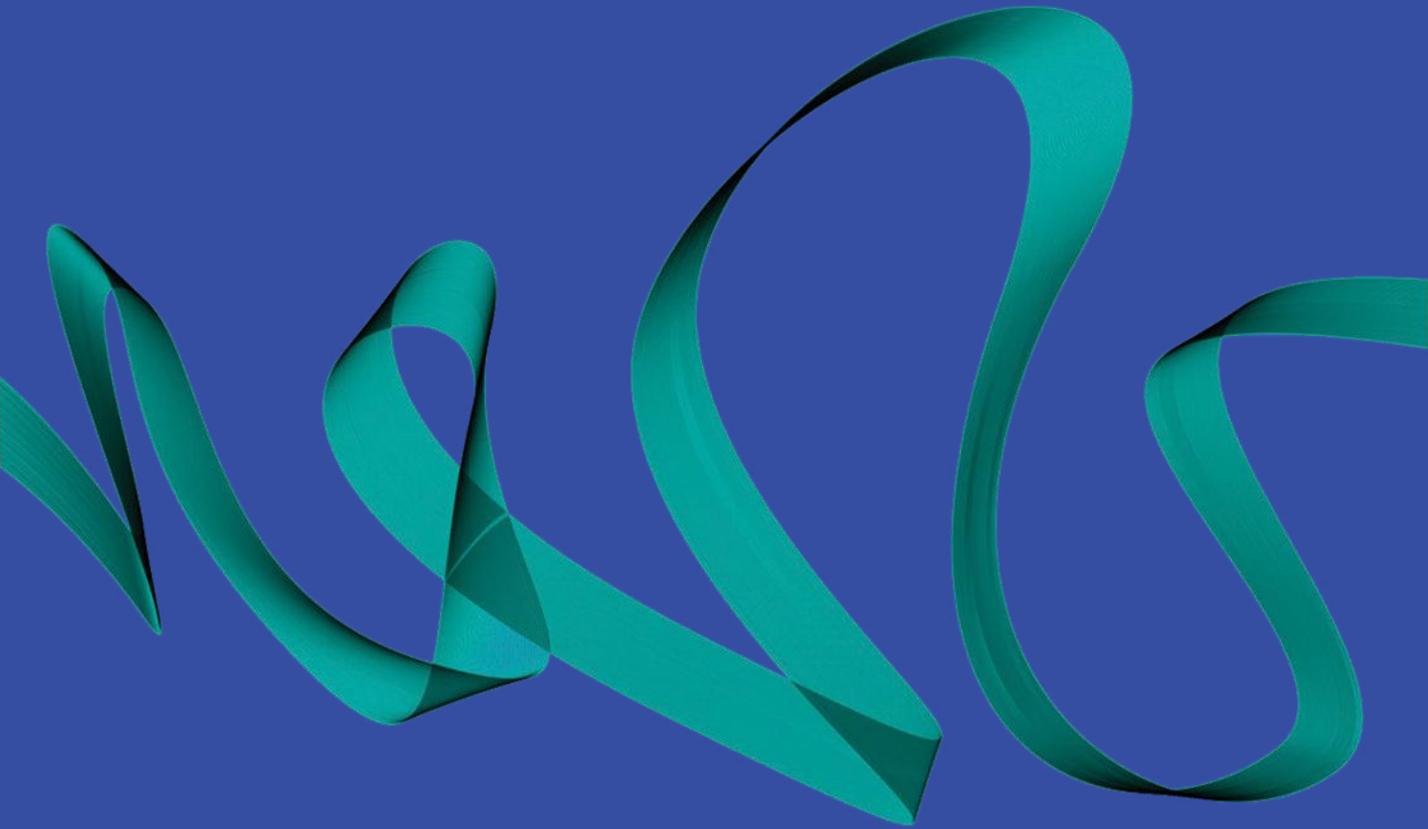




Indonesia's Infusion Pump Market



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Infusion pump background

According to the U.S. Food and Drug Administration (FDA), an external infusion pump is a medical device that can be used for several different medical reasons to accurately deliver certain types of fluids into a patient's body in controlled amounts. This includes medications and vital nutrients which is why infusion pumps are found at many healthcare facilities and hospitals around the world. Both healthcare providers and patients depend greatly on these infusion pumps to precisely and safely administer medication and fluids.

Indonesia's infusion pump market

There are several key reasons why Indonesia's market for medical equipment, including infusion pumps, has increased over the past several years. According to the website World Population Review, Indonesia's population in 2013 is more than 250 million people, which is an increase of more than 10 million people since the last official census recording in 2010. With such a staggering growth in population, Indonesia is now the fourth largest country in the world only trailing behind India, China and the United States.

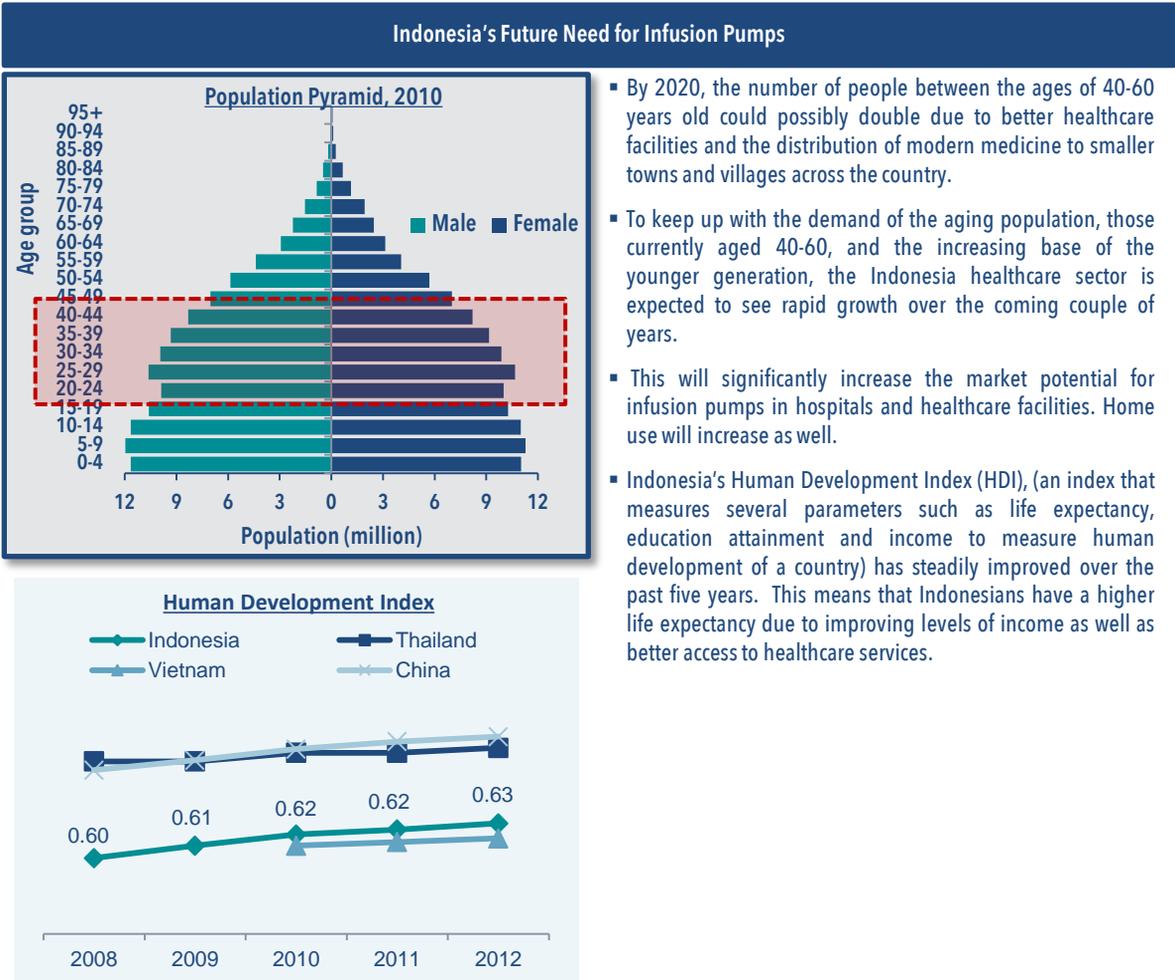
Key Drivers	Major Barriers
<ul style="list-style-type: none">▪ With improving economic conditions in Indonesia, people are beginning to enjoy more spending power along with better access to healthcare services throughout the country.▪ For the underprivileged families living in Indonesia, the government has greatly increased spending on healthcare and healthcare sponsored programs.▪ With improved economic conditions, people living in Indonesia are changing their lifestyle and eating habits. This contributes to life-style related health issues such as high blood pressure and stress.	<ul style="list-style-type: none">▪ People living in Indonesia believe in and use traditional medical treatment and medication in a variety of different forms as an alternative to medical and healthcare services that are used in hospitals.▪ Even though many people qualify for the program, people still have limited access to modern healthcare treatment due to various reasons that from; a limited number of hospitals and clinics, lack of information and long and complex bureaucracies for the underprivileged to get government-sponsored healthcare service.



Indonesia's population pyramid

Indonesia's Population and Increasing Human Development Index (HDI) Present Significant Market Potential for Infusion Pumps

Indonesia's population for 2013 breached the 250 million people mark. Trends suggest that modern forms and means of treatment and medicine are being adopted more and more so by Indonesia's younger generation – a switch from the more traditional methods. The ever improving HDI index suggests this, but also goes as far as to say that income levels and education attainment are developing in parallel.



Source: Indonesia's Central Bank, World Bank, Central Bureau of Statistics, UNDP, Ipsos Analysis

Focus On the Younger Generation

As the economy continues to improve in Indonesia, younger, productive citizens will experience a shift in their lifestyle and behaviour. Young adults between the ages of 20-30 years old will become prone to work related stress issues which could lead to possible health complications like high blood pressure, anxiety and other stress related health issues.

The World Health Organisation (WHO) also highlights that younger adults living in Indonesia are also more susceptible to poor dietary food choices as well as making poor decisions for their health by choosing to smoke cigarettes resulting in rapidly deteriorating health conditions at a younger age.

Healthcare conditions in Indonesia

The current healthcare system in Indonesia still trails that of other emerging markets. With about 3 doctors for every 10,000 people living in Indonesia, the country has one of the lowest doctor-to-patient ratios in all of Asia. In comparison, Malaysia has 9 doctors for every 10,000 people living in the country.

According to the Wall Street Journal, the hospital bed ratio is just as poor with about 6 hospital beds for every 10,000 people living in Indonesia in comparison to China which has 42 hospital beds for every 10,000 people. It is obvious that more hospitals are needed in order to properly care for the health and well-being of the Indonesian people.

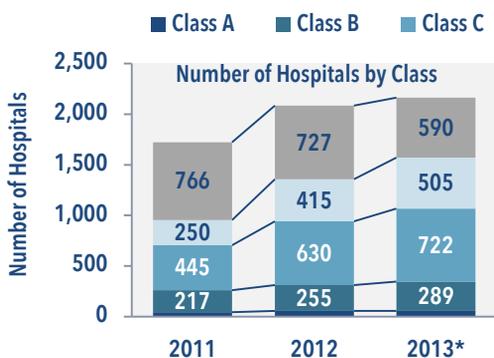
In addition, it is estimated that more than 60 million people living in Indonesia are currently active smokers giving Indonesia the unfortunate statistic of having one of the highest smoking rates in the world.

Evidence to support the lack of trust in the Indonesian healthcare system would be the alarming statistics released from the ministry of tourism for 2013. They estimated that an astonishing 600,000 Indonesians travelled abroad to receive medical or healthcare related services with a total spending exceeding \$1.4 billion USD.

But the future seems to be bright for Indonesian healthcare. Policy makers have been issuing incentives to help speed up the sectors development. One of the more monumental laws regarding health and the healthcare system in Indonesia is law number 36, passed in 2009, which mandates that 5% of the annual state budget is set aside for healthcare. Although the mandate has not been fulfilled yet, as of 2013 - in which the government spend merely 2.2% of the budget for healthcare, it has increased almost twofold from IDR 18 trillion (\$1.9 billion USD) to IDR 34.5 trillion (\$3.4 billion USD) from 2009.

In addition, 2004 saw the Indonesian government pass law number 40 - The "National Social Security System" (SSJN). This was issued to improve the level of healthcare, coverage and quality received by patients. 2011 saw another law passed, No.24, to govern and formulate Social Security Providers (BPJS). The main objective of this was to ensure universal health care, across the country, by 2014.

Hospitals in Indonesia



Source: Ministry of Health

Note: *2013 data updated until May 2013

The ministry of health regulation, No 340 of 2010, set out the four distinct classifications of hospitals in Indonesia. They are;

- **Class A:** Must have at least 400 hospital beds and provide at least 21 specialisation services and 13 sub-specialisation services.
- **Class B:** Must have at least 200 hospital beds and provide at least 16 specialisation services and 2 sub-specialisation services.
- **Class C:** Must have at least 100 hospital beds and provide at least 8 specialisation services.
- **Class D:** Must have 50 hospital beds and provide at least 2 specialisation services.



Source: Ministry of Health

Note: *2013 data updated until May 2013

Hospitals are divided by two categories in terms of ownership:

- **Public Hospital:** This is a hospital that is owned, operated and funded by the state budget from both the central and municipal government.
- **Private Hospital:** This is a hospital that is owned, operated and financed by a private organisation or party which may include state-owned enterprises (SOE's).

Users of infusions pumps in Indonesia

During the three year period of 2009-2011, Indonesia had a total number of 2,127 hospitals. The total number of hospital beds in 2011 reached 156,429. A breakdown of each year along with a CAGR for 2009-2011 is provided below:

Number of bed	2009	2010	2011	CAGR (2009-2011)
Hospital Bed Public (General Ward)	77,839	82,792	88,597	6.7%
Hospital Bed Private (General Ward)	58,811	59,231	61,229	2.0%
ICU (Intensive Care Unit)	1,596	2,281	3,258	27.1%
PICU (Pediatrics Intensive Care Unit)	435	483	537	
NICU (Neonatal Intensive Care Unit)	794	934	1,099	
ICCU (Intensive Cardio Care Unit)	570	600	632	
HCU (High Care Unit)	689	862	1,077	
Total Beds	140,735	147,183	156,429	5.4%

Source: Ministry of Health

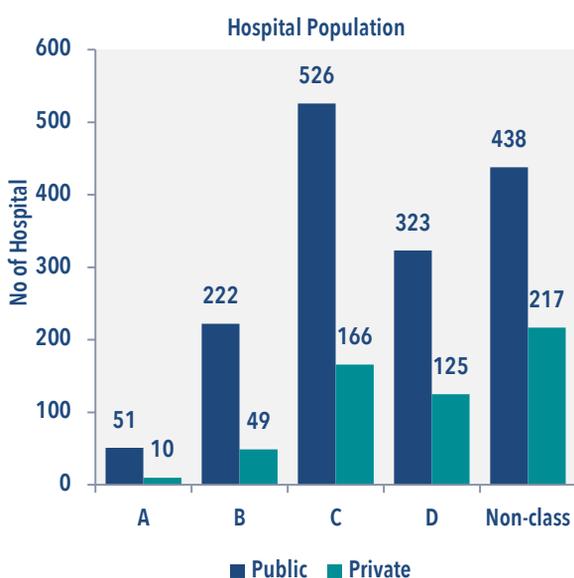
Adoption rates for Infusion pumps saw growth for each of the years between 2009-2011. This included an overall adoption rate of 9.5% in 2009, 10.1% in 2010 and 10.7% in 2011. In total, there was a combined CAGR of 11.6% for the three year span. The complete % breakdown of each year and unit rate for 2009-2011 is as followed in the chart below:

Infusion pump usage	2009	2010	2011	CAGR (2009-2011)
Adoption Rate Public Hospital (General Ward)	5.17%	5.17%	5.17%	11.6%
Adoption Rate Private Hospital (General Ward)	9.05%	9.05%	9.05%	
Adoption Rate ICU, PICU, NICU, ICCU, HCU	100%	100%	100%	
Number of Infusion Pump Unit, Public Hospital (General Ward)	4,021.7	4,277.6	4,577.5	
Number of Infusion Pump Unit, Private Hospital (General Ward)	5,321.0	5,359.0	5,539.8	
Number of Infusion Pump Unit, Intensive Care	4,085.1	5,160.1	6,603.0	
TOTAL Infusion Pump Unit	13,428	14,797	16,720	
Overall Adoption Rate	9.5%	10.1%	10.7%	

Table 2: Infusion pump usage

Source: IPSOS interview & analysis

Class A and Class B hospitals are the major users/buyers of infusion pumps, making up only 11.6% of the total number of hospitals in Indonesia.



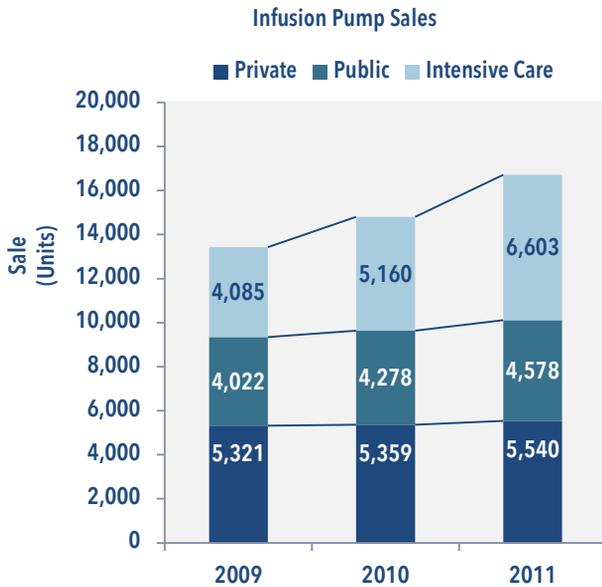
Source: Ministry of Health

- It was estimated that by Q4 2011, the penetration rate of infusion pumps being used in these hospitals was at 10% .
 - **Class A Penetration Rate:** Class A hospitals are estimated to see a penetration rates reach 40% in the next couple of years with most infusion pumps being used in the ICU, ICCU, surgery theatre, NICU, VIP and Class I rooms.
 - **Class B Penetration Rate:** For class B hospitals, the penetration rate is expected to reach a maximum of 30% for infusion pumps in the next couple of years which would be used in the ICU, ICCU, surgery theatre and limited VIP rooms
- Price concerns are a major contributing factor as to why the penetration rate of gravity based infusion pumps are still very high.
- The Syringe infusion pump is a special type of pump in which the infusion is coming from a small volume syringe. The penetration rate for this type of infusion pump is estimated to be 1/3 of that of the total infusion pump rate at all hospitals.

Infusion market overview

Infusion Pump Sales

As the Indonesian economy continues to grow at a steady pace, the requirement for hospitals to improve will continue. As hospitals in Indonesia continue to improve upon their current medical equipment, the need for infusion pumps will continue to increase even though infusion pumps are still considered, by many hospitals and healthcare facilities, as an expensive burden.



Source: IPSOS analysis

- Those in the healthcare industry in and around Indonesia are quite optimistic about the prospect of growth and improvement of medical equipment within each community and hospital throughout the country.
 - “We expect {sales} to more than quadruple over the next three years and anticipate our growth in Indonesia to continue through to 2020 as Indonesia looks to bring its health-care infrastructure up to standard.” stated Wayne Spittle, senior vice president and commercial leader for Phillips Healthcare Asia Pacific (Source: WSJ).
- In 2009-2011 it was estimated that more than 45,000 units of Infusion pumps were being taken up by the market. In 2011, the size of the infusion pump market in Indonesia reached an astonishing \$110 million USD with a compound annual growth rate (CAGR) of 11.6% from 2009 through 2011. The market is expected to have achieved even higher sales numbers for 2013 and the coming years.
- Major players in the infusion pump market include, to name a few, are; Vlumet Agilia from Fresenius Kabi, SK Medical, Covdien and Terumo.

Conclusion

Indonesia’s healthcare system is primed for major improvement over the next couple of years, especially once the government is able to regulate and distribute the state budget (APBN) set aside to help improve the country’s healthcare system. This means that hospitals and other healthcare facilities will be making major changes to their purchasing and usage of medical equipment, including that of infusion pumps, throughout the country’s healthcare system.

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