time for admission, referral, and ER, by patient type
   - Facility's management capacity to track patient satisfaction

   Usage:

   - Number of patients seen or bed-days occupied/ bed occupancy rate/average length of stay, by clinic/ward type and by patient type
   - List of top 10 highest procured medicines (selecting from a list of high volume drugs for high volume JKN services)
   - Provider's perception on the type of clients they serve (up-market or middle/lower-wealth quintile)

   Usage-Related Quality and Access Issues:

   - New service provision pattern implementation (as evidenced by new guidelines or policies)
   - Use of checklists for select health services
   - Health outcome indicators such as induced morbidity and mortality rate recovery time readmission rates, hospital acquired infections at the hospital level for select conditions

2. *What is the impact of JKN participation on the financial position of private providers? (primary source of data: provider survey)*

- Change in revenue, by source type (out-of-pocket, private health insurance, JKN [or other type of public financing scheme prior to JKN])
- Change in price charged for out-of-pocket patients for a select list of services
- Change in expenditures, by cost type, with special focus on drugs, lab supplies, and salary

Are the reimbursement processes (rates, performance adjustments, mechanism) attractive and fair for providers?

3. *(Attractiveness) Have the providers maintained service with the JKN reimbursement? (primary source of data: provider survey/key informant interviews)*
    - Change in services because of JKN reimbursements
    - Provider perception on profitable and unprofitable procedures
    - Provider perception on wards or clinics that they would be willing to put in more investment
    - Provider perception on type of specialists they would like to hire
4. *(Ease of doing business) What systems are required for JKN reimbursement? (primary source of data: provider survey/key informant interviews)*
    - Systems and procedures required to process JKN reimbursement, as compared to private insurance, or out-of-pocket payment
    - Number of steps and individuals involved in claims process
    - Systems developed or number of new individuals hired specifically for claims process
5. *(Ease of doing business) How long does it take to get reimbursements from BPJS? (primary source of data: provider survey/key informant interviews)*
    - Average length for time between claims made and reimbursement received
6. *(Fairness) Is the reimbursement rate competitive, as compared to the public sector and other regional countries? (primary source of data: secondary data analysis)*
    - Select high-burden/high-cost procedures for investigation
    - Assess reimbursement rate in Indonesia across public and private sectors
    - Assess rates reimbursed for regional comparison countries (Malaysia, Philippines, Vietnam, Cambodia, and Thailand)

Has the total market for healthcare in Indonesia changed due to the JKN in a manner increasing choice and competition?

7. *Has JKN incentivized new participants (private; mostly secondary/tertiary hospitals) to enter the market, in underserved areas (i.e., geographic expansion of private services)? Has JKN incentivized an increase in the density of private facilities or services due to higher demand from members?*

    Objective measures of key players in service delivery (primary source of data: secondary data analysis):

    - Number of organizations/companies between 2012 and 2016 (Source: MOH annual market reports/MOH master facility database)
    - Private providers (by level, province, accept JKN)

- Pharmaceutical manufacturers (by type: multinational, domestic, parastatal)
- Diagnostic service providers (by province)
- The top 10 provider networks by the following characteristics (Source: association data; Annual reports (If publicly traded company)):
- Number of facilities
- Number of annual outpatient visits
- Number of beds
- Total revenue
- Total revenue from BPJS

Provider motivation for JKN Entry (primary source of data: provider survey/key informant interviews

- Why did you join JKN?/Why have you not joined JKN?
- What are the benefits and challenges of joining JKN?
- (For facilities that are providing services to BPJS patients) Have the benefits realized? What new challenges have emerged?
- (For facilities that are not providing services to BPJS patients) Do you plan on joining? What circumstances must be in place for you to decide to join?

8. *Has JKN incentivized a more diverse or comprehensive health market product offering? (primary source of data: secondary data analysis)*
   - The top 10 pharmaceutical companies (broken down by above-listed type) by the following criteria (Source: Quintiles IMS data; BPJS/e-katalog data; Annual reports (if publically traded company)):
   - Number and class of pharmaceutical products sold annually
   - Number of products on e-catalog
   - Number of units sold annually
   - Total revenue
   - Total revenue by drug category (ethical, branded generic, generic-generic, OTC)
   - Total revenue from BPJS/through e-catalog
   - Total profit
   - The top five diagnostic service providers by the following characteristics (Source: Indonesian Society of Clinical Pathology and Laboratory Medicine):
   - Number of tests conducted annually
   - Types of diagnostic services provided
   - Total revenue
   - Total profit
9. *Have there been shifts in market share, at the hospital level, across public, for-profit, and non-profit, increasing competition at the subnational level such that no one provider has excessive bargaining power (by level, type, or network)? (primary source of data: provider survey/key informant interviews)*

Objective measures of key players in service delivery questions are articulated under Question #7 above.

Business climate/competition in the healthcare market:

- Key informant's perception on whether there are more people accessing care in general and specifically for their company's services.
- Key informant's assessment of whether and how the business climate has changed since JKN started
- Key informant's perception of whether there is more competition, less competition, or same since JKN initiation.
- Key informant's perception of frequency of and reasons for mergers and acquisitions since JKN initiation. Key informant's assessment of whether mergers and acquisitions tend to be more common in hospitals or outpatient clinics, domestic or international pharmaceutical companies, or diagnostic labs.
- Business area that key Informants have cut down cost or increased investment.
- Key informant's perception on a winning strategy within this new business climate.
- Key informant's views on which players are doing well in this new business climate, who are not doing well, and what evidence they have for this success/failure.

Annex B. Comparison of Drug Prices by Region

The following table gives a snapshot of some of the prices of basic drugs in three provinces in January 2018.

Unit Cost of Drug (Pill)	North Sumatra	DKI Jakarta	Papua
Paracetemol	IDR51	IDR 49	IDR 54
Amoxicillin	IDR 190	IDR 184	IDR 208
Ciproflaxacin	IDR 272	IDR 265	IDR 300
Lisinopril	IDR 219	IDR 209	IDR 269
Amlodipine	IDR 73	IDR 70	IDR 83
Metoprolol	IDR 56,595	IDR 53,900	IDR 67,375
Ranitidine	IDR 1,155	IDR 1,155	IDR 1,540
Omeprazole	IDR 134	IDR 130	IDR 147

Source: e-catalogue, accessed December 2017 and January 2018

Annex C. Unit Price of Drugs in Jakarta Province from 2015 to 2018

The table below summarizes the drug prices in the e-catalogue for select pharmaceuticals. All prices that were accessible on the e-catalogue in March 2018 are listed. In every example listed, there is a decrease in price year-to-year ranging from 0 percent to 53 percent.

Drug	2015	2016	2017	2018	Percent Change
Bisoprolol tablet 5 mg	-	330	236	-	-28
Epiodion 3000 IU, Eritropoetin-alfa inj	-	-	108,900	99,000	-9
Tykerb, Lapatinib tab 250 mg	72,600	-	-	61,622	-15
Generik INN, Klobazam tab 10 mg	-	1,010	872	-	-13
Recansa 10 Rosuvastatin Calcium, Rosuvastatin 10 mg	2,530	1,800	-	1,650	-29, -8
Fonkopac, Paklitaksel inj 300 mg/vial	1,500,000	-	-	1,499,500	0
Harnal OCas, Tamsulosin HCl 0.4 mg	6,800	6,479	4,799	-	-5, -26
Casodex 150 mg, bicalutamide 150 mg	79,000	-	-	37,294	-53

Source: e-catalogue, accessed March 2018

Annex D: Governance of Pharmaceutical Procurement in Single-Payer Schemes and Possible Pathways for Indonesia

Seeking Best Practices when Comparing Single-Payer Schemes in South Korea, Canada, and Indonesia

Figure D.1 summarizes the governance of pharmaceutical procurement in single-payer schemes. The examples include South Korea and Canada compared with Indonesia. Policy best practices include payer negotiates purchase price directly with industry, clinical effectiveness and cost efficiency analyzed first by independent body, and claims data is collected and used for future decision making by an economic assessment (HTA) body. The Indonesian system does not seem to account for the clinical-economic value of drugs first to determine which drugs should be in a benefit package. Furthermore, the payer does not influence the price of drugs.

Figure D.1 Pharmaceutical Purchasing Governance Models

	S. Korea	Canada	Indonesia
Health Technology Assessment	NECA	CADTH/ INESS	MOH PPJK, HTA Unit
Economic Assessment/ Ceiling Price	HIRA	Patented Med. Prices Review Board	MOH Pharmacy Directorate
Price Negotiation	NHIS	pCPA + Plans, directly	LKPP
Procurement Coordination	Ministry of Health and Welfare	Provincial plans	LKPP

In other countries, entities that represent the insurance agency (with standardized analysis methodologies and appropriate technical staff) are responsible for price negotiation; the upstream entities are independent in conducting the clinical/economic assessments, and are all linked to serve the insurance agency to be able to select a drug that is negotiated to a low enough level to make it economical and clinically efficacious.

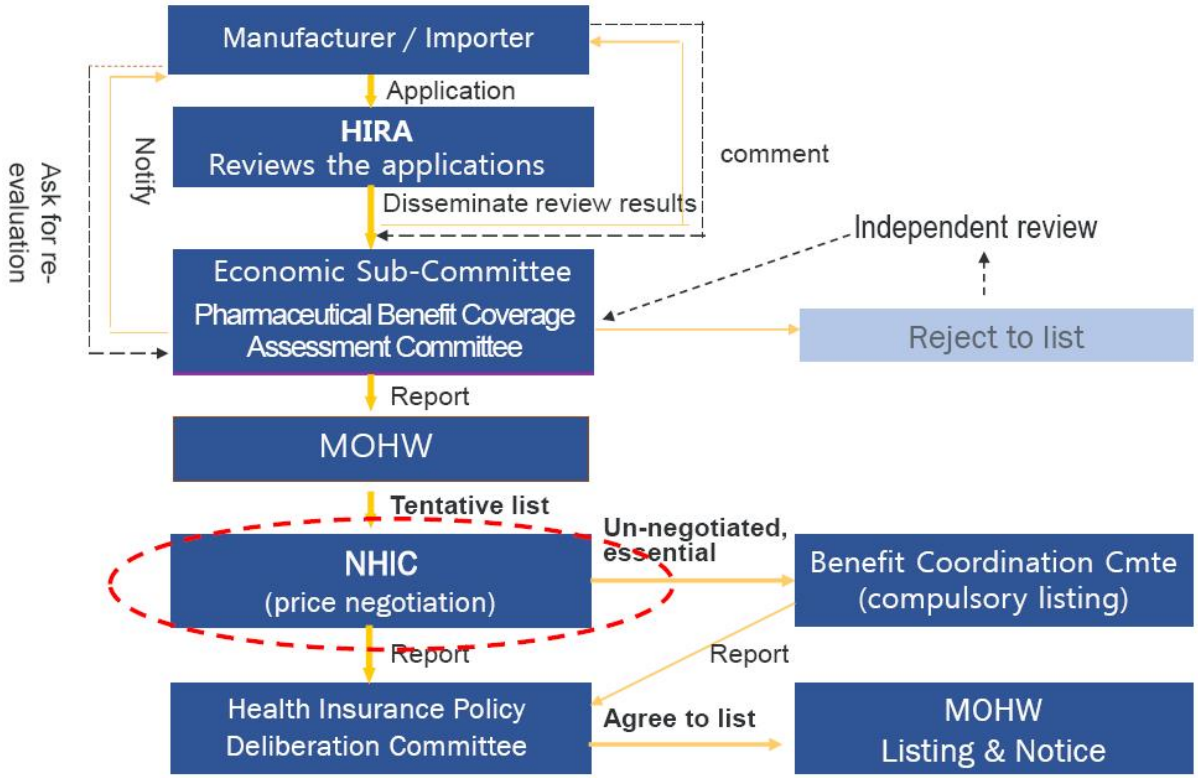
In Indonesia, this linkage to upstream entities conducted HTAs, Economic Assessments are not necessarily linked to BPJS-K's selection of which drugs should be listed for exclusive reimbursement, and they are not involved in the price negotiation process.

Based on best practice seen in South Korea and Canada, the non-kapitasi/INA-CBG top-ups selection should be informed by the need of the consumer, combined with the clinical efficacy (QALY), and the price the payer pays to gain that efficacy. The current Indonesian system does not seem to indicate a systematic process – the non-kapitasi/top-up products seem to have been selected in an unsystematic manner, and HTAs are being conducted afterward, without clear indication of how the value will be assessed based on the actual use of the product. For example, it is unclear if HTAs are taking claims data into account. Price negotiation needs to reflect this "value" that is assessed through HTAs/economic assessments. While LKPP is likely achieving good cost reduction through its aggressive negotiation process, it is unclear whether the focus on price is actually reflecting quality, and ultimately the value of the product. While BPJS-K may not have the immediate skills, capabilities, and systems to take on the price negotiation process, they should be integrally

part of this process with LKPP. The negotiation process should also reflect the HTAs/ Economic Assessment results.

Given the transparency valued by Indonesian stakeholders that LKPP's tendering process has achieved, South Korea's model is likely a better fit than the Canadian model.

Figure D.2 South Korea's Single Payer National Health Insurance Corporation (NHIC) and Its Role in Pharmaceutical Procurement

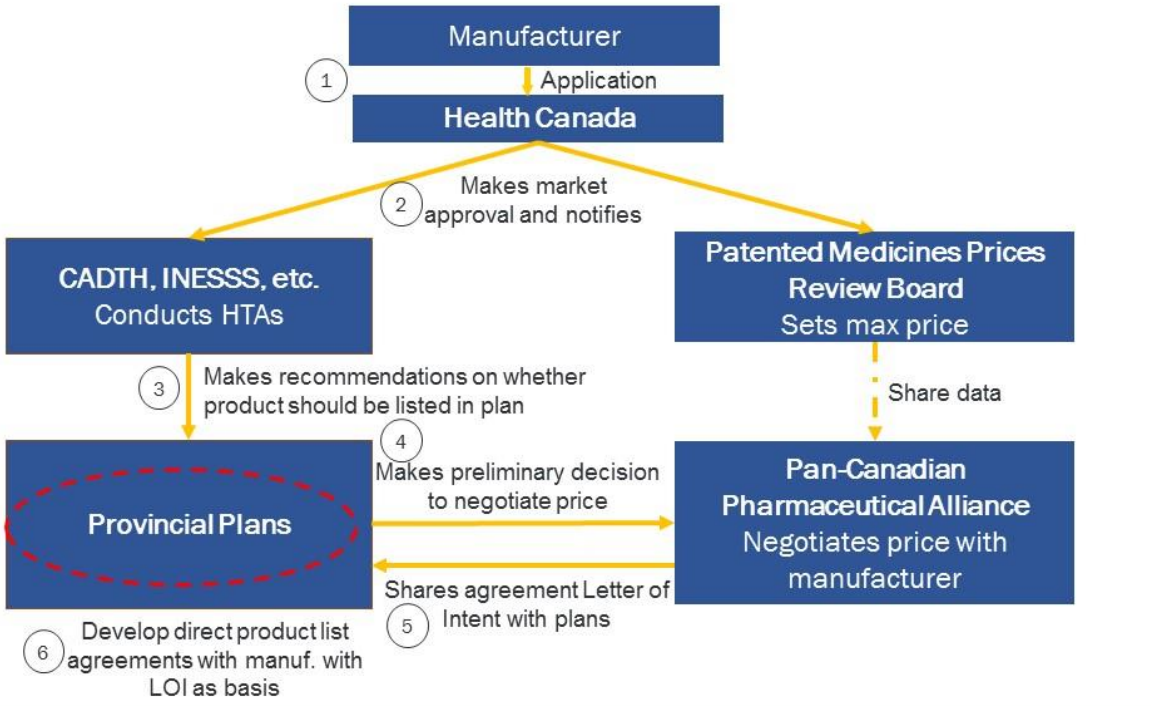


In South Korea, the Ministry of Health and Welfare (MOHW) separates reimbursement and price decisions for new drugs, with HIRA's Drug Reimbursement Evaluation Committee responsible for the former and the National Health Insurance Corporation (NHIC) negotiating prices with pharmaceutical companies. Providers submit claims to HIRA (Health Insurance Review and Assessment Service) to review medical fees for reimbursement decisions; and assess quality of healthcare services provided to beneficiaries. The HIRA develops data and information concerning clinical, social, and economic implications of health care. The NHIC reviews the eligibility of insured policy holders; imposes and collects contributions; negotiates the medical fee schedule with healthcare service providers; and reimburses healthcare services provided in accordance with the HIRA's reimbursement decisions (Economist, 2017).

Manufacturers looking to list a new drug make an application to HIRA. Decisions are made according to cost-effectiveness data, clinical usefulness, availability of alternate treatments, severity of condition, budgetary impact, assessments from other countries, and uncertainty of evidence presented. The NHIC only funds drugs that are on the Positive List Scheme (PLS). Since 2007, Korea has required economic evidence for a drug to be included in the PLS, making it the first Asian economy to do so. Drugs that are approved by the Ministry of Food and Drug Safety but excluded from the PLS are still available to anyone willing to pay for them. The NHIC uses HIRA's assessment and international price references when it

negotiates with companies on price; an unsuccessful outcome means the drug will not be included on the PLS (similar to FORNAS). NHIC considers drug volume during bargaining.

Figure D.3 Canada's Model: "Medicare," a coordinated provincial level multi-scheme and the pharmaceutical purchasing system



In Canada, there are 13 public plans (one plan per province), public hospitals negotiate their own formularies, and private insurance covers outpatient prescription drugs. This is a fragmented structure that came about historically because the provinces have relative autonomy over fiscal decision making, including healthcare. Federal government is only setting general standards, but do not have any fiscal responsibility for healthcare except for special populations such as those in the military, the Inuit population, the elderly, etc.

CADTH (Canadian Agency for Drugs and Technologies in Health)/INESS (Institut National d'Excellence en Santé et en Services Sociaux) conducts HTAs on behalf of the various payers, providing recommendations on whether the product should be listed. The Patented Medical Prices Review Board conducts the economic assessments and sets the ceiling price.

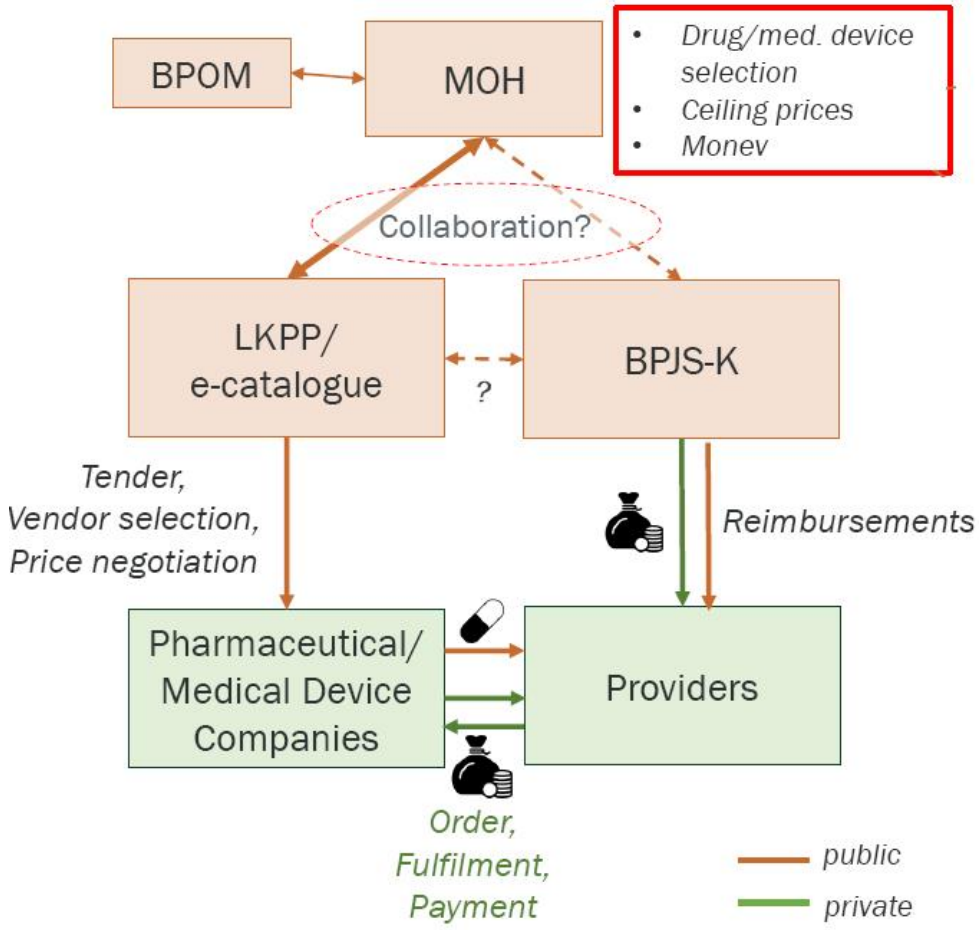
The pan-Canadian Pharmaceutical Alliance (pCPA), using HTA/economic assessment information, conducts bulk negotiation on purchase price on behalf of provincial schemes that express interest. pCPA is one way in which the government is attempting to consolidate the fragmented Canadian insurance market, increasing purchasing power for pharmaceuticals, which have become one of the highest in the world. However, the actual purchase price is determined on a plan basis, using the LOI established by pCPA as a foundation. Provincial plans also determine which products will be covered through the plan. In the case of generics, they usually opt for having multiple manufacturers listed, so that there is no risk in stocking out when the drug is needed.

All the price negotiations happen confidentially – this is a major drawback, which will be a stark contrast to what LKPP has achieved in Indonesia. Also, while recommendations are made by CADTH/INESS and others conducting the economic analysis, the plans have been known to not necessarily align with these recommendations, depending on their plan coverage, consumer need, etc. The actual procurement coordination may be passed on as a

task to third-party group purchasing organization, which may also negotiate prices on behalf of various plans on items that are not part of the pCPA negotiation.

An advantage to this system can be noted as improved alignment to the most cost-effective drugs being made available. The use of Product Listing Agreements (PLAs) may result in otherwise unattainable price discounts as manufacturers are said to be increasingly reluctant to provide transparent price reductions because other domestic or international payers will demand the same (Morgan et al, 2013). Lastly, the PLAs may also promote appropriate utilization, budgetary certainty or value-based remuneration if they include appropriate terms related to drug marketing, expenditure or outcomes (Morgan et al, 2013).

Figure D.4 Indonesia's Current Model: Fragmented Governance System for Medical Procurement



For JKN, certain chronic care,[3] oncology, hemophilia, and thalassemia drugs are paid using top-ups to hospitals, and select few other drugs and commodities are paid for using fee-for-service at the primary healthcare (PHC) level (i.e., "non-kapitasi"). These are separately reimbursed; reimbursement for all others is incorporated in the INA-CBG (hospital) tariff, and as a certain proportion, in the PHC capitation rate. HTAs, currently focused vis-à-vis JKN on specific classes of drugs, especially for cardiology and oncology, are being conducted by a HTA Committee with support from the MOH Center for Health Financing and

[3] The rules for reimbursement of chronic care drugs are complex, and whether they can be reimbursed as within the INA-CBG tariff, depends on the length of prescription (number of days the medicine is required) and the physician-determined condition of the patient as stable or unstable on the chronic medication.

Insurance (PPJK), with inclusion of local academic partners. Questions remain on the HTA process. Does the HTA Committee share its deliberations and how does it use information from JKN claims for the drugs that are significant for the scheme? How does BPJS-K in return use the HTA findings, how does the decision on JKN-allowable drugs get implemented, and how are changes communicated to the providers, especially if they affect ongoing reimbursement processes for the top-up drugs? How is the MOH using the information from JKN claims/ongoing use of services to understand the impact of removing the drug from JKN reimbursement?

The private health market is also looking for more transparency on rate-setting. The MOH Pharmacy Directorate conducts additional economic assessment and sets ceiling prices for drugs. How do PPJK and other MOH stakeholders refer to this in setting the INA-CBG tariff rates? How does BPJS-K determine the reimbursement rate, and how do industry and providers provide input to this rate setting process? How do they determine whether that price is appropriate and worth including into the benefit package? Figure D.4 suggests that there is no direct link from BPJS-K to pharmaceutical and medical device companies in the procurement process, unlike other single-payers in advanced countries. Decisions on drug and medical devices listing are held by the MOH. The MOH's independent decisions drive LKPP's tendering process; LKPP is simply an executer in this area on behalf of the MOH and plays a passive role. There is a disconnect between what BPJS-K is paying as a tariff versus what the price is going to be in the e-catalogue. Currently, LKPP follows the MOF-regulated tendering process that prioritizes low price and a single winner. As a result, there is a potential impact on quality, product diversity, and competition in the pharmaceutical market. As discussed above, the single winner policy may limit availability as the winning manufacturer is immediately listed, and yet preparing for supply takes time. Therefore, appropriate drugs and medical devices are not always available.

Figure D.5 Alternative Pharmaceutical Procurement Governance System in Indonesia: Collaborative Decision-Making

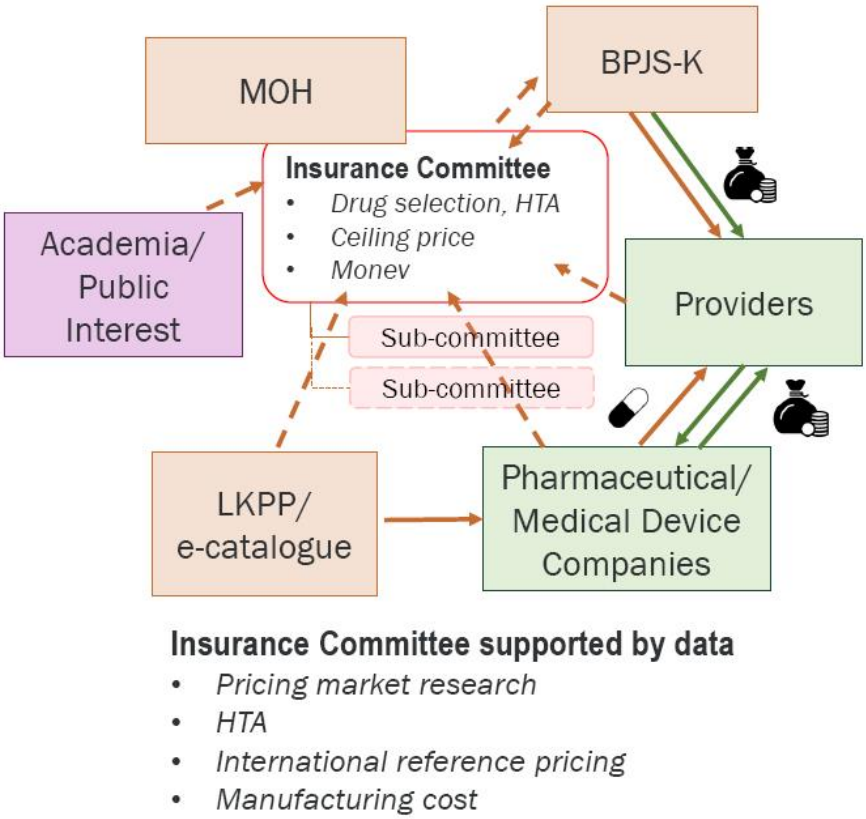


Figure D.5 indicates an alternative pharmaceutical and medical device procurement governance system for Indonesia at a high level; the actual modalities will require significantly more consultation, including adapting what works from other country systems. This alternative proposes to bring the critical purchasing decision to a collaborative center, where all relevant parties are engaged in the decision making process; this governance system should be supported by a well-defined, transparent approach to reimbursement rate setting. An "Insurance Procurements Committee" can be formed under the MOH PPJK. However, in an expanded body composed of people representing all other entities involved in JKN, there are likely to be several subcommittees, requiring that work throughout the year in informing this committee's decision making (e.g., bringing in the HTA findings).

The actual flow of funds is unchanged from current practice, as changes would require onerous legal reforms. Therefore, LKPP would continue to perform the tendering and awarding duties, but with the ceiling price it uses preferably set based on market conditions, variations in manufacturing cost due to implications on import of key materials, and new information in the case of innovative drugs being introduced. Figure D.5 also suggests including LKPP and industry into the "Insurance Procurements Committee," given the current lack of link between purchaser and manufacturer, as well as LKPP's understanding of the needs of the healthcare system. This would help to create a more collaborative culture of decision making for JKN-related pharmaceutical and medical device purchasing.

Annex E. Other Notable Pharmaceutical Regulations That Can Influence Business Decision Making

Following a 2016 Presidential Directive, the Ministry of Health designed a three-stage roadmap to transform the pharmaceutical sector into a local, innovative manufacturing industry. The first stage focuses on cooperation and technology transfer, the second stage on acquiring and developing technology, and the third on supporting local companies to produce their own innovative technologies (Pharma Boardroom, 2017). There is demand for local production of pharmaceutical raw materials through this roadmap. In 2013, approximately 90 percent of raw materials were imported (BMI, 2013). This number had not shifted by 2017. As of 2016, US$526 million of raw materials were estimated to have been imported, mostly from India and China (Indonesia Investments, 2016). The government encourages MNCs to invest in active pharmaceutical ingredient (API) manufacturing in Indonesia through joint ventures and technology transfers. APIs are the central ingredient in pharmaceuticals and manufactured from raw materials. Excipients are secondary ingredients, or carriers, which are inactive or inert (e.g., lactose, mineral oil).

Regulation 17/2017, establishes an Action Plan for Indonesia to become independent in operating in the sector, including R&D, production of raw materials, production, distribution, and export. The action plan specifies that the pharmaceutical and medical device industries prioritize the use of locally produced raw materials and that the government and private suppliers in the industries prioritize pharmaceutical preparations that use local raw materials and local medical devices. Furthermore, the action plan highlights a constraint in the lack of human resources with the skills and expertise in drug development and the need for technology transfer from MNCs. Further regulations are likely to be implemented regarding import restrictions for pharmaceutical products and medical devices that can be manufactured domestically, R&D, transfer of technology obligations, and encouraging the export of pharmaceutical products and medical devices.

Clarity around local content is a key concern for pharmaceutical companies; the regulation is unclear. Pharmaceutical companies feel it is too risky to invest in developing raw materials in Indonesia, because the regulation is unclear, there is no assurance that the government will continue the policy, and companies feel unsure that the government will to support them after they make a large investment. API production in Indonesia is extremely limited, though there are firms beginning to produce. In 2013, Soho group announced that it would establish a US$30 million API production plant in West Java (SOHO Global Health, 2018). However, it is unlikely for firms to be able to produce the hundreds of APIs that are currently imported. Interviewers highlighted skepticism and mistrust due to frequently changing government policy, a barrier to committing to large investments such as local raw materials development. In addition, local production would make the unit cost of the drugs higher compared to importing. Simultaneously there is pressure on companies to be more price conscious as prices in the e-catalogue decrease.

"If we produce drugs here in Indonesia, the unit cost will be higher compared to importing, because we can produce globally. Though unit cost will be higher, the prices in the e-catalogue keep decreasing. Local content regulation is not official yet… if there is certainty about the investment mechanism and assurance it will be better."

"Multinational companies are willing to facilitate technology transfer, but they need to be incentivized (e.g., reduced tax)."

The Halal Product Assurance Law (2014), due to be implemented in 2019, may require complex certification or costly modification in manufacturing processes. Companies with existing

halal certification will benefit in the short run; those without may face more complex investment decisions. Getting verification for halal can be costly. Raw materials are currently sourced internationally, so it will be a challenge to confirm that the imported materials are halal. The increased costs of halal production need to be reflected in higher prices for drugs both inside and outside the e-catalogue.

"Even if our product is halal, to get the verification will be very expensive. The raw materials are sourced from everywhere, causing an increase in production cost but then again, the price in e-catalogue is very low."

Despite a less restrictive DNI, Indonesia's regulatory environment is still biased in favor of local drug producers; policies exist that provide access advantages to local manufacturing companies (IMS Health 2014). Nearly all MNCs interviewed agreed that they face discriminatory measures. IMS Health includes Indonesia in a cohort of countries (along with Algeria, Russia, Saudi Arabia, and Turkey) in which local business practices act as a barrier for MNCs (IMS Health, 2014). Indonesia requires local production, compelling foreign companies to manufacture locally as a condition. The government can prevent patenting of products that are not manufactured in Indonesia. Furthermore, multinational companies must comply with the Foreign Corrupt Practices Act (FCPA) and international regulations, while local companies are not required to comply. The uneven playing ground is a significant complaint from MNCs who are seeking equity in market access.

Box 3. Investment Rules

Presidential Instruction Number 6/2016 appeals to the Ministry of Finance to provide fiscal incentives to attract investment in Indonesia's pharmaceutical industry. Such actions include:

- Updates to restrictions on FDI through the Negative Investment List, commonly known as the DNI (IMS Health, 2014)
- Tax holiday (Indonesia Investments, 2016)
- Development of a special economic zone (Indonesia Investments, 2016)
- An integrated logistics center (Indonesia Investments, 2016)
- Ministry of Industry is implementing competency-based vocational education and training programs to boost a workforce suiting the needs of the pharmaceutical industry

Annex F. Other Notable Medical Devices Regulations That Can Influence Business Decision Making

The Minister of Health Issued a Presidential Instruction in 2016 to accelerate the development of pharmaceuticals and medical devices (6/2016), followed by Regulation 17/2017, establishing action plans for the development of the pharmaceutical and medical device industries. The action plans seek to promote a growing medical device industry that is able to produce medical equipment to fulfil Indonesia's needs and to export, establish medical device standards, increase the use of locally produced medical devices, revitalize the industries' technological capabilities, optimize the promotion of new capacities, and encourage new investments (Budiardio, 2017). At this point the regulation is non-binding on industry; rather, it offers the government's view on the future of the sector.

Local companies appreciate the commitment of Regulation 17/2017 to grow the sector, but they feel that there are no incentives to support it. Growth since Regulation 17/2017 is going slower than anticipated for local manufacturing. Local companies are seeking the government's support in speeding up local industry. A key constraint highlighted for local manufacturing was related to decentralization and challenges in working with local government for licensing and registration. Licensing regulations under local government and the MOH differ. Local medical device leaders also highlighted the need for incentives such as tax holidays. While tax holidays are common for FDI, these smaller companies are seeking such incentives and support to grow their comparatively smaller businesses.

The GOI encourages use of local content, proving a challenge for medical device companies. It was reported by 80 percent of medical device industry respondents that local companies receive preferential treatment. There are few raw materials in Indonesia that meet requirements to develop medical devices. More than 90 percent of raw materials are imported, with a 5 to 20 percent importation tax (Indonesia MoH 2017). Regulation 17/2017 specifically stipulates that the medical device industry prioritize the use of locally produced raw materials and that the government and private suppliers in the industry prioritize medical devices using local raw materials. Furthermore, there is a vision to restrict imports on medical devices that can be manufactured domestically, R&D stipulations and transfer of technology obligations on foreign companies, and encouragement to increase exports.

Most of the medical device market in Indonesia is made up of MNCs, limiting their competition with local companies. The concentration of MNCs is an advantage compared to the pharmaceutical sector, where local companies provide generics to the JKN market. Currently, MNCs have technology that local companies cannot compete with. Regulation surrounding preferential treatment for local companies is a concern to MNCs; 80 percent of respondents mentioned that the local content requirement is unclear. MNCs found ways to work around this issue such as assembly in country.

CONTACT US

Health Policy Plus
1331 Pennsylvania Ave NW,
Suite 600
Washington, DC 20004
www.healthpolicyplus.com
policyinfo@thepalladiumgroup.com

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