Investing in Indonesia's Health:
Challenges and Opportunities for Future Public Spending

Health Public Expenditure Review 2008

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Acknowledgments

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Foreword

Indonesia's health sector is entering a period of transition. By 2015, Indonesia is expected to have a population of around 250 million. In addition to this major demographic change, epidemiological and nutritional transitions are also occurring. Taken together, all these changes will require a very different Indonesian health system from the one that exists today. But although Indonesians are living longer, too many children continue to die of preventable diseases and too many mothers die in childbirth. While Indonesia still has this heavy, albeit declining, burden of fighting communicable diseases, the number of non-communicable diseases (diabetes, heart diseases, etc) is increasing rapidly. This double burden of high communicable and increasing non-communicable diseases is placing additional pressures on the health system.

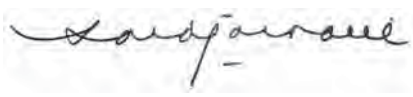
In the past few years, Indonesia has introduced some major changes into its health system: decentralization has empowered districts and provinces to manage and finance midwives, nurses and doctors; and the introduction of a health insurance system for the poor (Askeskin) has created the opportunity to protect vulnerable Indonesians against slipping into poverty when they fall ill. However, Indonesia is encountering difficulties in implementing these bold reforms. For example, it still remains unclear to whom health workers are accountable, and one consequence of this lack of accountability is high levels of absenteeism from work. Askeskin has led to a substantial expansion in health spending and raises important questions concerning the financial sustainability of universal health insurance coverage. These difficulties are a reflection of the broader challenges that will face Indonesia's health sector in the decade ahead.

This Health Public Expenditure Review (Health PER) is a very timely and welcome analysis that supports Indonesia in the development and implementation of its health sector strategy and a first important input for the Government's next Medium-Term National Development Plan (2009-14). This Health PER highlights a number of different facets of public expenditure on health in Indonesia and prompts a series of fundamental questions about the future. These questions include the overall adequacy of funding, the role of public versus private expenditures in the health sector, the roles of central and regional budgets, appropriate mechanisms for mobilizing resources and purchasing services, and the proportion of public expenditure that should be devoted to public health, as opposed to individual medical care. This report provides nine ideas for making the health system more efficient.

The Health PER is a follow-up to the 2007 Indonesia Public Expenditure Review and follows its successful model of collaboration between the Government of Indonesia and the World Bank. The Health PER is also a product of the Initiative for Public Expenditure Analysis (IPEA), which is a consortium of key government ministries, including the Ministry of Finance, State Ministry of Development Planning (Bappenas), the Coordinating Ministry for the Economy, Indonesian universities and the World Bank. The Dutch Government provided substantial financial support. This report was written in close collaboration with the staff from the Ministry of Health and Bappenas.

As a first step, with this Health PER we hope to provide the Government and its partners with opportunities to maximize the efficiency of health spending. Following this report, we also look forward to subsequent analyses that will address the various components of the Indonesian health system.

Dra Nina Sardjunani, M.A
Deputy Minister for Human Resources and Cultural Affairs State Ministry for National Development Planning/ National Development Planning Agency (BAPPENAS)



Joachim von Amsberg
Country Director
The World Bank, Indonesia

Glossary of Terms

ADB : Asian Development Bank
AI : Avian Influenza
AIDS : Acquired Immune Deficiency Syndrome
ALOS : Average Length Of Stay
APBD : Regional Government Budget (*Anggaran Pendapatan dan Belanja Daerah*)
APBN : State Budget (*Anggaran Pendapatan dan Belanja Negara*)
APBN-P : Revised State Budget (*Perubahan Anggaran Pendapatan Belanja Negara*)
ART : Anti Retroviral Treatment
Asabri : Social Insurance Plans for the Armed Forces personnel (*Asuransi Angkatan Bersenjata Republik Indonesia*)
Askes : Indonesia Health Insurance (*Asuransi Kesehatan Indonesia*)
Askeskin : Indonesia Health Insurance for the Poor
BA : Basic Allocation
Bappeda : Development Planning Agency at Sub-National Level (*Badan Perencanaan Pembangunan Nasional*)
Bappenas : National Development Planning Agency (*Badan Perencanaan Pembangunan Nasional*)
Bidan : Midwife
BKKBN : National Family Planning Agency
BKN : National Civil Service Agency (*Badan Kepegawaian Negara*)
BOR : Bed Occupancy Rate
BOS : Operational Aid to School Program (*Bantuan Operasional Sekolah*)
BPS : Central Bureau for Statistics (*Badan Pusat Statistik*)
BTO : Bed Turn Over
Bupati : Regent
CCT : Conditional Cash Transfer
CDR : Clinical Data Repository
CPI : Consumer Price Index
CVD : Cardiovascular disease
DAK : Special Allocation Fund (*Dana Alokasi Khusus*)
DAU : General Allocation Grant (*Dana Alokasi Umum*)
DBD : Dengue Hemorrhagic Fever (*Demam Berdarah*)
DEKON : Deconcentration Funds
Desa : Village
DHA : District Health Accounting
DHO : District Health Office
DHS : Demographic and Health Survey
Dinas : Provincial Sub-Project Management
DPHO : District Public Health Offices
DPR : Parliament/ House of Representatives at Regional level (*Dewan Perwakilan Rakyat*)
DPRD : Parliament/ House of Representatives at Regional level (*Dewan Perwakilan Rakyat Daerah*)
EAP : East Asia and Pacific
FHI : Family Health International
FY : Fiscal Year
GDP : Gross Domestic Product
GDR : Gross Death Rate
GDS : Governance and Decentralization Survey
GGHE : General Government Health Expenditure
GoI : Government of Indonesia
GNI : Gross National Income
GNP : Gross National Product
GRDP : Gross Regional Domestic Product
GTZ : German Technical Cooperation
GTZ SISKES : GTZ Health Information System
HAI : Histology Activity Index
HIV : Human Immunodeficiency Virus
HH : Household
HMO : Health Maintenance Organization
HPER : Health Public Expenditure Review
HSPA : Health Services and Policy Analysis

IBBS	: Indonesia Bio-Behavior Survey
IDHS	: Indonesia Demographic and Health Survey
IMMPaCT	: International Micronutrient Malnutrition Prevention and Control Program
IMR	: Infant Mortality Rate
Inpres	: Presidential Instruction (*Instruksi Presiden*)
Jamsostek	: Workforce and Social Insurance (*Jaminan Sosial dan Tenaga Kerja*)
JKJ:	: Health insurance reform scheme in Jembrana (*Jaminan Kesehatan Jembrana*)
JPKM	: Community Health Insurance Scheme (*Jaminan Pemeliharaan Kesehatan Masyarakat*)
Kabupaten	: District
Kanwil	: Regional Office of Ministry (*Kantor Wilayah*)
Kecamatan	: Sub-District
Kelurahan	: Village
Keppres	: Presidential Decree (*Keputusan President*)
Kota	: Urban District
LG	: Local Government
LKPP	: Preliminary Unaudited Central Government Financial Report (*Laporan Keuangan Pemerintah Pusat*)
LOS	: Length of Stay
LPFM FEUI	: Institute of Economic and Social Research – Economic Faculty University of Indonesia (*Lembaga Pendidikan Ekonomi dan Masyarakat – Fakultas Ekonomi Universitas Indonesia*)
MCH	: Maternal and Child Health
MDG	: Millennium Development Goal
MMR	: Maternal Mortality Rate
MMS	: Minimum Service Standards
MoF	: Ministry of Finance
MoH	: Ministry of Health
MoHA	: Ministry of Home Affairs
MTEF	: Medium-term Expenditure Framework
NCD	: Non-Communicable Disease
NGO	: Non-Governmental Organization
NHA	: National Health Account
NHHS	: National Household Health Survey
NHI	: National Health Insurance
NHSI	: National Health System in Indonesia
NID	: National Immunization Days
NSSs	: National Support Systems
NTT	: Nusa Tenggara Timur
ODHA	: People Living with HIV/AIDS (*Orang Hidup Dengan HIV/AIDS*)
OECD	: Organization for Economic Co-operation and Development
OOP	: Out-of-Pocket Payments (also known as OOPS)
OSR	: Own-Source Revenue (*Pendapatan Asli Daerah*, or PAD)
OTC	: Over-the-Counter
PA	: Poverty Assessment
PC	: Per capita
PER	: Public Expenditure Review
PHA	: Provincial Health Accounting
PHC	: Public Health Centre
PHO	: Public Health Office
PLWHA	: People Living with HIV and AIDS
PKS-BBM	: Compensation Program to Reduce Fuel Subsidies (*Program Kompensasi Pengganti Subsidi BBM*)
PNS	: Civil Servants (*Pegawai Negeri*)
Podes	: Village Potential Statistics (*Potensi Desa*)
Posyandu	: Integrated Health Posts
PP	: Government Regulation (*Peraturan Pemerintah*)
PTT	: Temporary Civil Service (*Pegawai Tidak Tetap*)
Puskesmas	: Health Center at Sub-District level (*Pusat Kesehatan Masyarakat*)
Pustu	: Community Health Sub-Center (*Puskesmas Pembantu*)
PvtHE	: Private Sector Expenditure on Health
Renja KL	: Annual Work Plans (*Rencana Kerja Kementerian/Lembaga*)

Renstra KL	: Ministry and Agency Medium Term Strategic Plan (*Rencana Kerja dan Anggaran Kementerian/Lembaga*)
Repanas	: Five Year National Plan (*Rencana Pembangunan Nasional*)
RKA-KL	: Ministry Work Plan and Budget (*Rencana Kerja dan Anggaran Kementerian/Lembaga*)
RKP	: Government Work Plan (*Rencana Kerja Pemerintah*)
Rp	: Indonesian Rupiah
RPJM	: Medium-Term Development Plan (*Rencana Pembangunan Jangka Menengah*)
Sakernas	: Labor Force Survey (*Survei Tenaga Kerja Nasional*)
SDA	: Natural Resource (*Sumber Daya Alam*)
SDO	: Subsidy for Autonomous Regions (*Subsidi Daerah Otonom*)
SIKD	: Regional Financial Information System (*Sistem Informasi Keuangan Daerah*)
SMERU	: Independent Institution for research and public policy studies
SKTM	: Health card/statement of poor condition (*Surat Keterangan tidak Mampu*)
SOE	: State-Owned Enterprise
SS	: Social Security
Susenas	: National Socio-Economic Survey (*Survei Sosial Ekonomi Nasional*)
TB	: Tuberculosis
TBA	: Traditional Birth Attendant
Taspen	: Saving Plans (*Tabungan Pensiun*)
THE	: Total Health Expenditure
TOI	: Turn Over Interval
ToR	: Term of Reference
TP	: Tugas Pembantuan
UCI	: Universal Child Immunization
UI	: University of Indonesia
UNDP	: United Nation Development Program
UNICEF	: United Nations Children's Fund
U5MR	: Under 5(Five) Mortality Rate
UMR	: Minimum Wage
WB	: World Bank
WDI	: World Development Indicator
WHO	: World Health Organization
WHS	: World Health Statistics
WHR	: World Health Report

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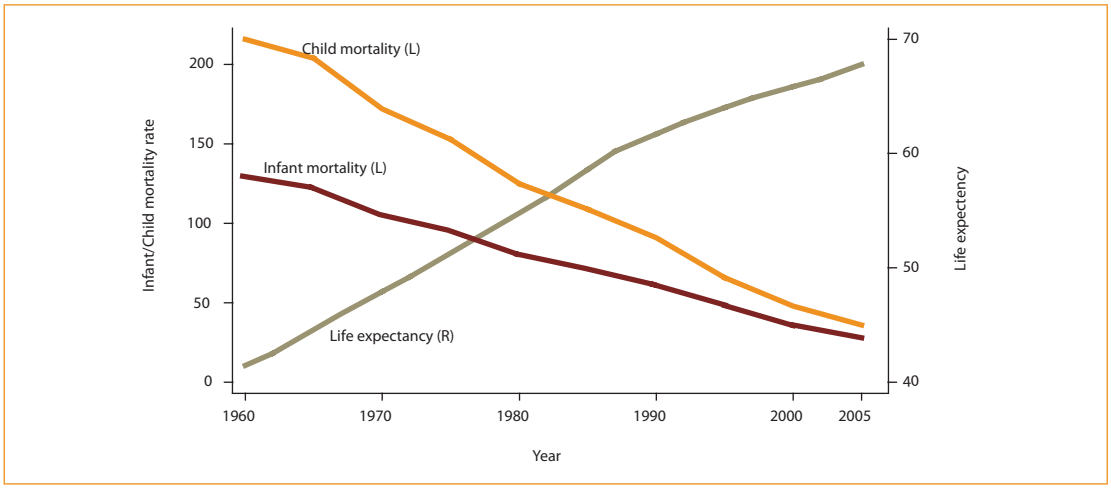
Executive Summary

Indonesia has made major improvements over the past three decades in its health system, but is struggling to achieve important health outcomes, especially among the poor. This can be explained by not only continuing, but also new, challenges that the country is facing due to demographic, epidemiological and nutritional transitions that are increasing the demand for healthcare. Indonesia's growing economy, its political stability and the trend towards decentralization allow it to think expansively about healthcare, as is needed. However, improvements are also needed in spending efficiency and quality of services. Although improvements have been made in increasing access to health services, the performance of the current health system is inadequate for achieving today's and future health outcomes, or providing financial protection for poor Indonesians. Already, important steps have been taken with the introduction of the Askeskin program for the poor. Nonetheless, utilization of health services in Indonesia is low and self-treatment high by international comparisons, and health insurance coverage has remained almost stagnant over the past three decades at less than 20 percent. Despite substantial increases in public health spending in recent years, overall health spending in Indonesia remains low and continues to be inequitably distributed between and within provinces, while analysis also reveals major inefficiencies.

Indonesians live far longer today than they did four decades ago, but important health challenges remain

Indonesians are living longer and child mortality has fallen dramatically. Since 1960, life expectancy at birth in Indonesia has increased from 40 to 69 years, only slightly lower than China, Thailand or Turkey. In the same period, Indonesia has reduced child mortality by more than a third and infant mortality by 25 percent (Figure 1).

Figure 1 Trends in key health indicators for Indonesia, 1960-2005



Source: WDI, 2007.

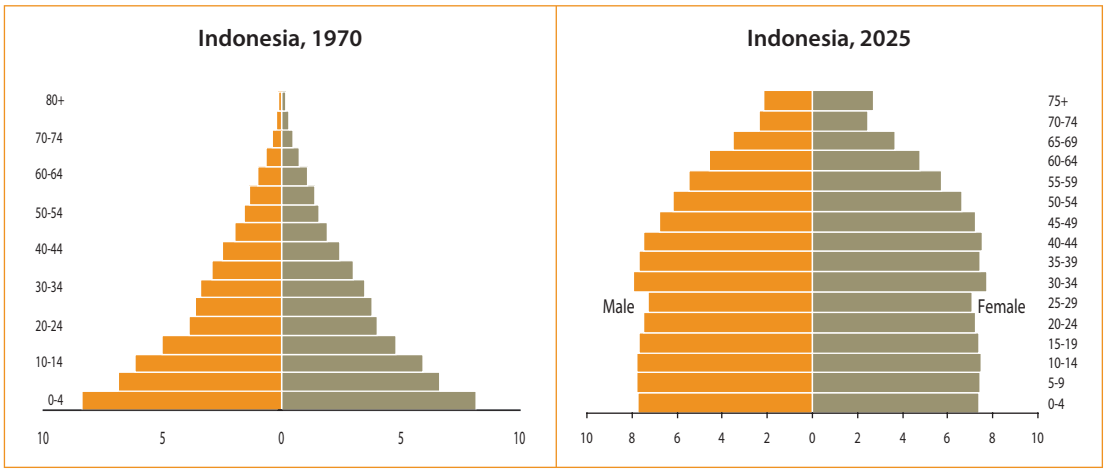
However, Indonesia continues to underperform in a number of important areas and, as a result, is unlikely to achieve several of its health-related MDGs. In particular, the country has made very little headway in reducing maternal mortality, improving child nutrition and other health determinants or addressing geographic health disparities:

- ***Maternal mortality.*** In Indonesia, more than four mothers die out of every 1,000 live births. This is one of the highest maternal mortality rates in East Asia: about double the Philippines, three times that of Vietnam and four times that of Thailand.
- ***Child malnutrition.*** Although Indonesia has substantially reduced child malnutrition from 38 percent in 1990 to 25 percent in 2000, malnutrition rates have stagnated since 2000 and are even increasing in some provinces, such as Papua and Maluku.
- ***Female literacy and acces to clean water and sanitation.*** Important health determinants such as female literacy and access to clean water and sanitation remain low among the poorest population groups.

- ***Geographical disparities.*** Similar to other sectors, health indicators are on average better in Java and Bali, while eastern Indonesia lags behind. For instance, in Bali and Yogyakarta fewer than 25 out of 1,000 children die before reaching their fifth birthday, while in Gorontalo close to 100 children in every 1,000 fail to reach the age of five.

While Indonesia is still addressing these more traditional healthcare challenges, the country is also undergoing a major demographic transformation that will demand a different — and more expensive — health system. Indonesians are living longer and fewer children are dying from communicable diseases. Today, the composition of Indonesia's population looks very similar to most European countries in the 1950s and, by 2025, the number of 30-60 year olds will be equivalent to the 0-30 year olds (Figure 2).

Figure 2 Population pyramids for Indonesia, 1970 and 2025



Source: World Bank staff calculations based on Bappenas/ BPS growth projections and UN, 2007.

Indonesia is in a period of epidemiological transition: Communicable diseases, such as tuberculosis and measles, albeit in decline, remain high, while NCDs, such as diabetes, heart disease and cancers are increasing. The increase in NCD is primarily attributable to changes in dietary behavior and more sedentary lifestyles. The implications of these changes in the demand for healthcare are important for decisions regarding health financing and allocation of resources.

In the mid-1970s, during the first oil windfall, Indonesia made the most of its additional revenue by embarking on a massive expansion of basic social services, including health. This program (Inpres) led to a rapid increase in the numbers of health centers, doctors, nurses and midwives. However, despite this expansion, today the provision of health services remains uneven and Indonesia continues to face a challenge in the geographical distribution and quality of its health workforce:

Indonesia's health system increased access to healthcare but poor quality and inefficiencies remain major concerns, especially as demand is set to increase going forward

- ***Doctors:*** **Indonesia does not have enough doctors in remote areas, and absenteeism at public health centers is high.** Indonesia only has 13 doctors per 100,000 people, one of the lowest ratios in Asia. In Lampung province (Sumatra), the ratio is as low as 6 doctors per 100,000. In addition, this low coverage is exacerbated by high levels of absenteeism. Up to 40 percent of doctors have been found to be absent from their posts without valid reason during official public working hours.
- ***Nurses:*** **In contrast, Indonesia has relatively more nurses than its regional peers, but many are poorly qualified and not permitted to provide the required care**. Although poorly qualified, nurses in Indonesia are numerous and well distributed. In remote areas, they are

often the only health workers available. Consequently, nurses are regularly required to provide curative and diagnostic services that they are currently not legally permitted to perform.

- ***Midwives:*** **In aggregate terms, Indonesia has a large number of midwives thanks to its previous *bidan-di-desa* policy of placing midwives in every village.** But today, as with other health workers, their distribution is uneven. These distributional problems are particularly pressing in remote rural areas: a recent study, based on survey data from two districts in Java, found that 10 percent of villages have no midwife, but only a nurse as a midwifery provider. In addition, midwives who are assigned to remote areas tend to be less experienced and manage fewer births, making it hard for them to maintain/develop their professional midwifery skills.

Although Indonesia's health workforce is growing, the legitimacy of "dual practice" without proper oversight hinders the effectiveness of the system. The government has allowed its staff to engage in "dual practice" since the 1970s in recognition of the low level of public salaries. However, allowing public health workers to simultaneously take jobs in the private sector has, despite positive effects, also negative effects. Proper oversight mechanisms to ensure accountability for public working hours and maintain quality standards are still weak in Indonesia. In addition, since urban areas are generally more attractive to private health service providers, dual practice may also contribute to the shortage of health workers in rural areas. As an example of unequal distribution of health personnel, 18 out of Indonesia's 33 provinces have less than one doctor per Puskesmas.

So far, decentralization has failed to deliver its full potential to improve health service delivery. Within the current civil service and decentralization regulations, local governments have limited authority in managing their staff. The current fiscal transfer formula contains a fiscal incentive to expand staff levels. This has led to substantial increases in the number of teachers and is likely to be having a similar effect on health sector staffing. However, local governments have limited flexibility in deploying health workers or in sanctioning staff, for example, for absenteeism. This lack of local authority and accountability hinders the development of a more efficient and well-distributed health workforce at the district level, resulting in some health centers being overstaffed while others face staff shortages.

Health infrastructure is also deficient in quality and many health centers are poorly equipped. The average local health center (Puskesmas) serves around 23,000 people within a service area of 242 km^2, and is supported on average by three sub-health centers (Posyandu). Puskesmas also often lack adequate infrastructure such as clean water, sanitation or regular access to electricity. Furthermore, ensuring sufficient stocks of basic medicines, medical supplies and equipment remains problematic, especially in remote areas.

These inefficiencies and poor quality in the health sector have resulted in low utilization rates of both public and private facilities. Overall outpatient utilization of health services decreased in the wake of the financial crisis in 1997/98 and has failed to recover since then, while self-treatment has continued to grow. Indonesia is one of the few countries in the region where health utilization rates have yet to return to their pre-crisis levels. Utilization rates are especially low among the poor for outpatient services, although since 2005 with the Askeskin program this has been improving, particularly for public sector facilities.

Inpatient utilization is also very low in Indonesia, particularly among the poor, who use inpatient services 60 percent less than the better-off. When the poor do seek inpatient care at a health facility they invariably look towards Puskesmas, followed by public hospitals. Although inpatient utilization figures appear to be on the rise following the introduction of the Askeskin program, they remain low for the poorest segment of the population. Further detailed research is needed to assess the impact of Askeskin on healthcare-seeking behavior in order to better understand the reasons behind continued low utilization by the lowest income groups.

Despite substantial increases in recent years, Indonesia still spends comparatively little on health. In total, Indonesia spends less than 3 percent of GDP on the health sector (which is split between private and public spending in a ratio of 2 to 1). In contrast, Vietnam, the Philippines, Malaysia and most of Indonesia's other neighbors spend more and score better on most conventional measures of health outcomes, such as DPT and measles vaccinations, as well as on child and maternal mortality rates.

While spending on public health has increased substantially from a low base, it remains low with large out-of-pocket spending resulting in inequities and poor health outcomes

Indonesia's public expenditures on health have increased substantially. In real terms, total public spending on health has more than quadrupled from about US$1 billion (Rp 9.3 trillion) in 2001 to over US$4 billion (Rp 39 trillion) in 2007, surpassing for the first time 1 percent of GDP.

In the years directly after decentralization, more than half of public health spending was carried out by provinces and districts. Until 2005, districts accounted for around 50 percent of total health spending, the central government for a third and provinces just below 20 percent. However, since 2005, with the introduction of the national health insurance program for the poor (Askeskin), the share of total spending by the center has increased substantially, resulting in renewed prominence of central government spending.

Local governments have limited opportunities to make decisions regarding spending on local needs. In 2007, it is estimated that the central government and the districts both managed about 40-45 percent, while provinces managed about 15 percent of public health expenditures. The multiple funding channels and specific mandates that accompany them restrict the scope for district governments to make spending choices. The high share of salaries in routine expenditure illustrates this issue, as salaries are centrally directed expenses. There is very little room for reallocation and, as a result, very little scope for funding choices or discretion in the supervision of public health activities.

Often significant resources at the local level remain unspent, while the need for health spending remains high. In 2006, only 73 percent of the total public health budget was spent. Particularly low disbursements were seen in the categories of goods, consultants and civil works. Systemic weaknesses in public financial management largely explain these low disbursement rates. However, this is not just an issue in the health sector but a more general problem that affects the entire public sector (World Bank, 2007c).

Despite substantial increases in public spending, private health spending still comprises the bulk of total health expenditures. About 65 percent of all spending on health is private and, of that, 75 percent is direct out-of-pocket spending. The remaining private spending from companies and insurance funds is limited in Indonesia. This makes OOP spending half of all health spending in Indonesia and compensates for low public spending and limited health insurance coverage. As long as high OOP levels exist in Indonesia, equity in health financing will be difficult to achieve.

Although it affects only a relatively small and apparently declining segment of the population, catastrophic health expenditures still drive people into poverty. Almost half of all Indonesians live at an income level that is vulnerable to poverty. As a consequence, unanticipated health expenditures are a major cause of these near-poor falling into poverty, in addition to causing extreme suffering among the poor. Almost 2.3 million of Indonesian households (1 percent) currently fall into poverty annually due to catastrophic spending, which is defined as occurring when households spend more than 40 percent of their income on health-related costs. While on average Indonesians spend less than 3 percent of their income on health expenditures (compared with 11 percent on tobacco!) the group that is affected by catastrophic costs still comprises more than 6 million households in absolute numbers.

The government's Askeskin health program for the poor aims to protect both poor and near-poor households from catastrophic expenditures and, despite inefficiencies and mistargeting, appears to be achieving results. Between 2005 and 2006, the share of people sliding into poverty due to healthcare spending declined from 1.2 percent to 0.9 percent. However, more analysis is needed to fully understand the link between the Askeskin program and these results, as well as the financial and implementation sustainability of the program.

Increasing health spending, decentralization and the Askeskin program have yet to translate into clearly improved health outcomes. In part this is due to a lack of demand resulting from shortcomings in health literacy and relatively high non-medical costs (opportunity and transportation costs, as well as user fees). It is also due to inefficiencies in the health system itself, such as high levels of absenteeism and shortcomings in health workforce education, together with low quality infrastructure and geographic disparities. However, poor health outcomes are also a consequence of weakness in Indonesia's public financial management, including difficulties in making investments early in the fiscal year and stronger incentives to hire staff than invest in operations and maintenance (World Bank, 2007c). Last but not least, low levels of spending on other determinants of health outcomes — such as improved water and sanitation, female literacy and early child nutrition — is also a crucial factor in Indonesia and adversely affects health outcomes.

Inequity and inefficiencies are drivers of sub-optimal health outcomes among the poor

High rates of self-treatment are a major driver of inequity. Susenas data suggest that Indonesians' first source of healthcare in the event of illness is private vendors of pharmaceuticals. Pharmaceuticals constitute a large share of OOP. Prices of frequently prescribed drugs are often higher than international prices. This, together with high self-treatment rates, drives high levels of OOP spending. With higher numbers of the poor driven to seek self-treatment in the absence of wide health insurance coverage, this is an important driver of inequality in health spending.

Current public health spending for secondary healthcare tends to be regressive. The use of state subsidies and user charges to finance the public provision of healthcare has had an adverse impact on equity in the health sector. To date, public health spending has generally benefited richer income groups more than the poor through regressive subsidies for secondary healthcare. This can be partially explained by the very low utilization rates of hospital care by the poor who, prior to the Askeskin program, were deterred by high user charges. However, the hope is that the regressive nature of secondary healthcare spending can be partially corrected through the Askeskin program, assuming that the program can be well targeted. At the same time, spending on secondary care should not necessarily be diminished, particularly when bearing in mind Indonesia's growing dual disease burden and the increasing need for hospital treatment that this will entail.

Askeskin is providing the poor with better healthcare access, but richer quintiles are also benefiting. The Askeskin program has provided a large number of previously unprotected poor with the opportunity to benefit from free healthcare, reducing the financial barrier to health service access. As a result, utilization has been rising, while catastrophic spending has declined. However, richer income groups have also benefited from Askeskin, indicating a need to improve the targeting of the program.

Low hospital occupancy rates indicate economic inefficiencies that may increase average costs of services, even though these are already considered excessive by many Indonesians. Nonetheless, at 56 percent, Indonesia's low average bed occupancy rate is on a par with rates in most other East Asian countries. Although this low rate is partly due to geographic and epidemiological trends, potential efficiency gains that could be made through improvements should not be underestimated. Low occupancy rates are often linked to the perceived poor quality of hospital services which, in turn, is a reflection on the limited availability of skilled personnel. As such, improvements could be made by adopting new staffing policies and increasing the number of specialized staff in hospitals.

POLICY OPTIONS: Nine ideas for a better health outcomes in Indonesia

1. **Make better use of the existing resources available for health, while also making more resources available in the medium term.** Current financing arrangements provide few incentives for efficiency by local governments or individual healthcare providers. Modern provider-payment schemes, improved oversight and contracting of private providers, results-based financing pilots, improved accountability over public working hours to reduce absenteeism and other creative solutions to dual practice, and revisiting the skills mix in remote areas, could all contribute towards improving system inefficiencies.

2. **In particular, make more resources available for reproductive health and allocate resources for referral and institutional deliveries**. Public awareness of financial coverage for better pre-natal/delivery care through Askeskin should be raised and appropriate incentives for midwives should also be provided to ensure the appropriate availability of institutional deliveries. Create a reimbursement mechanism for institutional deliveries that reflects the real costs.

3. **Improve the allocation of resources for preventive care and allow for sufficient resources for operations and maintenance to ensure quality of basic care**. Strengthen the focus on preventive interventions both in transition and early transition areas. Not only areas with persistently high communicable disease burdens require preventive health services. To a great extent NCDs can also be prevented, or their onset delayed, through appropriate preventive health behaviors, such as reduced smoking, increased exercise and healthy eating. In focusing on prevention, health literacy and demand-side factors need to be given a higher priority.

4. **Devote additional resources and attention to all major public goods that determine health outcomes.** In general, more attention and resources are needed in order to address major public goods that determine health outcomes, namely water and sanitation, female literacy, etc. Such interventions could have an enormous impact, especially for the poor, in addressing those MDGs in which Indonesia is lagging, such as infant mortality.

5. **Adjust the general allocation fund (DAU) to provide incentives for local civil service reform and amend PP No.55 to allow operational use of deconcentrated funding.** More than half of the recent DAU increase goes towards financing sub-national civil service wage bills. Full coverage of the sub-national wage bill provides a disincentive for sub-national governments to streamline their civil services. Removing full coverage would strengthen the equalizing impact of DAU transfers. Such a measure would empower sub-national governments to find a more optimal combination of inputs (size of workforce, capital, intermediate inputs and outsourcing) for public health service delivery and encourage a more efficient distribution of the health workforce. Amending PP No.55 to allow deconcentrated use for operational costs would contribute to better efficiencies in staff and facility use.

6. **Improved health outcomes and financial protection for the poor may be possible by increasing the coverage of Askeskin**. Askeskin has the potential to substantially increase access of poor Indonesians but it is not yet well targeted. In addition to Askeskin, other types of demand-side interventions are needed to promote better access and encourage those currently using self-treatment to switch to more appropriate healthcare. Current initiatives such as conditional cash transfers (CCT) linked to child and maternal care are examples, but good public information campaigns also fall under this category. Regarding CCT, supply-side issues need to be reviewed carefully to ensure that demand will be met by a quality supply of services.

7. **Ensure better financinal sustainability of Askeskin by introducing cost-containment options.** The costs of the Askeskin program will continue to rise and increase pressure on the supply side. The financial sustainability of Askeskin will depend on careful cost-containment. The various cost-containment options will require decisions on the benefit packages, population coverage and

targeting mechanisms, together with the introduction of co-payment mechanisms. Related to this are the important questions of how the demand side will respond and the nature of future utilization patterns.

8. **Increase efficiency of service provision for publicly insured enrollees by allowing program beneficiaries to also use private providers**. As long as the private sector remains practically excluded from the scheme (due to its unwillingness to accept the uniform tariffs set by the MoH), supply-side problems are likely to become increasingly common and could contribute to additional inefficiencies in service delivery. It is important to create a level playing field through effective provider-payment mechanisms. However, effective regulatory capacity and provider-payment reforms are key pre-requisites in achieving this and ensuring equity. Once these reforms are in place, the government can adopt the principle of *money following patients* and the equal payment for efficient provider services irrespective of ownership.

9. **Improve reporting systems and data availability.** Since decentralization, the challenges to reporting systems have spiraled. The government is currently establishing the District Health Accounts system in order to improve budget transparency. Such data are crucial for feedback into the budget cycle and will allow for intra and/or inter sectoral reallocations based on need and performance. In particular data availability on functional spending needs to be improved to allow for more detailed, better targeted and locally-specific solutions. Currently, data are problematic, with significant deconcentrated funds being spent in the regions under ambiguous classifications from the MoH.

Introduction

Why this Report?

Efficiency and equity of health spending are more important than higher spending at this stage. While the World Bank's recent national public expenditure review (2007 PER), *Spending for Development: Making the Most of Indonesia's New Opportunities* (World Bank, 2007c) points out that the government could consider allocating more resources to health, it stresses the importance of first improving allocative and technical efficiency, as well as the equity, of current spending. This review recommended that priority should be given to identifying the right mix of investments to better reflect the country's complex and wide-ranging public health challenges. Government policies in the sector should be more clearly reflected in budgetary allocations, while greater transparency in decentralized health accounting and spending is necessary.

This Health PER (Health PER) expands upon the health chapter in the 2007 PER. The 2007 PER includes detailed chapters on public financial management, the Indonesian budgeting process, fiscal decentralization and regional inequities, information that this Health PER will refer to but not repeat. Although the 2007 PER dedicated a separate chapter to expenditure analysis in the heath sector, it also highlighted the need for more in-depth research concerning health financing. This was felt to be particularly important in the areas of: (i) private expenditure, which accounts for about half of all health spending; (ii) global comparisons to better place Indonesia in an international perspective; and (iii) more data and analysis regarding district expenditure patterns and inter-governmental fiscal transfers.

This Health PER highlights a number of different facets of public expenditure on health in Indonesia and prompts a series of fundamental questions about the future. These questions include the overall adequacy of funding, the role of public versus private expenditures in the health sector, the roles of central and regional budgets, appropriate mechanisms for mobilizing resources and purchasing services and, what proportion of public expenditure is for public health, as opposed to individual medical care. Although these may be framed as financing questions, their implications extend into wider areas of public policy, such as the role of the state, the design of decentralization, and the social and political values attached to equity and efficiency.

Scope of this Report and Data Used

The scope of this Health PER is broad. It includes a review of fiscal space and the current macro-economic picture, as well as a review of Indonesia's progress towards and issues regarding health insurance. Health systems finance is complicated by the fact that the public-private mix covers basically all the key functions: funding, organization, purchasing and provision. This review addresses private expenditures, which occur mostly in the form of out-of-pocket household expenditures. However, due to serious data availability limitations, the review remains limited in its analysis of private sector provision issues and financing through private employers and insurance companies.

At the same time, analysis of public health expenditure data remains problematic not only due to the lack of reliable data, but also because of complexities introduced into the system after decentralization. In Indonesia reliable data from national health accounting (NHA) is still lacking, although a series of reasonably reliable estimates of total expenditures does exist. A new NHA Task Force has been formed, is working on obtaining reliable health accounts, and has participated in the discussions on the data used in this Health PER. In Chapter 3 on public health expenditures, explanations about the data used and its validity are included in the text to ensure that readers are equipped with the necessary information to qualify discussions concerning the performance of the current health system in Indonesia. In addition, Annex I provides an overview of the data sources, methodologies and main shortcomings of the various datasets.

New data were collected for selected districts, but a thorough assessment of the efficiency of local government spending continues to be difficult due to limitations in local health accounting systems. Given that districts are, particularly since decentralization, the main providers of healthcare, it is essential to assess their spending mix by program when analyzing the efficiency of public spending. At present, however, districts do not regularly report such expenditures to the center, and only a limited number of districts in Indonesia have applied systems of district health accounting (DHA). While in theory these systems should provide districts with the tools to set budgets against priorities as defined by the prevailing (at times locally specific) burden of disease, in practice a large number of

Indonesian DHA lack transparency and, as a result of reporting delays, are not used for policy-making on a regular basis. The table below summarizes the different types of data and their scope as used in this Health PER. For more detailed information, Chapter 3 or Annex A should be consulted.

TYPE OF DATA:	SCOPE / COMMENTS:
Expenditure Data:	
Central government (health) expenditures: ***Functional classification – Central government health expenditures:***	Ministry of Finance (MoF) data of audited realized expenditures for 1994 to 2006. Preliminary realization data were used for 2007 (first revision January 2008) and the 2008 budget (APBN) approved in October 2007. In order to allow for the central government expenditure functional classification for the health sector, expenditure data from the Ministry of Health (MoH) for 2006 were used. These figures differ slightly from the expenditure figures obtained by the MoF.
Province and district government expenditures: ***Functional classification – Sub-national government health expenditures:***	Data for 2000-05 are processed from the MoF's Regional Fiscal Information System (*Sistem Informasi Keuangan Daerah*, or SIKD). World Bank staff further computed estimates for sub-national spending for 2006-07 based on historical shares across sectors and aggregate transfers budgeted by the central government. Data used for the analysis of the functional classification were based on a sample of district data from Lampung and Yogyakarta provinces, because neither the SIKD database nor the raw data from the MoF allowed for a comprehensive, more representative analysis of expenditure in the health sector by program or function. Hence, a sub-set of DHA data was analyzed.
Survey Data:	
BPS – Susenas – Annual National Social Economic Household Survey	Susenas was the source of demographic, economic (OOPS), and social information from households for 2000-06.
BPS – Sakernas – Annual National Labor Force Survey	The Sakernas survey (*Survei Tenaga Kerja Nasional*) for 2004 to February 2006 was the source for labor statistics.
BPS – Podes – The Village Potential Survey	The Podes survey for 2004-05 provided information on village infrastructure characteristics nationwide. This survey is conducted in the context of periodic censuses (agriculture, economy and population). The survey contains information on the number of health centers, clinics and hospitals, as well as numbers of health staff (public and private) at the district level. In addition, distances to the infrastructure can also be generated from the survey.
Indonesian Demographic Health Survey (IDHS)	The IDHS 2002-03 was used mostly for the analysis of outcome variables for the health sector. The survey sample size is large and allows for comparisons over time as data are collected generally every five years.
The World Bank executed Governance and Decentralization Survey (**GDS**)	The GDS 1+ and 2 provided data on indicators for governance and decentralization from households and non-households at the district and village level, as well as information collected at health delivery points. The main questionnaires (from the GDS 2 Survey) that were used for generating information on the health sector were: • 'Head of the Puskesmas' (GDS Questionnaire # 31) • 'Secondary data from the Puskesmas' (GDS Questionnaire # 33) • 'Health Unit' (GDS Questionnaire # 35) • 'Private Health Services' (GDS Questionnaire # 36)

Link to GoI Comprehensive Health Sector Review and Objectives of this Health PER

The GoI had requested the World Bank, AusAID, GTZ, ADB and other development partners to provide technical support in the form of a government-led comprehensive health systems assessment for Indonesia. The aim of the government is to obtain advice for the development of its Medium-Term Development Plan (RPJM) 2009-14, which proposes policies aimed at achieving the long-term vision laid out in the National Development System. This Health PER contributes to the broad Health Sector Review by addressing in detail public and private expenditures, at central and decentralized levels, and encouraging the development of policy options for a longer-term vision in the area of health financing.

The main objectives of this Health PER should be seen in the context of their contribution to the comprehensive government-led Health Sector Review.[1] These objectives are as follows:

- To analyze current levels and trends in health expenditures (public and private), and compare these internationally, as well as to provide an overview of spending by economic and functional classifications for the various levels of government;
- To assess the extent to which public expenditures are efficient and equitable in achieving health outcomes;
- To review the level of out-of-pocket expenditures and catastrophic spending, and identify policy issues with regard to current risk-pooling and health insurance arrangements, including a preliminary analysis of the Askeskin program; and
- To provide, if relevant, policy options for more efficient and equitable public health spending as inputs to the Health Sector Review (HSR).

Members of parliament and policy-makers in the Ministries of Health, Finance, Home Affairs and the State Ministry of Development Planning (Bappenas) at central and decentralized levels are the key audiences for this review. Other parties include the provider community, CSOs/NGOs, academia, and the press. The non-Indonesian audiences include the international health community in Jakarta.

Overview of the Report

The report is organized as follows:

- **Chapter 1** provides an overview of the main health outcomes and health service utilization trends in Indonesia. Ongoing and future challenges are discussed, particularly in light of the demographic, epidemiological and nutritional transitions that are occurring in Indonesia. These changes will have important implications for the future needs and demands for healthcare, as well as for policy decisions in health financing. A brief summary of the current government strategy and key health policies is also included.
- **Chapter 2** summarizes the organization of the health delivery system and analyzes available information on selected resource inputs, namely: (i) infrastructure; (ii) the health workforce; and (iii) pharmaceuticals.
- **Chapter 3** forms the core of the expenditure review and describes Indonesia's system of revenue collection and inter-governmental fiscal transfers for the health sector, including a brief review of fiscal space issues. This chapter draws in part on the national 2007 PER (World Bank, 2007c) and the ongoing work on decentralization in Indonesia. The chapter also describes the levels, trends and composition of public expenditure on health, and examines spending from an international perspective.
- **Chapter 4** forms an assessment of the health system in terms of equity, efficiency and quality. The distribution of public health financing is discussed, with a particular focus on benefit incidence. This is followed by an analysis of efficiency at the hospital and Puskesmas levels, follwed by a more general discussion of efficiency in terms of performance at the district level. Finally, quality and consumer satisfaction are analyzed, as far as the data will allow.
- **Chapter 5** provides an account of the existing risk-pooling mechanisms in Indonesia. There is a review of the high level of out-of-pocket spending as a share of total spending, and the consequent heavy burden of catastrophic spending on health services. In this chapter the government's most recent health insurance program for the poor, the Askeskin program, is also discussed. The chapter concludes with a section on future challenges of establishing a health insurance system in Indonesia.

1 See Annex B for more information on the World Bank's AAA work related to the health sector, as well as the specific objectives of the comprehensive HSR.

Indonesia's Health System: Performance and Results

Chapter 1

The reasons behind the mixed performance of the Indonesian health system are still poorly understood. Consequently, in-depth analysis and monitoring of health expenditures are important in understanding more about the performance of the health system in Indonesia. This is especially the case now, as the country is at a critical juncture in terms of the development and modernization of its health sector. Indonesia is experiencing significant demographic, epidemiological, and nutritional transitions, which are placing additional pressures on the health system. At the same time, the country is also still dealing with the consequences of far-reaching decentralization reform and the government is discussing how it might introduce over time universal health insurance coverage. These actual and potential changes are occurring in the context of a district-based health system that is being severely challenged to achieve important health outcomes, financial protection, equity and efficiency. This context raises fundamental fiscal questions regarding the affordability and sustainability of any new health insurance system and places additional pressures on the health system's performance.

Health spending increased as a share of government expenditure from 2.6 percent in 2001 to 4.4 percent in 2006. The government has shown its commitment to improving the performance of the health system by significantly increasing the budget for the health sector. As part of this commitment, in 2005 the government launched a new healthcare initiative targeting the poor, called Askeskin. The program intends to cover up to 76.4 million poor Indonesians.

There are three main sources[2] of policy statements from the current administration regarding the health sector. These are: (i) Presidential Regulation No. 7/2005 on the national Medium-Term Development Plan 2004-09 (RPJM); (ii) the Strategic Plan of the Ministry of Health 2005-09, which was revised early in 2006; and (iii) the GoI's Annual Plan for 2008 (RKP). All three documents outline broadly defined policy directions or strategies, which are then further described in more detailed programs and activities. The most detailed descriptions are found in the RKP and include targets corresponding to clearly laid out objectives.[3] The government's objectives for improvements in the accessibility and quality of health services in the 2008 plan are summarized below:

- Improve free health services for poor households at Puskesmas (community health center) and in third-class hospital wards to achieve 100 percent coverage;
- Fulfill the demand for health workers in 28,000 villages;
- Increase the percentage of villages to 95 percent that have universal child immunization (UCI) levels;
- Increase case detection rate (CDR) of tuberculosis (TB) to 70 percent;
- Increase CDR of dengue fever patients to 100 percent and provide treatment for all patients;
- Increase CDR of malaria patients to 100 percent and provide treatment for all patients;
- Increase CDR of people living with HIV/ AIDS (PLWHA) to 100 percent and provide anti-retroviral treatment (ART) for all patients;
- Increase the percentage of pregnant women receiving iron supplements (Fe tablets) to 80 percent;
- Increase percentage of infants receiving exclusively mothers' milk to 65 percent;
- Increase the percentage of children under five receiving Vitamin A supplements to 80 percent;
- Increase the percentage of food products that fulfill food safety requirements to 70 percent;
- Increase the coverage of production facility audits in order to fulfill the requirements of Good Medicine Production Practices to 45 percent;
- Decrease the total fertility rate to 2.17 per woman;
- Increase the active participants of the family planning program to 29.2 million participants; and,
- Increase the new participants of the family planning program to 6.0 million participants.

Indonesia is struggling to achieve some of its MDG commitments in health. Indonesia signed up to the Millennium Development Goals (MDGs) in 2000 and, while it is on track to achieve some health goals, it is significantly off track on a number of crucial goals, most notably in maternal mortality. Although infant and child mortality rates

2 References are made to two earlier documents: the National Health System, and Healthy Indonesia 2010. The National Health System was originally issued in 1982, and was reissued, barely amended, in 2004. Healthy Indonesia 2010 appeared in 1999.

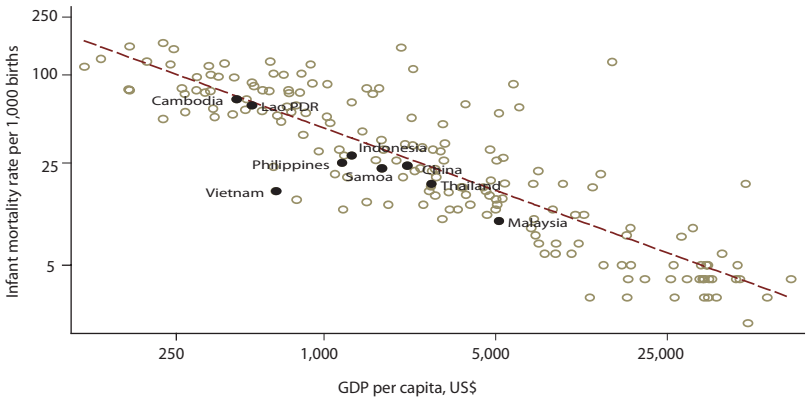
3 These targets and information on the other policy statements are included in Annex D.

have improved, maternal mortality remains very high, at 420 deaths per 100,000 live births (The Lancet, 2007).[4] The average malnutrition rate among children under five is also high, at 25 percent, and appears to be rising in a number of provinces.[5] The poor in particular suffer from low health outcomes, with rates of child mortality four times higher among the poorest quintile (World Bank, 2006b). In general, the poor have low utilization rates for specialized care and, if they seek treatment, they usually do so at local clinics that often lack adequate infrastructure, clean water, electricity and medication.[6] In addition, most poor pregnant women continue to deliver at home and 40 percent still do not benefit from skilled birth attendants.[7] Overall, Indonesia continues to face a daunting agenda in the area of health and, given its performance to date, is unlikely to achieve some of its health-related MDGs.

1.1. Health Outcomes in Indonesia

Infant and child mortality outcomes have significantly improved in Indonesia since the 1960s. Child mortality declined from 220 per 1,000 live births in the 1960 to 46 per 1,000 live births in 2002 (DHS 2002/3). Indonesia also compares favorably with other countries at comparable income levels (Figure 1.1).

Figure 1.1 Indonesia does well on infant mortality given its income level



Source : WDI.
Note : Log scale.

However, serious problems remain, such as geographic disparities. While there has been a significant overall improvement, this hides serious geographic disparities that are demonstrated by large variations in the infant mortality rate (IMR) between provinces. Figure 1.2 shows the large variations in the IMR between provinces. For example, in East Nusa Tenggara (NTT) the IMR is 80, four times the IMR of 20 seen in Bali.

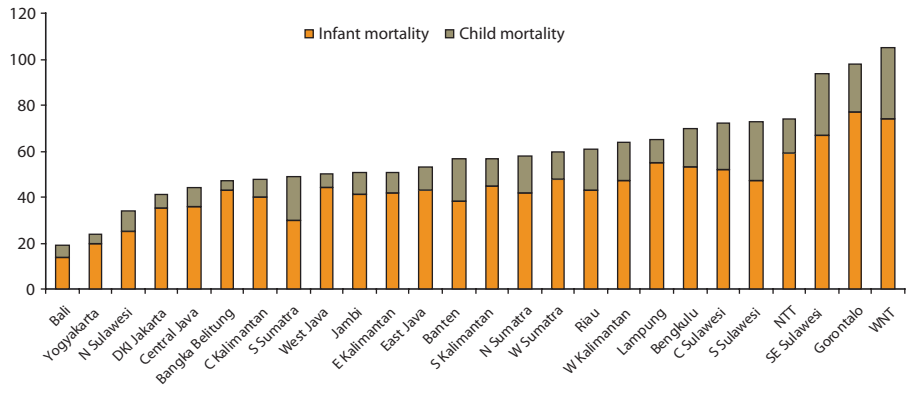
4 The figure of 420 maternal deaths per 100,000 live births is based on the so-called sisterhood method, using household surveys. These modules collect information concerning all siblings born of the same mother: sex and age for living siblings; sex, age at death, and year of death for dead siblings. In addition, for sisters who died at ages 15-49 years, information was collected as to whether the sister was pregnant or within two months of delivery when she died. Estimates of maternal mortality derived from sisterhood methods are usually calculated for a reference period of 0-6 years before the survey. The sisterhood estimates for Indonesia were only published recently and are higher than the estimates previously used by the World Bank. Also, these new estimates differ from the GoI estimates, due to methodological differences in the calculations.

5 World Bank estimates based on Susenas 2006.

6 World Bank, Governance and Decentralization Survey 2 (GDS2), 2006.

7 Indonesia Demographic Health Survey (IDHS), 2002/03.

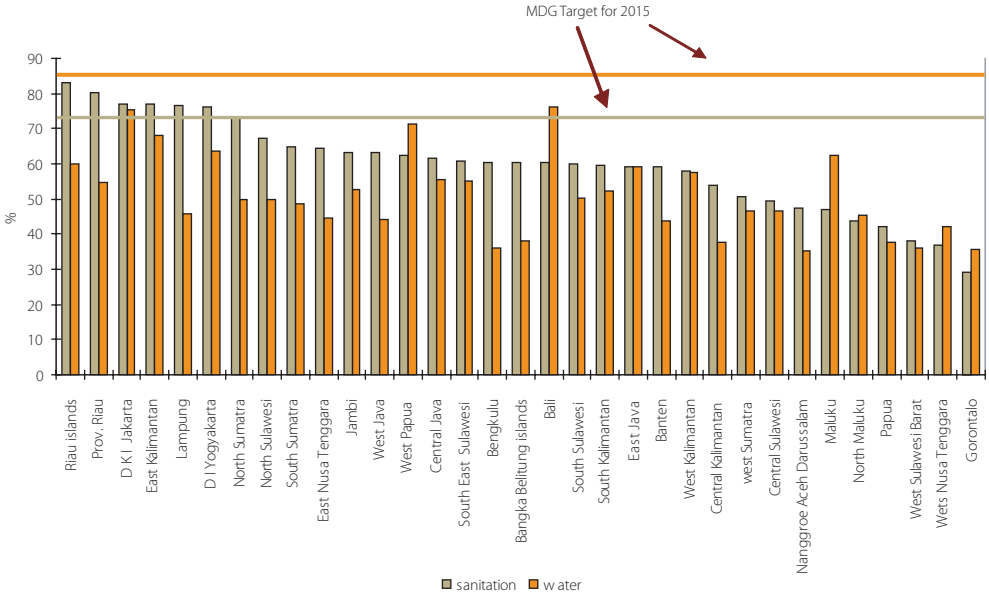
Figure 1.2 There are large differences in IMR and U5MR between provinces



Source: IDHS, 2002-03.

Similar problems exist in access to clean water and sanitation, both of which are important determinants of health outcomes, particularly in remote areas. Indonesia is barely on track to reach the MDG drinking water target of 86 percent by 2015. In addition, it has made insufficient progress towards meeting the MDG sanitation target of 73 percent and is likely to miss that target by about 11 percentage points based on the current trend. Interventions and more resources are needed, particularly in urban slums and in remote and rural areas. Figure 1.3 shows access levels by province.

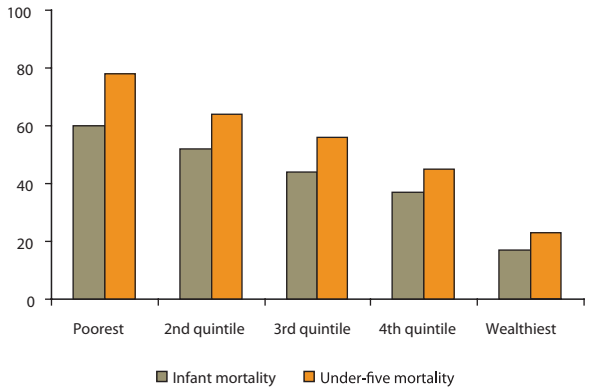
Figure 1. 3 Access to clean water and sanitation in provinces is still low



Source: World Bank staff calculations based on Susenas, 2006.

In addition, significant disparities across socio-economic groups exist, with under-five mortality rates as high as 77 per 1,000 live births among the poorest households compared with about 22 per 1,000 among the wealthiest households (Figure 1.4). Access to services also varies by wealth and region. The proportion of children aged 12 to 23 months who received at least one dose of measles vaccine was about 72 percent, with higher rates among children living in wealthier urban households (about 85 percent) compared with rural poor households (about 59 percent).

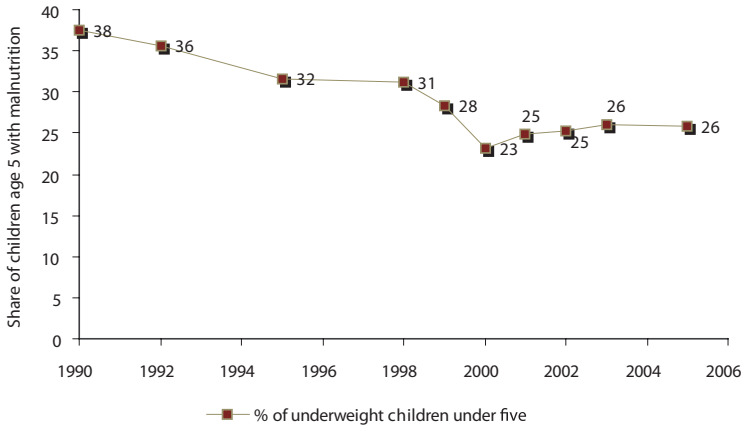
Figure 1.4 Infant mortality and U5MR, by wealth quintile, 2002-03



Source: IDHS 2002/03, cited in World Bank, 2007d.

Indonesia has made substantial progress in nutrition, reducing the share of underweight children under the age of five from 38 percent to 25 percent between 1990 and 2000. However, since 2000 underweight rates have stagnated and are even increasing in a number of provinces (Figure 1.5). Not only underweight malnutrition but also micronutrient deficiencies remain a problem in Indonesia: about 19 percent of women in the reproductive ages and 53 percent of children between one and four years of age suffer from anemia (IFLS, 2000). Although severe vitamin A deficiency is rare, sub-clinical vitamin A deficiency may exist due to low rates of vitamin A supplementation. National data on prevalence are not available, but only 43 percent of *post-partum* women and 75 percent of children received vitamin A supplements. The national average for household consumption of iodized salt is 85 percent. However, many districts still have very low levels and iodine deficiency remains prevalent in some parts of the country (Friedman et al., 2006.).

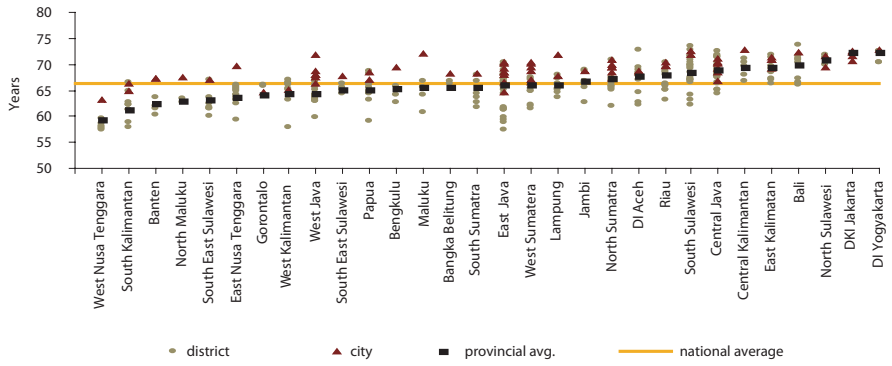
Figure 1. 5 Progress in reducing malnutrition in children under five stagnated



Regarding HIV/AIDS, the HIV epidemic is still concentrated in high-risk sub-populations, namely sex workers and intravenous drug users, with the latter group being particularly high among the prison population. Although nationwide the average incidence remains low, the AIDS epidemic has spread to all parts of Indonesia and reported cases continue to increase. The results of a recent survey in Papua, the Indonesia Bio-Behavior Survey, or IBBS (FHI[8] and World Bank, forthcoming) show that the prevalence of HIV is much higher in Papua than in any other province in Indonesia, with 2.4 percent of HIV positive cases in the general population sample. Tuberculosis is not being detected in most of the population in over half of the provinces, despite national data giving the appearance that Indonesia is doing well and has achieved its goal of 70 percent detection rate.

Inequities in life expectancy between provinces remain an important issue. Important variations in life expectancy can be seen between and within provinces. For instance, life expectancy in West Nusa Tenggara (NTB) is only 59 years compared with 72 years in Yogyakarta (Figure 1.6). The national average life expectancy is 69 years.

Figure 1.6 District variation in life expectancy by province, 2001



Source: WHO, HSPA, 2005.

Notwithstanding progress in some indicators, Indonesia still compares poorly with its neighbors on most conventional measures of health outcome. For instance, in terms of mortality and life expectancy, Indonesia ranks below the East Asian average and underperforms its neighbors (most notably Malaysia) by a significant margin. Indonesia also continues to have the lowest rates of measles and DPT vaccinations in the region, demonstrating shortcomings in preventive care. Also, the indicator 'delivery by skilled birth attendant' remains at a very low level compared with China, Vietnam and Malaysia. These differences in outcomes even hold when per capita GDP is taken into account. Vietnam, for example, despite having a lower per capita GDP, fares better on all other measures, while the Philippines, a country with only a slightly higher per capita GDP figure than Indonesia, does better on most measures (Table 1.1).

Indonesia's progress is particularly disappointing in maternal mortality. With the latest data based on a more accurate estimation method for maternal deaths, most countries saw an increase in their maternal mortality rates (MMR). Indonesia's latest and most accurate estimate is 420 maternal deaths per 100,000 live births.[9] This is very high and, analyzing trend data between 1992 and 2003, there has been little progress in reducing MMR over the past decade. More trend data will become available with the new DHS estimates, to be released in mid-2008.

8 Family Health International.

9 A maternal mortality working group was established to produce internationally comparable estimates of MMR for 2005, as well as trends since 1990 using an improved estimation methodology. Using this improved method, Indonesia's MMR is estimated at 420 per 100,000 live births, which is substantially higher than the IDHS 2002/03, which estimated MMR at only 307 per 100,000 live births (Lancet and WHO, 2007).

Table 1.1 Regional comparison of health outcomes

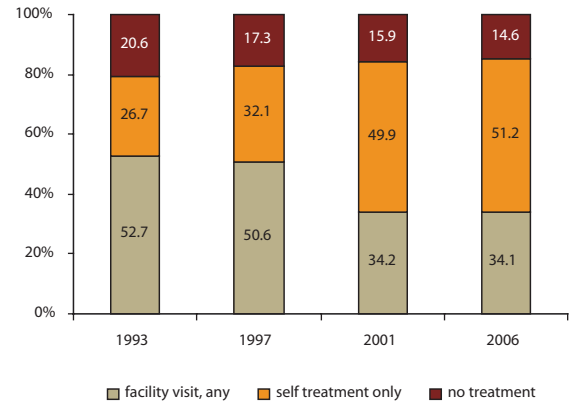
	Annual GDP per capita (US$)	Life expectancy (yrs)	Crude death rate	IMR	U5MR	DPT rate (%)	Measles rate (%)	MMR *** (per 100,000 live births)	Births attended by skilled health staff (%)
Indonesia	**1,260**	**67.8**	**7.3**	**28.0**	**36.0**	**70**	**72**	**420**	**69**
Cambodia	430	57.0	10.4	68.0	87.3	82	79	540	43.8
Malaysia	4,970	73.7	4.7	10.0	12.0	90	90	62	100*
Vietnam	620	70.7	6.0	16.0	19.0	95	95	150	90
Thailand	2,720	70.9	7.2	18.0	21.0	98	96	110	na
Philippines	1,290	71.0	4.9	25.0	33.0	79	80	230	59.8**
India	730	63.5	7.6	56.0	64.0	59	58	450	48*
China	1,740	71.8	6.5	23.0	27.0	87	86	45	97.3
East Asia	**1,628**	**70.7**	**6.7**	**26.4**	**32.7**	**83.7**	**83.4**	**na**	**86.9**

Source: WDI, WHS (World Health Statistics 2007) & UNICEF Statistics.
Note: For estimates with * data source is WHS.
The most recent 'birth attended by skilled health staff' data available are for 2003.
For estimates with *** data source is UNICEF Statistics. ***For MMR the latest data from Lancet (2007) are used.

1.2. Health System Utilization and Equity

Despite increased access to health services through the expansion of infrastructure, utilization levels have decreased since the 1997/98 crisis. Since the mid-1990s, and especially after the economic and financial crisis, Indonesians have increasingly changed their treatment-seeking behavior away from outpatient facility-based services. More than 50 percent of people reported that they relied on self-treatment during their last illness, obtaining medication at pharmacies or drug-stores. Among the population that reported morbidity[10] in 2006, 51 percent relied on self-treatment, 34 percent sought treatment in a health facility, and 15 percent did not seek treatment at all. In contrast, in 1993, only 27 percent of people who fell ill relied on self-treatment, while 53 percent visited a health facility and about 21 percent did not seek treatment at all (Figure 1.7).

Figure 1.7 Care-seeking behavior for those ill, 1993-2006



Source: World Bank staff calculations based on various years of Susenas.

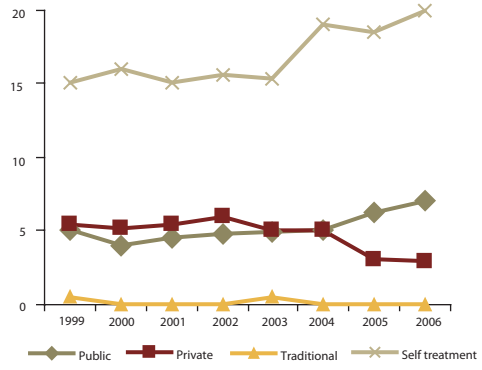
10 A note of caution at this point is needed: It is a well-known that poor people are less likely to report illness than the rich. This reduced ability to perceive illness by the poor is what makes data on self-reported sickness problematic. A more objective measure of health status (i.e. IMR) would show that the poor are sicker than the rich.

The increasing use of self-medication and the failure to return to pre-crisis levels of health service utilization are worrying given the reversal of similar trends in other countries in the region. In most East Asian countries including Indonesia the increased propensity to self treat was an immediate reaction to the economic crisis: as incomes fell, people found self-treatment more affordable than facility-based healthcare. However, in other countries in the region, for example Thailand, the use of facility-based healthcare bounced back within four years of the crisis. In Indonesia this rebound has failed to occur, indicating that both financial and physical barriers to access remain even a decade after the crisis. Lack of trust in the public health system, due to low quality and the frequent absence of medical personnel at health centers, may partly explain this phenomenon.

Since 2004, public service utilization has increased, while private utilization has decreased. Public health service utilization rates have increased by 27 percent since 2004,[11] while private service utilization rates have almost halved (from 5.8 to 3.0 percent) (Figure 1.8). This could be the result of a substitution effect, whereby those previously seeking private health services are now serviced by public providers. In 1999, 46 percent of health service utilization occurred through public service provision, while 50 percent of utilization was through the private sector. However, by 2006, public service provision accounted for 65 percent of total health service utilization, while the private sector's share had shrunk to less than 30 percent (Figure 1.9).

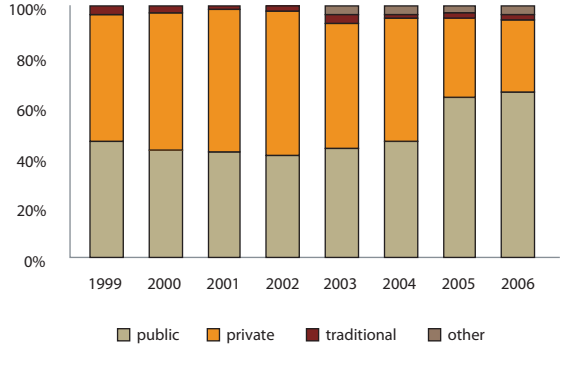
In general, the decrease in private health service utilization from 2004 to 2006 has not been compensated by a corresponding increase in public services provision.[12] Therefore, the substitution effect remains incomplete: the use of modern health services has decreased overall by 11 percent for the entire population and by 23 percent for those who reported being sick.

Figure 1.8 Outpatient contact rates, by provider type



Source: World Bank staff calculations based on various years of Susenas.
Note : Percentage of population that visited provider at least once last month.

Figure 1.9 Choice of provider for health services



Source: World Bank staff calculations based on various years of Susenas.
Note : Percent of total visits.

There are wide differences in the observed changes with regard to treatment-seeking behavior across provinces. In Papua, the self-treatment rate has more than tripled, while in Bali self-treatment is up by 41 percent and in Yogyakarta up by 31 percent. Self-treatment rates have decreased only in Maluku (about 6 percent), while Jakarta and North Sulawesi experienced the smallest increases (7 and 9 percent, respectively.)

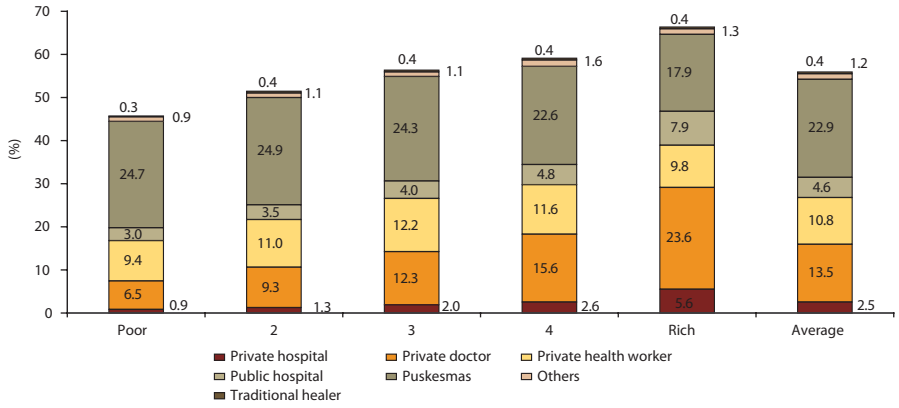
While the poor still rely significantly on private healthcare provision (Figure 1.10), government efforts to improve access to public services through Askeskin have seen an increase in public healthcare use. Analysis of utilization data for outpatient visits to public clinics, as well as for inpatient visits to public hospitals, shows that the poor increased their utilization of public healthcare providers in 2006 compared with 2005 — an increase that can be partly explained by the introduction of the Askeskin program. Since the launch of the program's health cards, through which the poor receive free basic primary care and free third-class hospital care, there has been a slight increase in the utilization of Puskesmas/Pustu services for cardholders. Access to the Askeskin card in a household was associated

11 From 5.3 to 6.8 percent of the population visiting a provider at least once in the previous month.

12 It should be remembered that these changes were recorded in a period when morbidity saw a significant increase throughout the country.

with increased utilization of health centers and slightly reduced utilization of private clinics (controlling for the number of people in the household, as well as income levels) (World Bank, forthcoming).

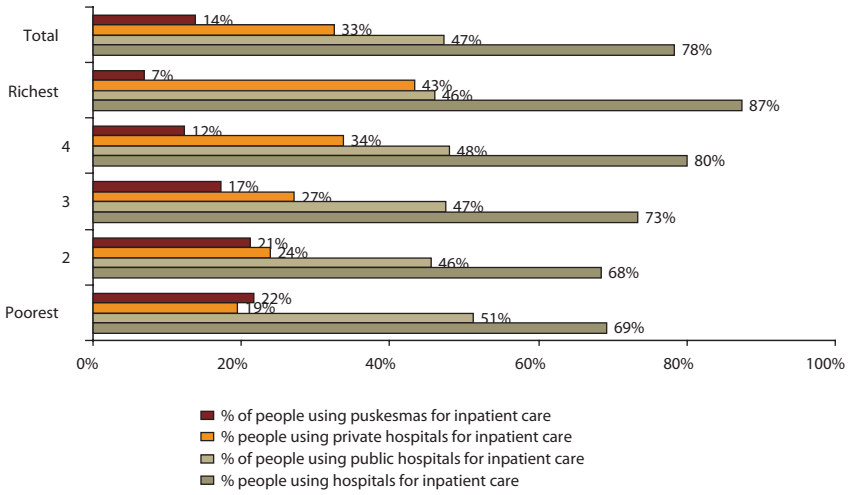
Figure 1.10 Contact rates by type of healthcare by income quintile



Source: World Bank staff calculations based on Susenas, 2006.
Note: Percentage of sick people[13] who visited the provider at least once a month in the previous month out of the total number of sick people in the quintile.

On average, 4 percent of those who are ill use inpatient services. The poor appear to use inpatient services 60 percent less than the rich and, when they do, they use Puskesmas in the majority of cases, followed by public hospitals. The rich use private hospitals in about half of the cases when they seek inpatient care, bypassing Puskesmas inpatient services to a large degree (Figure 1.11). Further discussion of hospital utilization rates can be found in Chapter 5 on Askeskin.

Figure 1.11 Utilization of inpatient services, total and by provider and socio-economic quintile



Source: World Bank staff calculations based on Susenas, 2006.

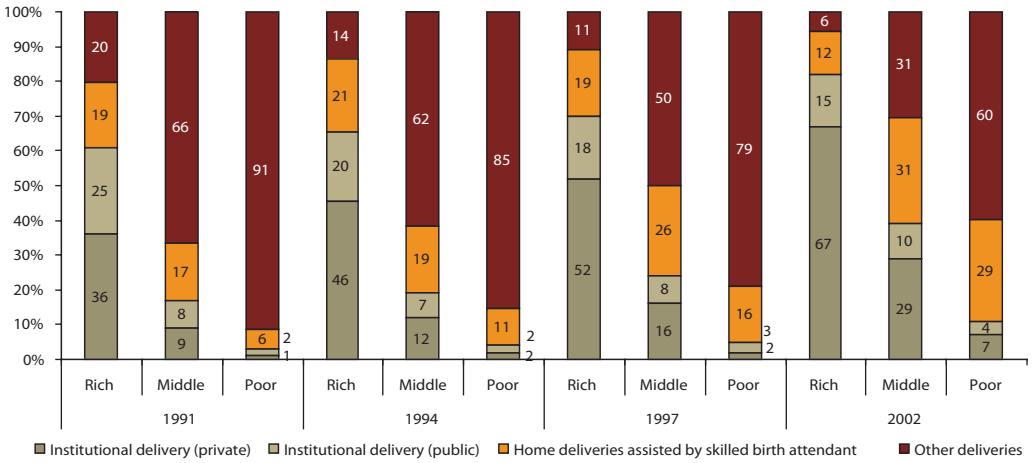
13 Here we compare the choice of provider for people who are reported to be sick within the quintile. Hence, it is important to note that the likelihood of 'being sick' was fairly similar across quintiles when analyzing the answers to the Susenas questionnaire, with about 27/28 percent of each quintile reporting to have had symptoms of illness in the previous month. However, it is well known that poor people are less likely to report illness than the rich. This reduced ability to perceive illness by the poor makes data on self-reported sickness problematic.

In terms of the provision of healthcare and utilization, maternal care has made progress but maternal mortality remains very high. While home deliveries are still most common for poor and middle-income women giving birth in Indonesia, more births are now attended by skilled personnel. In 2002, about 44 percent of live births at home were attended by a trained birth attendant, i.e. a doctor, midwife, or village midwife. This is almost triple the percentage in 1991, when only 18 percent of home deliveries were attended by a skilled health worker. However, important inequity issues remain.

In 2002, half of middle-income home births were assisted by skilled health workers, but only one-third of home births in poor households received the same assistance. Among the rich, close to 70 percent gave birth with a skilled attendant. Analyzing the trends in greater detail, the years after 1997 show much higher proportional increases for attended home births for the middle-income group and the poor than for the rich (Figure 1.12). Most of the skilled birth attendants who service women in their homes are nurses/midwives or village midwives. The 2002 data further suggest that village midwives account for the majority of those serving the poor and those in rural areas.

At the same time, the percentage of institutional deliveries almost doubled, from 21 percent in 1991 to 40 percent in 2002. Most of the improvements are observed after 1997, when the percentage of institutional deliveries of the poor almost tripled, from 4 to 11 percent, nearly doubled for the middle income, from 25 to 39 percent, and increased significantly among the rich, from 70 to 82 percent (Figure 1.12).

Figure 1.12 Delivery by type of care and wealth status



Source: World Bank staff calculations based on various years of IDHS.
Note: * the sum of two figures (public and private facilities) is the percent of institutional births.
The category 'other deliveries' are deliveries that are not assisted, or assisted by 'unskilled' personnel, such as TBA or family help.

Most institutional deliveries take place in private facilities or with private providers (midwives' homes). Across wealth groups and over time, more women deliver in private facilities than in public facilities. Among the poor, the proportion of births in private clinics out of the total number of institutional births is 64 percent. For the middle-income group, this number is even higher, at 74 percent, while for the richest income group the proportion is close to 82 percent. In all three income groups these figures increased over time, and for the poor and the middle income groups this has been particularly the case since the crisis.

Table 1.2 Changes in child immunization rates by quintile and education of parent

Consumption quintile*	1999	2004	2005	2006
1 (poor)	59.7	71.0	67.0	75.1
2	65.1	76.2	70.7	77.2
3	65.3	78.2	72.7	77.8
4	67.2	80.0	74.4	79.8
5 (rich)	71.3	83.3	78.6	83.3
Best educated female in household**	**1999**	**2004**	**2005**	**2006**
Not completed primary	55.8	66.9	59.3	68.6
Primary	63.3	75.3	70.5	77.1
Junior secondary	69.5	79.3	66.0	77.4
Senior secondary	72.5	82.6	73.9	80.1
Tertiary	75.1	85.4	78.5	81.9
Best educated male in household**	**1999**	**2004**	**2005**	**2006**
Not completed primary	56.5	69.6	61.7	70.1
Primary	61.8	74.1	69.2	76.5
Junior secondary	68.0	78.5	67.5	75.0
Senior secondary	71.9	81.1	73.4	78.8
Tertiary	73.0	85.9	77.5	81.8

Source: World Bank staff calculations based on various years of Susenas.
Note: * Child immunization rates for measles. ** Percentage of children under five with at least one immunization shot.

There are similar socio-economic differences when assessing child immunization rates for measles. Although Indonesia has made significant improvements in the immunization rates for children under five over the past eight years, the poor-to-rich ratios show only 75 percent of children in the poorest households receiving at least one measles vaccination, as opposed to 83 percent of children from the richest households. Immunization rates by quintile of education level for female and male household members illustrate the same trend and also show how education is a proxy for household consumption, as the results are very similar between the two categories (Table 1.2).

1.3. Ongoing and Future Challenges

Declining fertility rates have significantly lowered the rate of population growth. In the early 1970s, Indonesia's population was about 120 million, the total fertility rate was 5.6 and life expectancy at birth was about 43 years. Today, the population is close to 232 million (30 million less than the 1970 projections for the new millennium), the total fertility rate is 2.4 and life expectancy at birth is 69.[14] Female literacy, economic growth and a successful population strategy that halved the total fertility rate have all contributed to these trends. As a result, Indonesia's demographic picture is changing and by 2050 nearly 20 percent of the population will be over the age of 65 (Figure 1.13).

Despite the decline in fertility rates, Indonesia still has considerable demographic momentum. The total population is expected to increase to about 271 million by 2025, and to almost 300 million by 2050, a 28 percent increase on the current level.[15] Even if no other factors are considered, such population growth will generate a substantial increase in the need and demand for health services in the coming years.

14 Population Reference Bureau 2007. http://www.prb.org/Countries/Indonesia/aspx
15 Ibid.

Figure 1.13 Population pyramid Indonesia, 1970-2025

Source: World Bank staff calculations based on Bappenas/BPS growth projections and UN, 2007.

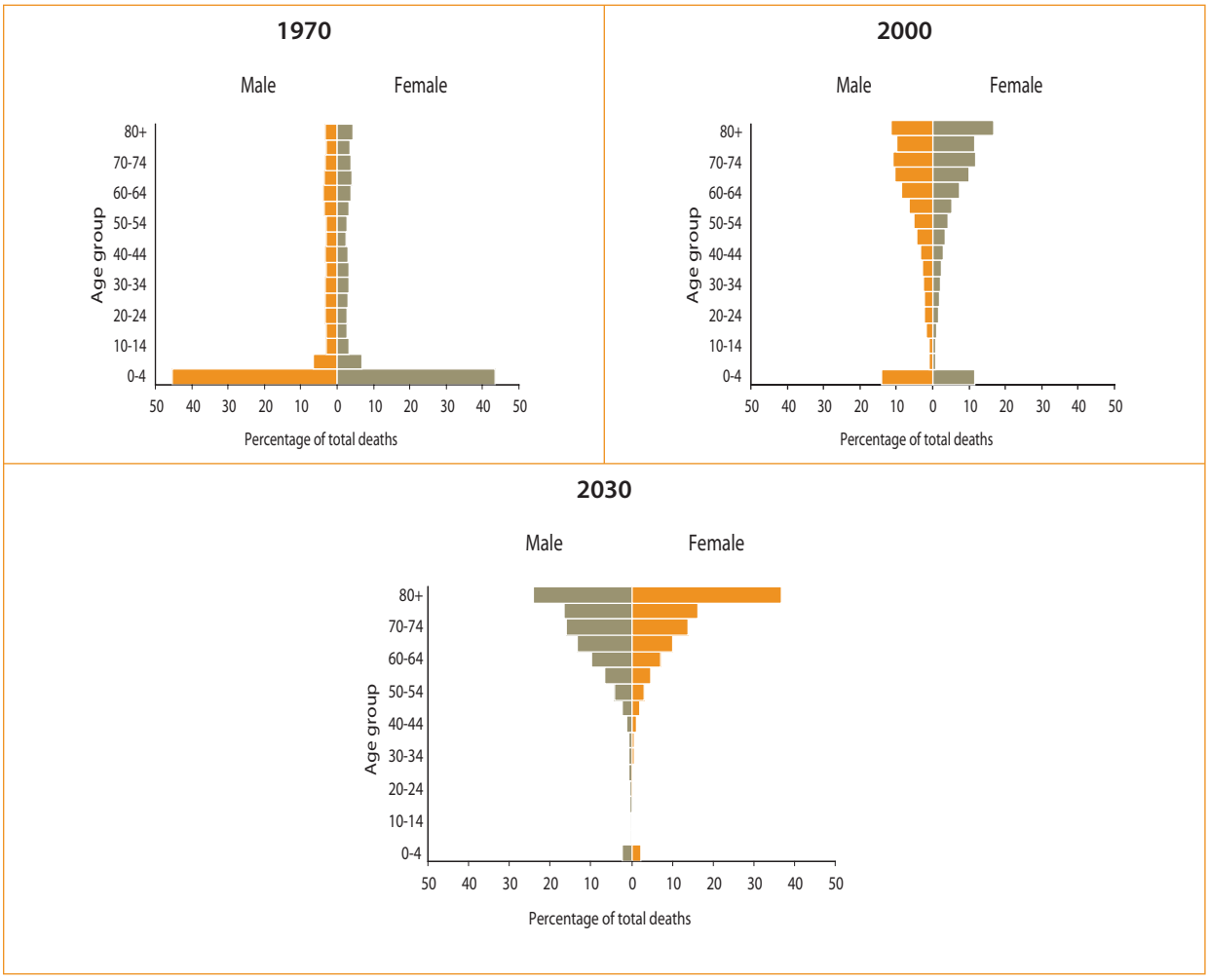
Migration and urbanization are accelerating this demographic transition and these trends are visible throughout the region. It is estimated that Asia's urban population will increase from 1.5 billion (24 percent of the total population) to 2.6 billion (32 percent of total population) between 2000 and 2030. Much of this growth will occur in Asia's largest countries: it is estimated that urbanization in Indonesia will increase from 34 percent in 2000 to between 44 and 57 percent by 2025.[16] While this may have a positive impact on life expectancy, it will also be accompanied by greater demand for healthcare.

The nutrition transition carries with it new health threats, with rapidly growing obesity, including among the poor, bringing an epidemic of diet-related non-communicable diseases (NCD). The epidemiological picture changes disease patterns from primarily death due to communicable disease towards death from non-communicable disease. Before this transition takes place there is a period in which countries suffer from what is called a "double-burden of disease": communicable disease continues to be a major problem, while the burden of non-communicable disease is growing. Indonesia is currently going through such a period of transition.

The combination of demographic and epidemiological changes has brought, and will continue to bring, dramatic changes in the age structure of the population. Associated with the changes in the age structure, and one of the factors propelling them, is a dramatic shift in the average age at which death occurs (Figure 1.14). This in turn is closely associated with changes in the cause of death. Whereas the picture in 1970 was dominated by high death rates in infancy and early childhood, mostly attributable to communicable diseases, the projections for 2030 show that most children will survive into adulthood. Indonesians will therefore die at more advanced ages, in the great majority of cases from non-communicable diseases.

16 http://www.ldfeui.org

Figure 1.14 Shift in number and age pattern of death in Indonesia, 1970-2030



Source: World Bank staff calculations based on UN, 2007.

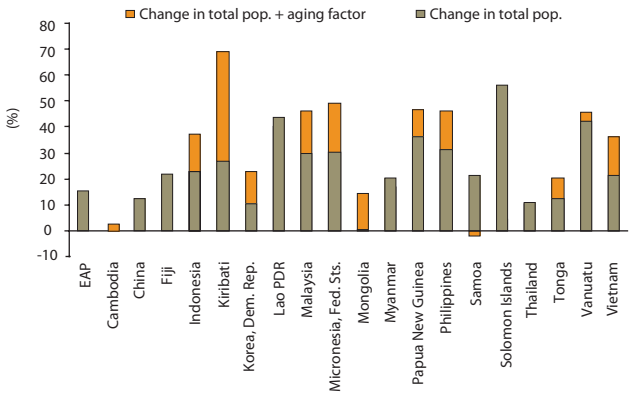
The epidemiological transition has immense implications in terms of the demand for healthcare. Whereas most communicable diseases occur in acute episodes that are susceptible to prevention or cure, the degenerative diseases of old age generally require care for the remaining life of the patient. Common conditions such as hypertension or diabetes are managed by frequent, usually daily, drug administration and periodic medical examination. The experience of countries that have completed this epidemiological transition is that healthcare costs rise sharply with age. Financial estimates using per capita health expenditure in the United States show that a person aged 65 to 74 spends, on average, between 3.0 and 4.4 times as much as a person aged 35 to 44, and this amount is even higher for someone aged over 80 (Gottret and Schieber, 2006).

As with most countries, the impact of population growth and changes in the age structure on the costs of healthcare is substantial for Indonesia. Figure 1.15 provides information by country on projected changes in total health spending between 2000 and 2020 as a result of both changes in the numbers of people and changes in the demographic structure of the population, assuming that the base year per capita health spending by age and sex remains unchanged.[17] Alternatively, the figure shows what the spending levels in 2000 would be if each country had its 2020 population structure. For each country, three figures are provided: (1) total effect, changes in total spending as a result of changes in the numbers of people and the age-sex structure; (2) growth effect, changes in total spending due only to changes in the numbers of people; and (3) age-sex structure effect, changes in spending as a result of

17 Because age-sex-specific health spending weights for developing countries are generally not available, US spending weights are used (Gottret and Schieber, 2006, p. 43).

a person's sex and age bracket.[18] Figure 1.15 shows significant differences across countries in both total increases in health spending and the extent to which such increases are the result of changes in population size and age-sex structure. For Indonesia, health spending is expected to rise by about 37 percent overall, of which about 23 percentage points are the result of population growth and 14 percentage points are the result of age-sex structure changes.

Figure 1.15 Changes in population structure will affect total health expenditures in EAP countries (for 2000-20 change)



Source: Presentation by G. Schieber, World Bank, May 2007.[19]

More detailed analysis regarding the financial impact of these transitions at the provincial level illustrates further the magnitude of the changes. Projections of the effects of the epidemiological, nutritional and demographic transitions in two provinces in Indonesia demonstrate the important effects on health financing in the near future: even without changes in health insurance coverage, Central Java will experience an increase of 158 percent in demand for bed-days by 2025, while the demand for doctors will triple and financing needs will quadruple (Friedman et al, 2006).

Box 1. 1 Overcoming household financial barriers to improve maternal mortality

One study estimated that the cost of hospital admission for women with delivery complications is about US$255, an amount that could have a catastrophic impact for the poor and near-poor. The total cost to households of a normal delivery by a trained midwife was estimated at US$51, and some 20 percent of the poorest women borrowed money to pay for this care. While the new Askeskin program pays midwives to provide services to the poor, this study reported that only 22 percent of the poorest mothers were covered by the insurance scheme, mostly because many women in (particularly those in remote areas) were not aware of the benefits, or did not have the skills to apply for a health card/SKTM. As a result, poor women paid out-of-pocket for cheaper delivery care from unskilled providers. However, better socialization of the program through campaign efforts by DHOs and the MoH would improve utilization of maternal care under the program and contribute to a reduction of Indonesia's high MMR.

Source: Population Reference Bureau, 2007.

Serious efforts are needed to address the continuing high MMR (The Lancet, 2007) and will represent a large cost item for the health sector. In contrast to child mortality, little real progress has been made over the past decades in reducing maternal mortality. Hence, in addition to rising health expenditures resulting from the transitions mentioned above, addressing the continuing high levels of maternal mortality will be a major cost item for the health sector. High inequalities between rich and poor, together with geographical disparities, deserve specific mention, as

18 The total effect is calculated by multiplying the number of males and females in each age group by an age-sex-specific spending weight and then dividing the total age-sex weighted spending for 2020 by the total for 2000. The total growth effect is calculated by dividing the projected 2020 total population by the 2000 population. The age-sex composition effect is calculated as a residual by dividing the total effect by the growth effect (Gottret and Schieber, 2006, p. 43).

19 Figures based on calculations for effects of changes in number of people and age-sex structure on health spending by region, 2005-2025, (Gottret and Schieber, 2006, p.33).

achieving this MDG will require major financial inputs, as well as reforms in service delivery. Potentially, access to better quality maternal care for the poor will increase as Askeskin starts to cover maternity care (Box 1.1).

Emerging diseases, such as avian influenza (AI) and HIV/AIDS, have already started adding additional burdens to the health budget. The HIV epidemic is still concentrated in high-risk sub-populations, such as sex workers and intravenous drug-users. Although nationwide prevalence remains low, AIDS has spread to all parts of the country and reported cases continue to increase. Results of a recent survey in Papua show the prevalence of HIV is much higher there than in any other province in Indonesia, with 2.3 percent of HIV positive cases in the general population sample. This is the highest rate world-wide outside of sub-Saharan Africa (MoH and BPS, 2006). If the government is to reach its ambitious target of increasing the case detection rate of people with HIV/AIDS to 100 percent and provide anti-retroviral treatment for all patients as set out in the RKP for 2008, then investment in HIV/AIDS health programs will need to be increased dramatically.

There are still more forces that will tend to increase the need and demand for health services beyond those considered so far. Advancing technology will make it possible to treat and prevent conditions in new ways. Just as kidney dialysis, transplant surgery and joint replacement have transformed lives in the previous generation, so new vaccines for malaria and HIV/AIDS promise to do so for the next. Some of these technological innovations will actually reduce resource consumption in specific areas. For example, the worldwide trend towards day surgery and shorter hospital stays associated with less invasive surgical techniques and advances in anesthesia has been resource-saving. But these savings are more than offset by the increasing consumption of resources on new and more expensive drugs and vaccines, new surgical techniques, and new diagnostic devices. On average, there is an inexorable trend towards enlarging the scope of feasible interventions in the health of individuals and populations. This will result in more services and procedures being defined as needed by health professionals and greater spontaneous demand from patients.

Epidemiological and nutritional changes will also add needs for preventive and promotive healthcare. While the increase in NCDs will lead to a greater need for expensive healthcare, there is enormous scope for preventive interventions in this area. Giving up smoking, switching to more healthy diets and increasing physical exercise have all been shown to have major impacts in delaying or preventing diabetes, cancer and cardiovascular disease. By investing in these types of programs early on, significant gains can be made in containing future health costs.

Three other influences will accelerate demand: rising incomes, better knowledge of the potential of healthcare and higher expectations in standards of service. All over the world, the demand for healthcare has proved to be highly income elastic, whether financed by private out-of-pocket payments, pooled taxation, or insurance. This means that as real incomes rise, a higher proportion of this income tends to be spent on health services. If current income and population growth rates are maintained, Indonesia can look forward to real incomes rising at 4-5 percent annually. There are currently large differences in out-of-pocket expenditure between socio-economic quintiles, which could imply a strong future boost to demand as more households move up to higher consumption levels.

A major change in the method of financing healthcare, such as the expansion of effective insurance coverage, will increase the demand for services. Indeed, this appears to have occurred with the Askeskin program. Through expanding formal education, greater personal experience through higher utilization, and by increasing exposure to the popular media, the population will become more aware of the potential of modern medicine to improve individual health. This can be expected to result in a shift in preferences in favor of organized healthcare over traditional medicine and self-treatment.

In addition, patients will come to expect higher standards. These higher expectations will not only apply to the purely technical aspects of their treatment, but also in the care, comfort and respect with which they are treated. Meeting these higher expectations will require additional and better-trained staff, improved accommodation, and better management systems to ensure patient satisfaction.

The Healthcare Delivery System in Indonesia

Chapter 2

2.1. Health System Organization and Infrastructure

The Indonesian health system comprises public and private health services, with the latter providing a significant and growing share of healthcare interventions. The provision of public health is the responsibility of the Ministry of Health (MoH) and sub-national governments. These public sector actors deliver both inpatient and outpatient services, and perform promotive and preventive health activities. Meanwhile, private healthcare services have been growing rapidly[20] and consist of ambulatory services provided by private practitioners and government medical staff who work privately.[21] Specifically, the private hospital sector is expanding apace, with the number of private hospitals increasing from 352 in 1990 to 626 in 2005, equivalent to an increase in hospital beds from about 31,000 to some 52,300. This now equals the number of beds provided by public sector municipalities, districts and provinces.

The public sector has a major role to play as steward of the entire health system, through the regulation, licensing and accreditation of private providers and services, in order to ensure service quality. The private sector in Indonesia's health system has grown dramatically over the past decade. Despite the importance of private providers, little is known about who they are, where they are, and what services they provide. Nevertheless, almost 40 percent of the poor who seek healthcare treatment do so from private providers (see Section 1.2 on utilization). Therefore, determining the 'right' level of spending for the public sector requires better insights into the level and scope of private healthcare provision.

Changes have occurred within the public health sector, but roles and responsibilities among the different levels of government need to be further clarified. Prior to decentralization in 2001, the health sector was centrally managed by the MoH. However, even following the recent amendment of Law on Regional Autonomy No. 32/2004, the roles and responsibilities of national and sub-national levels remain unclear. Recently promulgated Government Regulation (PP) No. 38/2007, the implementing regulation for Law No. 32/2004, aims to spell out these roles more clearly with regard to service provision, but further clarifications of the PP are still needed.[22]

Despite an impressive expansion of the public health system in the 1970s and 1980s, growth of public sector health infrastructure has slowed (despite public utilization rates increasing). By 2005, Indonesia had established around 7,700 Puskesmas, of which about 27 percent included beds (MoH, 2007a). Access to public health services has further been improved with the setting up of around 22,200 health sub-centers (Puskesmas Pembantu, or Pustu) and about 5,800 mobile health centers.[23] The ratio of health sub-centers to health centers is about 3:1, implying that every health center is supported by on average three sub-centers.

In addition to these permanently staffed facilities, an extensive outreach program of Posyandu was established in nearly 250,000 villages between 1970 and 2005. Posyandu engage in monthly village gatherings at which community volunteers promote maternal and child health and nutrition, and family planning activities. Following a period of decline attributed to the financial crisis and decentralization, the number of Posyandu has recently started to increase again, from slightly over 200,000 in 2001 to 239,000 in 2004 and 316,000 in 2005 (MoH, 2007a).

Construction of the primary healthcare network and Puskesmas was financed primarily from the central government budget. Initially, financing came from the Inpres program (Presidential Instruction) and later through the MoH (APBN) budget. Central-level funding for Puskesmas construction continued after decentralization through the

20 Inadequate data are available regarding the provision of primary care services by the private sector. Information on private providers is very poorly documented and it is difficult to separate public and private in terms of numbers of practitioners, since a high proportion of public employees also have independent private practices. However, it is known that in the years following the "zero growth" policy for the civil service, increasing numbers of doctors have found full-time employment in private practice, often taking the form of polyclinic services open on a 24-hour basis.

21 In the 1980s, when relatively low salaries of government health workers made it difficult for them to keep practicing their profession, the government — rather than restricting levels of employment and raising salaries — allowed its staff to maintain private practices outside of their normal working hours. While this dual position of public health providers created perverse incentives and lowered the quality of services in the public health system (mainly due to the reduced number of hours these doctors put into public practices), it also allowed the private provision of services to develop and the average number of hours served by trained physicians and paramedics to increase (World Bank, 2007c)

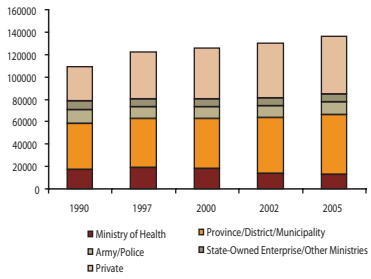
22 See Annex E for a translation of the roles and responsibilities for the different levels of government as defined in PP No. 38/2007.

23 Puskesmas Keliling, of which 508 are four-wheeled and about 700 are on boats (MoH, 2007, Indonesia Health Profile 2005).

special allocation fund (DAK) channeled directly to the district level. The Puskesmas and its network were equipped using standards set by the MoH and funded by the central government. Since decentralization, district governments have continued to finance the network.

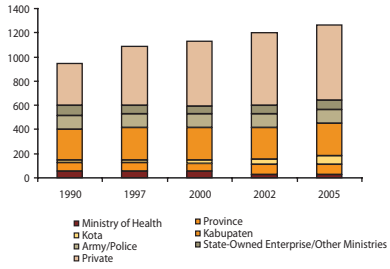
The number of public hospitals and hospital beds has grown slowly and failed to keep pace with population growth. In 1990, there were 404 hospitals and about 59,000 beds under the "main system", consisting of the MoH, plus provinces and districts. In 2005, this rose to 452 hospitals and about 66,700 beds (Figure 2.1). These figures do not include hospitals belonging to the armed forces and the police, or other ministries and state-owned enterprises which, although affiliated to state agencies, function more like private institutions (Figure 2.2).

Figure 2.1 Number of hospital beds, 1990-2005



Source: Based on data from Indonesia Health Profile 2005, MoH, 2007.

Figure 2.2 Number of hospitals (general and specific) by ownership, 1990-2005



Source: Based on data from Indonesia Health Profile 2005, MoH, 2007

The slow expansion in public hospitals and beds has been partly offset by an increase in private hospitals. In 1990, there were 352 private hospitals with about 31,000 beds, increasing to 626 private hospitals with about 52,300 beds by 2005. Private hospitals are on average smaller than public hospitals. This difference in size is partly explained by the large number of small single-specialty private hospitals, mostly maternity hospitals. However, even among general hospitals, private hospitals are smaller than public general hospitals, with an average of 99 beds and 146 beds, respectively.

Table 2.1 Regional comparison: number of hospital beds

Country	No. hospital beds /10,000	Year
Indonesia	**2.5**	**2005**
Cambodia	6	2001
India	7	2002
Laos	9	2002
Philippines	12	2002
Vietnam	14	2002
Malaysia	18	2001
Thailand	22	2000
Sri Lanka	30	2001

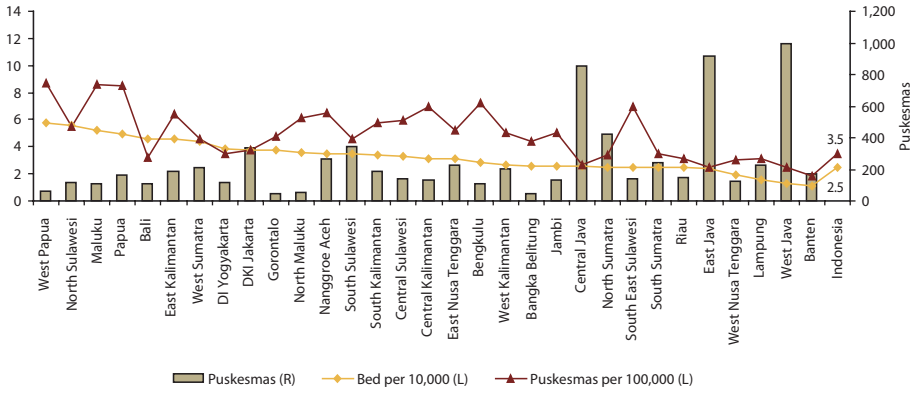
Source: World Health Statistics, 2007.

Comparing some of these figures regionally, Indonesia has relatively few hospital beds. The WHO figures in Table 2.1 show that Indonesia has about 2.5 hospital beds per 10,000, whereas other East Asian countries — even those with much lower per capita GDP or health spending per capita — have higher averages. For example, Cambodia and Laos have double and triple the average number of beds of Indonesia, respectively, while Sri Lanka tops the list with 30 beds per 10,000.

Examining health infrastructure by province gives a mixed picture in terms of access to healthcare, with large differences in the numbers of Puskesmas and hospital beds. On average, every 100,000 Indonesians are served by 3.5 Puskesmas, and every million Indonesians by 5.6 hospitals, equating to 2.5 hospital beds per 10,000. Per

province, however, these figures differ widely. Most remote areas have fewer than one Puskesmas per 100,000 and some areas do not even one hospital per million, or less than two hospital beds per 10,000. This is not only the case in relatively remote West Nusa Tenggara (NTB), but also in the far less remote province of Banten (Figure 2.3).

Figure 2.3 Number of Puskesmas, ratio of Puskesmas and hospitals to population by province, 2005



Source: Based on data from Indonesia Health Profile, 2005, MoH, 2007.

2.2. Human Resource Stock and Distribution

Indonesia's density of health workers by population is lower than other countries in the region. For example, the Philippines, which has a similar per capita income to Indonesia,[24] performs much better on this indicator (Table 2.2). On average, provinces have only about 13 public doctors per 100,000 inhabitants, implying that a doctor will need to facilitate health services for about 7,600 people who might seek public healthcare. Ratios for nurses per population are higher, implying that, given the low doctor density, most people (particularly the poor) will be serviced by nurses and other assisting health personnel rather than doctors. Midwives' service areas for public midwives are generally smaller than those of doctors and show better ratios.[25] When analyzing the figures for more skilled and specialized personnel, such as public dentists (national average 2.9), pharmacists (national average 0.6) and nutritionists (national average 3.2), densities in the most remote provinces are close to zero.

Table 2.2 International comparison of health sector workforce

	Physicians			Nurses			Midwives		
Country	**Number**	**Density per 100,000**	**Year**	**Number**	**Density per 100,000**	**Year**	**Number**	**Density per 100,000**	**Year**
Indonesia	**29,499**	**13**	**2003**	**135,705**	**62**	**2003**	**44,254**	**20**	**2003**
Cambodia	2,047	16	2000	8,085	61	2000	3,040	23	2000
Thailand	22,435	37	2000	171,605	28.2	2000	872	1	2000
Vietnam	42,327	53	2001	44,539	56	2001	14,662	19	2001
Philippines	44,287	58	2000	127,595	169	2000	33,963	45	2000
India	645,825	60	2005	865,135	80	2004	506,924	47	2004
Malaysia	16,146	70	2000	31,129	135	2000	7,711	34	2000

Source: WHR, 2006,.

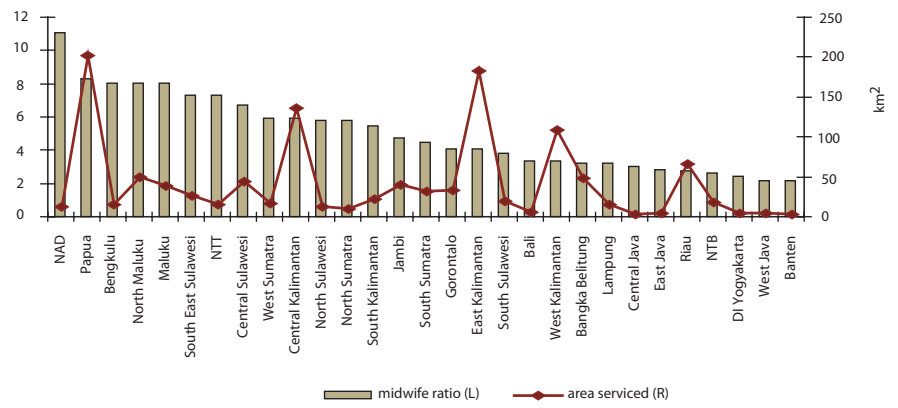
24 Indonesia's GNP per capita is estimated at US$1,140 per capita, and the Philippines' GNP per capita is estimated at US$1,170 per capita for 2006. Source: World Bank, 2006, 'The Little Data Book' – World Development Indicators.

25 Due to the *bidan-di-desa* program, where every village in Indonesia was provided with a midwife, the distribution of these health work force staff is much better than for other categories of staff. However, their performance is not always of adequate quality given the fact that they lack enough 'practice' due to their small service area (for those based in small villages).

National averages mask significant regional disparities and, within regions, health providers favor urban over rural and remote areas. Provider per population rates differ greatly across regions, with only six public doctors per 100,000 population in Lampung and East Java, as opposed to ratios as high as 30 and 40 per 100,000 in North Sulawesi and Bali, respectively. In many provinces these ratios improve when private doctors are included but, even then, service areas remain large. For example, in West Kalimantan, on average a doctor will have to serve an area of about 300km^2 and this service area doubles for people who can only afford services from public doctors. On average, there are about 36 health workers per 100,000 population in Indonesia. In general, incentive policies will need to be modified,[26] particularly for skilled health personnel, in order to encourage them to relocate to rural and remote areas.

More midwives are found in rural than urban areas, due to the government's *bidan-di-desa* program, through which the MoH promoted the placement of one midwife in each village (Figure 2.4). However, as with other health workers, distributional issues remain, particularly in very remote areas. Based on survey data from two districts in Java, 10 percent of the villages do not have a midwife, but instead have a nurse who acts as a midwifery provider (Makowieka et al., 2008) (Box 2.1). In addition, midwives who are assigned to extremely remote areas are less experienced and often manage only few births, which could compromise their capacity to maintain their professional skills. The fact that midwives remain in the rural areas (as opposed to urban or very remote areas) may be explained by the higher likelihood of midwives obtaining private earnings in these areas, as found in a recent survey into midwife incentives.[27]

Figure 2.4 Ratio of midwives and service area



Source: World Bank staff calculations based on Podes, 2005.
Note: The midwife ratio is the number of midwives per 10,000. The area serviced is in km^2.

The number of doctors per Puskesmas is insufficient. The poor, who are largely dependent on community health centers, often need to travel long distances to reach the facilities (the average Puskesmas serves those within an area of 242km^2). In the province of Aceh, for example, the average distance to a Puskesmas is about 10km, but in some districts in Papua it comes close to 26km. The availability of a doctor at each Puskesmas is also not guaranteed; overall, 18 out of Indonesia's 33 provinces have, on average, less than one doctor per Puskesmas. Consequently, people are dependent on less well-equipped Pustu and monthly outreach clinics at smaller integrated health posts (Posyandu), or possibly private nurse practitioners, midwives, or traditional care.

Dual practice adds to relatively low figures for the number of health staff per health center. An estimated 65 percent of publicly employed health staff have second jobs, many in their own practices or other private facilities. Furthermore, those who do have second jobs report that they earn about half of their income privately.[28] In the 1980s, when the relatively low salaries of public health workers made it difficult for them to keep practicing their profession, the government — rather than restricting levels of employment and raising salaries — allowed staff to

26 The MoH is making an effort to improve the distribution of health personnel by encouraging contractual temporary doctors (PTT) to serve in remote areas. More information on this and other human resources policies can be found in the forthcoming Health Sector Review.

27 Source: IMMPACT, 2006. "How do village midwives earn a living in Indonesia? Evidence from two districts."

28 World Bank, 2007, GDS2 – Puskesmas Survey, Questionnaire 31.

maintain private practices outside of their normal working hours. Given that private practice can provide substantial supplemental income, especially for medical doctors, the lack of private practice opportunities in remote and poor regions is a factor that deters health worker deployment to these regions.

Monthly and hourly salaries of public doctors, midwives and nurses appear to compare favorably with those of other workers of similar education.[29] However, incentives are needed for health workers to provide quality services to the poor. Given that public doctors can significantly complement their public salaries by practicing privately, it is hard to determine whether current public wage levels are adequate. Given that the poor also use private sector healthcare, albeit to a lesser extent than the rich, doctors (private and public) need incentives to provide quality services to the poor. Nevertheless, insufficient analysis has been conducted to find an appropriate combination of incentives for deployment of health workers to, and retention in, remote and rural areas — areas that are characterized by few basic amenities, poor transportation and communication, 24-hour on-call responsibilities, and limited educational facilities for children. The MoH continues to rely on the incentive of civil service contracts despite major changes in the health market. Given growing opportunities in private hospitals, civil service contracts may no longer be as attractive as they once were. Systematically testing alternative incentives for deployment could build on earlier experience, while also considering factors such as responsibility, workload and performance.[30]

High absenteeism among health workers is a major problem in Indonesia, significantly affecting the efficiency of the health workforce. A recent study, reporting on surveys in which enumerators made unannounced visits to primary schools and health clinics to record whether they found workers in the facilities, found high levels of absenteeism in the health sector in all countries sampled. In Indonesia, it found that 40 percent of health workers were absent from primary health centers in random checks (Table 2.3).[31] In general, it also found that absenteeism was generally higher in poorer regions. Absenteeism also tended to be widespread rather than concentrated in a small number of 'ghost workers'.[32]

Table 2.3 Health worker absenteeism across countries

Provider absence rates by country	
Country	**Absence rates (%) in primary health centers**
Bangladesh	35
India	40
Indonesia	**40**
Peru	25
Uganda	37

Source: Chaudhury et al., 2006.
Note: Providers were counted as absent if they could not be found in the facility for any reason at the time of a random unannounced spot check.

29 Based on econometric analysis performed with the Sakernas labor force survey, 2004, from BPS Indonesia. See Annex F Table F.1. for the regression outputs.

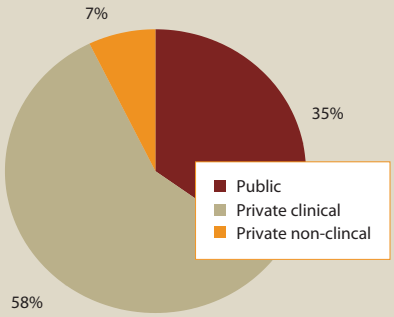
30 A health workers labor force survey that will study incentives for health workers in remote areas is forthcoming as part of the Health Sector Review.

31 Even more so, the survey focused on whether providers were present in their facilities, but since many providers who were at their facilities were not working, these figures may even present too favorable a picture.

32 See Table G.1. in Annex G for more details on the distribution of absenteeism for the countries researched.

Box 2.1 Village midwives and incentives: Recent evidence from two districts

A recent survey, sampling 207 midwives who provide services in 227 villages in two districts in Banten led to some interesting findings about midwives' income and incentives. Questions posed in the survey addressed overall income and sources of income of midwives, motivations for becoming and remaining a midwife, and willingness to accept alternative contracts.



The average total annual income of midwives is US$4,368. Around 35 percent of their earnings come from public sources, including salaries and allowances. Of this public income, payments from Askes for interventions targeting the poor constitute between 9 and 13 percent (representing 4 percent of their total income). Strikingly, public income is only about one third of the sampled midwives' incomes. Income is therefore dominated by funds coming from private sources, mostly clinical services, which account for 58 percent of income, while 7 percent is obtained from other private non-clinical sources.

There is a wide variation in private clinical income. Income is strongly influenced by location since rural areas offer greater opportunities for generating income and experience, as the midwives have larger service areas. However, the truly remote areas remain unattractive as there might simply be too few deliveries. Regression estimates from the study suggest that income is also increased by higher levels of technical competence, as reflected in a knowledge score that influences the number of total users and the amounts charged per service.

Public income is largely influenced by experience of the health worker and type of contract. Midwives on PNS (civil service) contracts receive, on average, around 50 percent more public income than centrally contracted midwives and 65 percent more than those on local contracts.

Source: IMMPACT, 2006, "How do village midwives earn a living in Indonesia? Evidence from two districts."

2.3. Pharmaceuticals

Pharmaceuticals comprise a significant share of total health spending (an estimated 30 percent) and constitute a large part of out-of-pocket (OOP) expenditures. Susenas data suggest the population's first source of healthcare in the event of an illness is a private seller of pharmaceuticals.

The pharmaceutical market in Indonesia is valued at around US$2.4 billion in 2007 (including OTC drugs) with annual double digit growth mainly fueled by the private sector. The market is dominated by the domestic industry: there are four large state-owned enterprises (the privatization of which is an ongoing discussion) together with some 170 smaller privately owned companies. Multinationals also have a significant manufacturing presence in Indonesia, some of them manufacturing drugs or active substances for export. The market is dominated by branded generics despite the availability of unbranded and relatively cheap generics, indicating that consumers are willing to pay for brand image or can be persuaded by providers to choose more expensive drugs. On the other hand, the government is trying to promote price-regulated unbranded generics. Generic drug treatment is affordable for most people in the public and private sector. However, a recent study (Health Alliance International, 2006) found that prices of a number of frequently prescribed drugs were relatively high compared with international tender prices, with no significant difference between public and private sector outlets.

Per capita spending on drugs is slightly over US$10 annually. This sum may seen modest but it does not reflect the inequality as most people purchase their drugs through OOP payments. In such markets, spending is dominated by the wealthier groups in the population. Patent-protected brands, imported or made locally under license, are mostly consumed by higher income urban population, whereas many poor people cannot access effective drugs. Most people buy drugs from the private sector and the share of government-provided drugs remains low (15 percent of total drug expenditure). Public sector healthcare facilities are supplied with unbranded generic drugs,

which are given to patients free-of-charge or at a small fee. Little is known about the use of traditional medicine, although this is likely to be of considerable magnitude.

Decentralization has led to a situation in which districts are deciding on, planning for, and purchasing their own drugs. As a result, there appears to be no further central data collection to allow for a review and assessment of parameters, such as total public spending for drugs, availability, quality, etc. There is no common pattern of pharmaceutical procurement in provinces or districts. Depending on the quality of provincial/district management and availability of resources for drug purchases, the supply situation can be satisfactory in one province, but with widespread shortages in another. Similar patterns are found in the quality inspections of pharmacies and drugstores.

Generally, the informal sector escapes proper regulation and enforcement. The penetration of sub-standard and counterfeit drugs in the informal market may be high, possibly comprising as much as 25 percent of the market. This is a major public health issue and one that affects mostly the poor, who buy drugs from informal sellers because they are the only ones accessible or because prices in the formal sector are too high.

2.4. Responsibilities and the Acquisition of New Inputs

Under the current system there are a variety of rules and regulations regarding the purchase of inputs and decentralization has significantly complicated this process. Table 2.4 summarizes how the system works for the three inputs discussed above, namely infrastructure (hospitals, Puskesmas and Posyandu), the health workforce, and pharmaceuticals. The table outlines the responsibilities with regard to the acquisition of new inputs and is divided by level of government.

Table 2.4 Purchasing inputs under decentralization

Roles and responsibilities regarding the acquisition of new *inputs* by level of government			
INPUT	**LEVEL**		
	Center	**Province**	**District**
Construction of a new Puskesmas	• Define/issue minimum standards for building infrastructure • Funding (through DAK or TP)	• Funding (APBD I)	• Feasibility assessment • Proposal to center or province (depending on funding source) • Land acquisition • Funding (APBD II) • Procurement • Construction
Recruitment of new staff	• Regulation on staff recruitment (e.g. PP No. 8) • *Formasi* (staffing quota for the sector) • Salary (through DAU)	• Recap of district proposals • Forward proposal to center	• Proposal of new staff need (Dinas Kesehatan to province) • Selection process (BKD – local civil service agency) • Deployment (Dinas Kesehatan)
Drug procurement	• Development of national essential drug list • Pricing of generic drugs • Procurement and management of national buffer-stock	• Procurement and management of provincial buffer-stock	• Planning of drug need • Procurement • Distribution

Box 2.2 The complex reality on the ground: Purchasing under decentralization

In response to a growing number of inhabitants, a district government decided to split one sub-district into two new sub-districts in order to provide better services to the community. Carrying this decision forward, the district government developed a plan to set up a new sub-district authority and to construct some new facilities, including a community health center (Puskesmas).

The head of the District Health Office (Ka Dinkes) subsequently submitted a budget proposal for a new Puskesmas to the local government. The proposal included an estimated budget for the resources needed for land acquisition, the construction of the new Puskesmas, and the procurement of a set of equipment, following the standards set by the MoH. The head of the district Bappeda was not sure whether the local government had sufficient resources to pay for the total costs estimated. After recalculating the total needed for constructing a facility in the newly established sub-district, the district planning team concluded that the local government budget was only enough to pay for the land acquisition. The district then decided to submit another proposal to the central government (MoH) through the District Health Office to request a DAK allocation to finance the construction of the Puskesmas and for the procurement of the required Puskesmas equipment.

The proposal to the MoH was approved and the district government received the DAK funds in the following year. After the procurement process, the civil work started as planned. In the meantime, the Ka Dinkes and the HRH section chief developed a staffing plan for the new Puskesmas. They decided that they would like to move staff from the other Puskesmas to fulfill the staffing needs of the new Puskesmas. They soon realized that the Puskesmas needed at least one more midwife and two more nurses and it was impossible to find these staff from the existing pool of nurses and midwives currently on the district payroll. Although the bupati (district head) might have been able to convince the local parliament (DPRD) to approve APBD resources for the recruitment of one midwife and two additional nurses, the central government regulations do not allow new staff recruitment by local governments. Therefore, the only option open to the Ka Dinkes was to submit the new staff request to the Ka Dinkes at the provincial level, who would then further the request to the MoH. The district Ka Dinkes could only hope that the MoH's quota (the so-called formasi) would allow the MoH to deploy one midwife and two nurses to the district.

The need to buy drugs for the new Puskesmas was less of a problem than the recruitment of human resources. The Ka Dinkes calculated the need and added the amount to the previous year's request for drugs. It was likely that the district would increase the Ka Dinkes resource allocation to buy more drugs. However, if the district decided not to increase the share of its resource for the health sector, the Ka Dinkes would have to sacrifice some other activities. He might have to postpone the plan to conduct obstetric and neonatal emergency training for the village midwives, or further reduce resources for surveillance and sweeping to increase immunization coverage.

The district Ka Dinkes often wonders when the district will have sufficient resources and the discretion to use funds according to local needs: while decentralization has come a long way, there are still numerous challenges to tackle on the ground.

Public Expenditures on Health

Chapter 3

Indonesia's post-crisis period is now over: the country has sufficient financial resources to address its development needs, of which the health sector is one of the most prominent. Prudent macroeconomic policies, particularly extremely low budget deficits, have been instrumental in this recovery. Now is the time to build on the achievements of the past few years and to spend Indonesia's financial resources effectively and efficiently in order to reduce poverty through the improved quality of public services. The health sector is a key public service area in which improvements are deemed necessary if investments are to translate into improved performance outcomes.

The question of whether Indonesia can increase its public spending for health partially depends on whether it can increase its revenue collection in general.[33] In Chapter 1 the case was made that Indonesia will be faced with the need for major increases in health spending as a consequence of population growth, change in needs and demand stemming from demographic, epidemiological and nutritional transitions, and other factors. How the additional spending, if it occurs, will be divided between central and regional governments, however, also depends on the pattern of inter-governmental transfers. This chapter will therefore include a review of the channels for those transfers.

3.1. National Expenditure Trends and the Health Sector

Indonesia's spending shares have changed dramatically since 2001, and with declining debt repayments and recently reduced subsidies, sectoral spending has been increasing. However, sectoral spending could have been increased far more had subsidy payments not surged sharply in 2004 and 2005 due to increasing oil prices, crowding out additional (development) spending in key sectors. At present, the education sector is the number-one spending item in Indonesia. Although expenditures for the health sector have been rising gradually over the past few years, levels still remain below 5 percent of total government spending and below 1 percent of GDP (Figure 3.1). For a more detailed overview see Table H.1. in Annex H.

Indonesia's capacity to increase its health spending grows as its fiscal space increases.[34] In 2006, general revenue increased by an estimated 14 percent amounting to about 19 percent of GDP. In 2007, both revenues and expenditures are expected to rise by a further 7 percent. Between 2002 and 2006, government revenues increased to about 19 percent of GDP. It is likely that fiscal space will remain significant in the years to come.

While the reduction in fuel subsidies has freed up considerable fiscal space, Indonesia's fiscal position could be strengthened with further subsidy reductions. It is important to mention here that it appears that neither the central nor sub-national governments have fully utilized their fiscal space up to now. The gap between the central government's latest budget estimates (APBN-P) and realization[35] is used as a proxy indictor for unutilized fiscal space. Between 2001 and 2005, this gap widened from 1.0 percent to 2.2 percent of GDP (World Bank, 2007c, p.8). In the case of sub-national governments, the sharp increase in deposits provides evidence that regions are also under-utilizing their fiscal space. In August 2006, total deposits reached a record of Rp 97 trillion, or 2.9 percent of GDP (World Bank, 2007c, p.8). Revenues are mostly increasing as a result of growing non-oil and gas revenues accruing from taxes, posing questions regarding equity. However, the tax burden in Indonesia is progressive, with lower income quintiles contributing less to the pool of resources.[36]

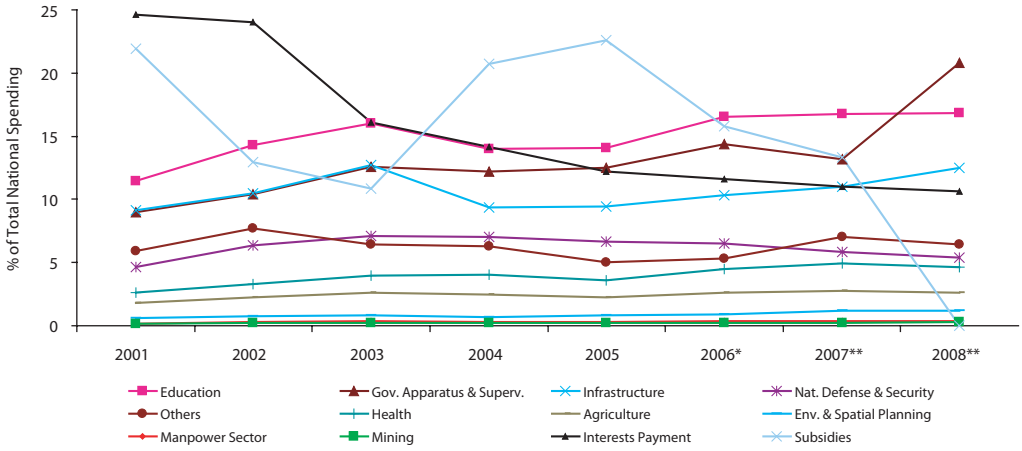
33 Crucial questions regarding politial willingness to increase health spending for example will be addressed in the comprehensive Health Sector Review, which is to be undertaken by the GoI with assistance from the World Bank and other partners.

34 The Indonesian 2007 PER, which includes a chapter on fiscal space, defines fiscal space as the discretionary expenditures that Indonesia can undertake without impairing its solvency (World Bank, 2007c). Also, a paper on fiscal space for health in Indonesia will provide a more detailed account and is forthcoming in June 2008.

35 Actual spending.

36 See Figures 18 and 19 from the EQUITAP studies (O'Donnell and others 2005a, 2005b) in Annex I, which confirm the progressivity of taxes.

Figure 3.1 Distribution of national public expenditures in key sectors, 2001-07



Source: World Bank staff calculations based on MoF and SIKD data.
Note: * Central budget realization and estimates of sub-national allocations for 2006/2007,
** Central budget (APBN) and estimates of sub-national allocations for 2008.

Health expenditure at the sub-national level compared with total public expenditures is only a small share of the budget. Government administration and education take up the largest shares. Although the provision of healthcare, including hospitals as well as primary care, has been the full responsibility of district governments since decentralization, the sector only receives 7 percent of the total sub-national funds (7 and 9 percent at the district and province levels, respectively).[37]

The largest component of public expenditure on health is undertaken by the Ministry of Health and its analogous departments at the provincial and district levels. These flows finance what is often referred to as the "main system" of health service provision under public management, which is in principle open to all Indonesian citizens. There are also a number of public agencies in Indonesia that incur health expenditure incidentally to their principal functions, and whose services are targeted primarily at special groups in the population, such as the military, police or employees of state-owned enterprises. A full accounting of public expenditures on health would attempt to capture these additional expenditures, but they are often difficult to trace. In this chapter, the figures reported are those contained in the budgets supporting the "main system". The term "national expenditures" is used for the sum of central, provincial and district public expenditures in the main system and does not include expenditures on health incurred by other ministries or state-owned enterprises.

3.2. Trends and Levels of Aggregate Public Health Expenditures

The focus of this chapter is on public expenditures and the data used relate to expenditures through the "main system". For these resource flows, MoF expenditure data are used as these are currently the most comprehensive. They allow for reliable analysis of aggregate public spending over time, together with cross-sectoral analysis, as provided in the previous section. The MoF data cover not only central level expenditures, but also allow for sub-national expenditure analysis, even though since decentralization districts decide how to spend their own resources. The sub-national data allow for economic analysis of health expenditures at the sub-national level, while functional classifications or analysis of spending by program remain difficult.

MoH data are used for functional analysis at the central level. Although these figures are slightly different from those of the MoF for the central level, they are at present the best estimates of central expenditures on health by function. Annex I summarizes the different ways of analyzing public expenditures as defined above, and the respective data sources and concerns.

37 For a detailed overview of spending at the sub-national level by sector for 2004, see Annex J.

Public expenditures in the health sector significantly increased from about Rp 9 trillion in 2001 to about Rp 19 trillion in 2005. Although starting from a very low base, this represents an increase of more than 48 percent in real terms (Table 3.1). Before the crisis, health expenditures increased by an average of only 5 percent annually (Figure 3.2). Moreover, budget allocations for 2006 show another 63 percent increase compared with 2005, and further increases are planned in 2007 and 2008.

Table 3.1 Trends in Indonesian public health expenditures, 2001-08

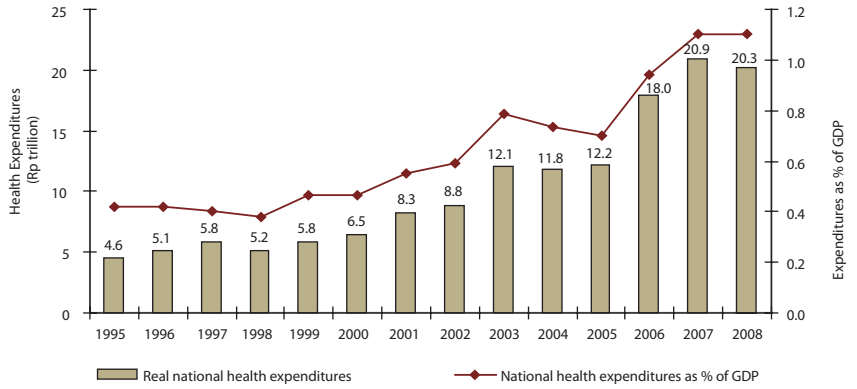
Rp trillion

	2001	2002	2003	2004	2005	2006*	2007**	2008**
National nominal health expenditures	9.3	11.0	16.0	16.7	19.1	31.2	39.0	39.7
National health expenditures at constant prices (100=2000)	8.3	8.8	12.1	11.8	12.2	18.0	20.9	20.3
Per capita expenditures on health in US$ - constant prices (2000=100) (rounded-thousands)	4.1	4.7	6.8	6.0	5.7	8.7	9.8	9.1
Annual growth real national health expenditures (%)	42.8	19.0	45.8	4.1	14.4	63.3	24.9	1.8
Public health expenditures as % of national total public expenditures (%)	2.6	3.2	3.9	3.6	3.5	4.4	4.8	4.4
National public health expenditures as % of GDP (%)	0.5	0.6	0.8	0.7	0.7	0.9	1.1	1.1
Total national public expenditures at current prices	355.2	339.6	411.2	459.8	547.2	714.7	812.0	891.8
Total national public expenditures at constant prices (2000=100)	318.6	272.2	309.3	325.6	350.8	412.0	435.0	455.4

Source: World Bank staff calculations based on MoF and SIKD data.
*Note: * Allocation, ** Estimated.*

Health spending as a share of overall national spending rose from 2.6 percent in 2001 to 3.5 percent in 2005. However, health spending as a share of GDP remains low, increasing from 0.6 percent to 0.7 percent over the same period. Both shares are projected to increase in 2006 and 2007 based on budget analyses.

Figure 3.2 Trend in public health expenditures, 1995-2007

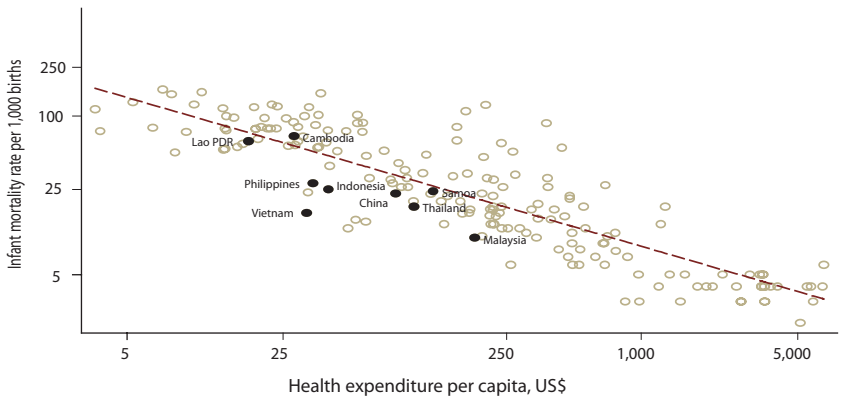


Source: World Bank staff calculations, based on data from MoF.
Note: At constant 2000 Rupiah prices.

3.3. International Comparisons of Health Spending

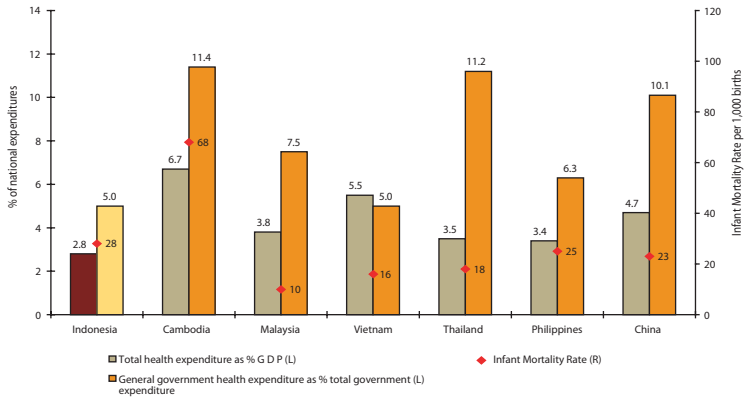
Regional comparisons between levels of total health expenditures show that Indonesia's spending levels are slightly below those of most of its East Asian neighbors. Indonesia spends less than 3 percent of GDP on health (of which less than 1 percent is public spending) and only around 5 percent of total government expenditures go towards the health sector.[38] Other countries, even those with similar and lower per capita incomes, spend at least 3 to 4 percent of GDP on health. In terms of health expenditures as a share of total expenditures, Indonesia lags behind the Philippines, where close to 6 percent of total government resources are spent on health (Figure 3.3). These figures are even more striking when taking infant mortality rates into account (Figure 3.4). Indonesia has a moderate infant mortality rate per 1,000 live births, while spending less than other countries with lower rates.[39]

Figure 3.3 Total health expenditure per capita could be higher given mortality rates



Source : World Bank, 2007, based on WDI.
Note : Log scale.

Figure 3.4 Regional comparison of health expenditures and infant mortality rate (IMR)



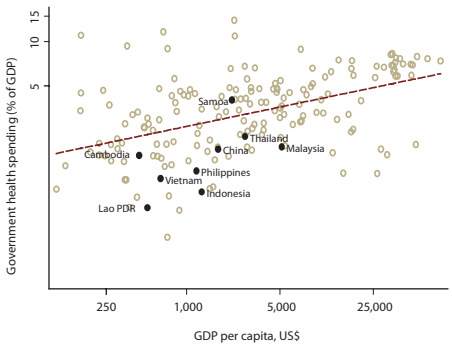
Source: World Bank, 2007, based on WDI.

38 These figures are slightly different from the ones provided in Chapter 4, since we use WDI figures here to ensure consistency when comparing with other countries, for which we have no other data.

39 There is recent, albeit limited, literature that demonstrates evidence of a positive correlation between government health expenditures and health outcomes as IMR and MMR (see Gottret, Gai and Bokhari, 2006). Until recently, however, the relationship was not proven and the missing link can be explained by three factors: (i) an increase in public health expenditures may result in a decrease in private health expenditures (a household may divert funds to other expenses than health once the government provides basic health care); (ii) incremental government expenditures may be employed on intensive rather than extensive margins; and (iii) even if extra funds are applied to healthcare (more services, staff and supplies) if complementary services (roads, for example) are not provided the impact may be little or none). (See Musgrove 1996 for review of evidence; Wagstaff, 2002, for impact of complementary services; Jalal and Ravallion, 2003, for use of incremental health expenditures; and Anand and Ravallion, 1993; Bidani and Ravallion, 1997, Filmer and Pritchett, 1999; and Wagstaff, 2004.)

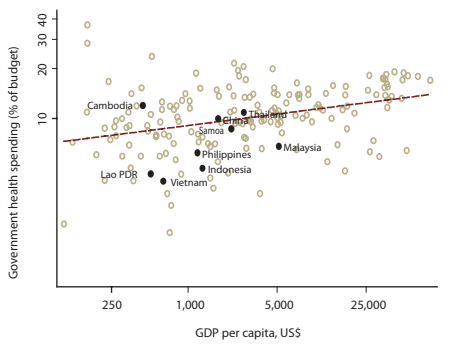
Figures 3.5 and 3.6 illustrate further that Indonesia spends less on health than would be expected given its income level. This is not only the case when looking at income and expenditures, but also against a more direct measure of capacity, namely total government revenues. Here too, Indonesia spends less than its regional peers (Figure 3.7). Despite the fact that the figures below portray public health expenditures and revenues, including the large share of out-of-pocket expenditures, Indonesia still scores poorly compared with its neighbors.

Figure 3.5 Public health expenditures as a % of total government budget versus income, 2005



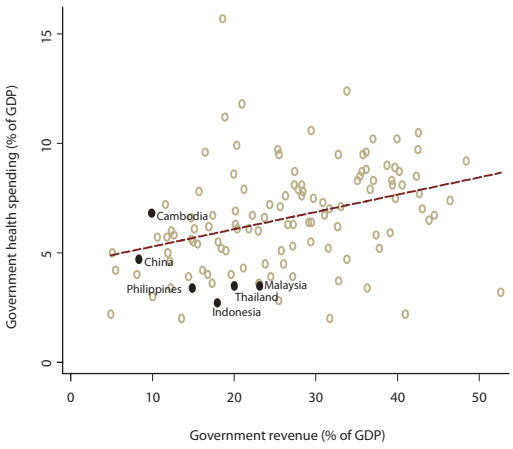
Source: World Bank, 2007, based on WDI.

Figure 3.6 Public health expenditures as a % of GDP versus income, 2005



Source: World Bank, 2007, based on WDI.

Figure 3.7 Public health spending versus total government revenues, 2000-05



Source: World Bank, 2007, based on WDI.
Note : Revenues are for central government and average of available data for 2000-2005.

Although these international comparisons are the best benchmark we have for comparing levels of total or public expenditures for the health sector, care is needed. This is because adequacy measures for a certain level of expenditures may also depend on: (i) the respective countries' share of private sector healthcare provision (if the share is large, public spending levels are warranted to be lower); (ii) whether the level of private contributions from households is taken into account accurately (this might explain higher levels of *total* spending for some countries); and, of course, (iii) country-specific development needs.

3.4. Intergovernmental Fiscal Transfers, Sub-national Revenues and Flow of Funds for the Health Sector

Over the period 2001 to 2005, the average annual rate of growth was 29 percent for all expenditures in the main system. In more detail, average annual growth was 41 percent for central government expenditures, 23 percent for provincial expenditures, and 24 percent for district expenditures.

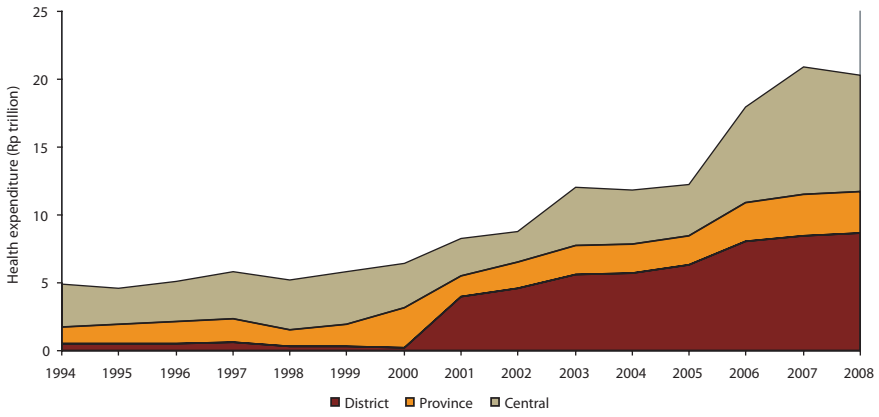
Most health expenditures are spent at the sub-national level. This trend has remained fairly consistent over time. However, in 2006 the central level share increased and is budgeted to increase further in 2007. This can be largely explained by the increase in social spending, or the Askeskin health insurance program for the poor, which is classified as central level expenditure. The majority of spending is mostly at the district level (Table 3.2). Provincial level spending reached a high of 22 percent in 2002, but was only 14 percent in 2007 (Figure 3.8).

Table 3.2 Public health expenditures by level of government, 2001-07

	2001		2002		2003		2004		2005		2006*		2007**		2008***	
	Rp bn	%	Rp bn	%	Rp bn	%	Rp bn	%	Rp bn	%	Rp bn	%	Rp bn	%	Rp bn	
Central	3,119	34	2,907	26	5,752	36	5,595	33	5,837	31	12,190	39	17,467	45	16,768	42
Province	1,745	19	2,372	22	2,821	18	3,000	18	3,316	17	5,100	16	5,600	14	5,924	15
District	4,387	47	5,725	52	7,473	47	8,108	49	9,948	52	13,900	45	15,900	41	16,972	43
Total	**9,250**	**100**	**11,004**	**100**	**16,045**	**100**	**16,703**	**100**	**19,101**	**100**	**31,190**	**100**	**38,967**	**100**	**39,664**	**100**

Source: World Bank, SIKD database, based on data from MoF.
Note: * = allocation, ** = estimated, *** = estimated.

Figure 3.8 Trends in health expenditure by level of government, 1994-2008



Source: World Bank, SIKD database, based on data from MoF.
Note: Figures for 2006 and 2007 are based on estimations for sub-national expenditure. Figures for 2008 for central and sub-national expenditure are based on estimations. At constant 2000 prices.

The health sector is financed from three main sources. Some 65 percent is made up of private spending,[40] of which about 75 percent is out-of-pocket spending. Less than 2 percent[41] is provided through foreign aid, which is mainly channeled through the government budget. The remainder is financed through general government revenues.[42]

40 This includes insurance, private enterprises and NGO/community contributions. In addition, part of the public sector share of financing is generated through user fees charged for services.

41 Donor spending increased in the aftermath of the crisis in 1997/98 to compensate for actual government spending, which fell sharply. Since 2001, however, donor funding has declined from 31 percent of total public spending to 9.8 in 2006, thereby amounting to only about 2 percent of total health spending.

42 See Annex A, Table A.2 for a summary table containing NHA data for a number of selected indicators (WHO, 2007).

Decentralization has radically changed Indonesia's intergovernmental transfer system away from earmarked funding.[43] Funding now materializes through a combination of the general allocation fund (Dana Alokasi Umum, or DAU[44]), the implementation of revenue-sharing between regions, and new rights to issue a variety of (local) taxes. The heads of regions (districts and provinces) are no longer accountable to the central government, but are elected and accountable to local parliaments. Administratively, the central government has allocated responsibility for the implementation of most local service delivery, including health services, to district governments. To date, however, many problems persist due to lack of clarity in the assignment of functions between tiers of government, with conflicting and unclear regulations issued by the central and local governments, and a vague and incomplete definition of minimum service standards (MSS). These problems make the management of services at the local level an enormous challenge.

The flow of funds from the center to the districts affects the equity, effectiveness and efficiency of public spending considerably. A recent study into the equity of intergovernmental fiscal transfers found that poor districts have been among the main beneficiaries of funding since decentralization. The study concluded that the most pressing challenge faced by the government was to ensure that resources are spent more efficiently rather than more equitably distributed (Fengler and Hofman, 2008). It is anomalous that large sums of money remain in bank accounts at the local government level while service delivery suffers from a lack of operational funds to provide outreach and necessary public health services, such as immunization.

Even after decentralization, 90 percent of funds reflected in regional budgets still come from the central level. These are transferred through the balancing funds and are composed of: the DAU; SDA (Sumbur Daya Alam) or shared taxes, natural resource and revenue shares; and the special allocationb fund (Dana Alokasi Khusus, or DAK). Papua and Aceh also receive special autonomy transfers. In addition to these transfers from the central level, regional governments have their PAD (Pendapatan Asli Daerah) or own-source revenues.

The share of the DAU, SDA and PAD allocated to the health sector is determined by the regional governments themselves. In contrast, the earmarking of the DAK is centrally determined. The DAK is distributed according to a variety of criteria that, in principle, include a region's fiscal capacity. In addition to transfers that are reflected in regional budgets, central ministries incur expenditure from their own budgets for the benefit of service delivery in the regions. (This *dekonsentrasi* or deconcentrated expenditure is often abbreviated as *dekon)*. The continuation of this expenditure in deconcentrated mode in an era of decentralization is controversial and there is pressure to convert deconcentrated spending into DAK.

Given the fact that it is up to sub-national governments to decide how much of the DAU, SDA, PAD and other transfers they spend on health, it is difficult to reconstruct spending on health by source of funds. However, Table 3.3 below provides an overview of the shares of revenue these transfers constitute at the sub-national levels (provinces and districts). The largest component of the balancing fund is the DAU, which accounts for about 45 percent of sub-national revenues. The DAU accounts for 56 percent of *kabupaten/kota* revenues and only 16 percent of provincial revenues. The largest revenue source for the provinces is own-source revenue, which mostly comes from taxes. While we cannot reconstruct this table for health spending specifically, we do know that at the sub-national level, the largest spending item is government administration, followed by education, and that on average health only accounts for 9 percent of total spending at the province level and 7 percent at the district level (see Table M.1. in Annex M).

43 Before decentralization, central transfers were mostly in the form of earmarked grants. The largest of these transfers was the subsidy for autonomous regions (Subsidi Daerah Otonom, or SDO). Development spending was mostly financed by the Inpres (Instruksi Presiden) system, a presidential instruction fund that served an array of specific purposes, from re-greening to the construction of schools and public markets. After decentralization in 2001, central transfers were designed to minimize the vertical and horizontal fiscal imbalances incurred by regional governments and to subsequently implement the functions stipulated in the decentralization law. These transfers were called 'balancing funds' (*dana perimbangan*) and replaced the central transfers through SDO and Inpres.

44 The DAU allocation employs a formula-based allocation mechanism. The overall DAU pool at the national level is calculated as a share (currently 26 percent) of net national revenues (net of shared revenues). The DAU formula has two components, the 'basic allocation' (BA) component and the 'fiscal gap' (FG) component. Until 2005, the 'basic allocation' component consisted of a lump sum and a civil service wage bill component that covered only a portion of the wage bill. Starting in 2006, the DAU covers the full wage bill of each sub-national government before applying the formula. The fiscal gap is calculated as the difference between fiscal capacity (FC) and expenditure needs (EN), which will be partially covered by the DAU. The FG component of DAU is allocated to the districts pro rata of their fiscal gaps. It is the main driver of equalization. Although the proportion has been increasing, the importance of the fiscal gap formula in the distribution mechanism is only partial. Indeed, only 50 percent of the total DAU pool is distributed using the fiscal gap formula (World Bank, 2007c, p. 154).

Table 3.3 Sub-national government revenue, 2005

	Province		Districts/cities	
	Amount (Rp bn)	Share (%)	Amount (Rp bn)	Share (%)
Own-source revenue	28,014	49.2	12,530	8.8
Shared taxes	9,312	16.3	15,122	10.6
Shared natural resource revenue	6,190	10.9	17,488	12.2
DAU	9,181	16.1	79,843	55.9
DAK	16	0.0	4,628	3.2
Other revenue	4,260	7.5	13,196	9.2
Total revenue	56,973	100	142,807	100

Source: World Bank, 2007c.

While the health sector follows the general pattern of intergovernmental fiscal flows,[45] a detailed examination reveals added complexity. There are at least three different channels through which funds provided to the MoH as part of APBN flow to service delivery in the regions, none of which is reflected in regional budgets. To these three channels must be added the additional resources provided by the recently developed Askeskin scheme, a non-contributory insurance scheme for the poor with notional premiums funded entirely by the MoH from its share of APBN. The flows specific to the health sector are shown in Figure 3.9 and details on their use, targeting, size and significance are provided in Table 3.4.

The deconcentrated portion of spending by the MoH accounts for central spending in the regions. This type of spending was established long before decentralization and concerns a system whereby regional government budgets bore the cost of salaries and core administration functions, while the central ministry provided the inputs to most programs, including drugs, vaccines, travel allowances and incentives. In effect, the central funding provided the means to animate the basic capacity installed by regional funding.

As previously noted, most deconcentrated spending is eventually destined for district level services, but most of it is channeled through the Provincial Health Office (PHO). The exceptions to these two generalities are that some resources are used at the provincial level, while some program funding, for example for nutrition, is transferred direct from the MoH to District Health Offices (DHO). A considerable part of this flow consists of transfers of goods in kind rather than cash: drugs, vaccines, medical equipment and vehicles are often procured centrally and then distributed in kind to the regions.

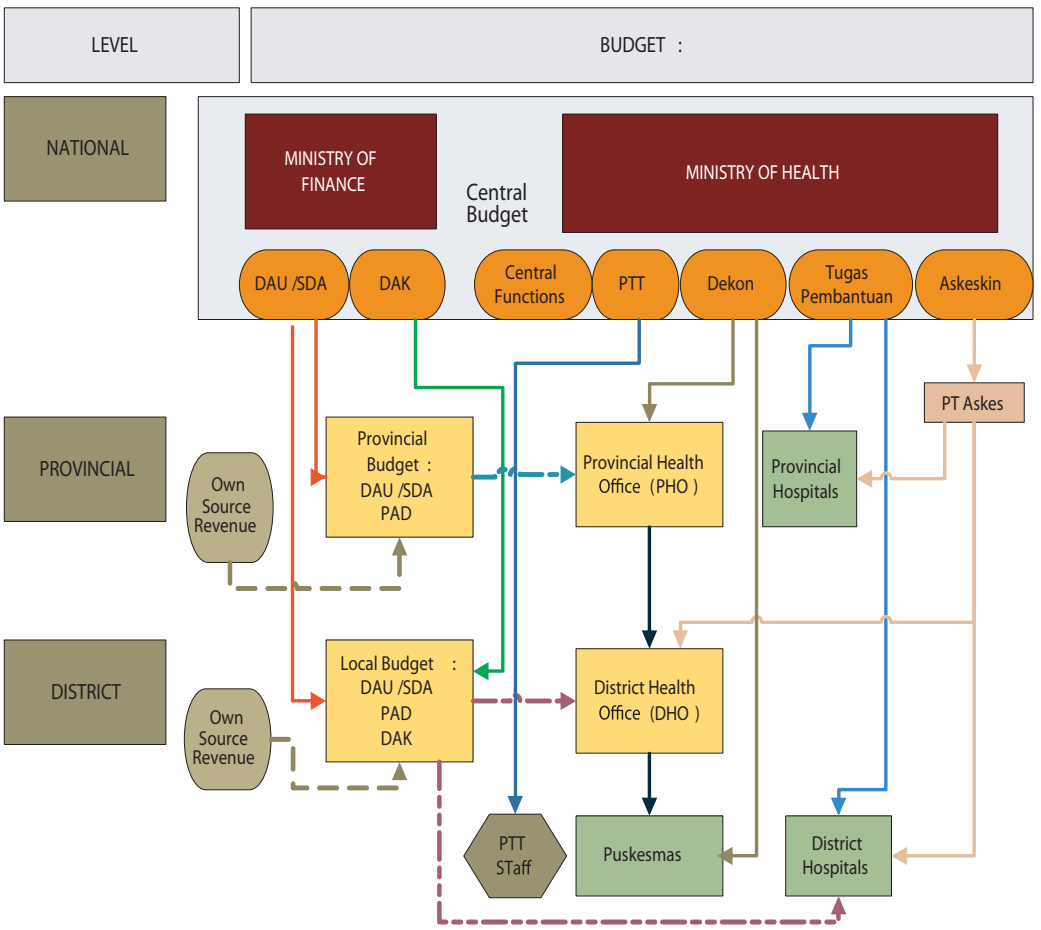
Law No. 33/2004 calls for a re-channeling of deconcentrated spending on decentralized tasks through the DAK. Up to now, however, central departments have been able to delay the implementation of this agenda (World Bank, 2007a). Tugas Pembantuan or co-administration funds can be considered a special case of deconcentrated expenditure, distinguished by a narrow focus on construction projects and a direct channeling to the district, by-passing the PHO.

Another central flow to the regions that predates decentralization is the payment of salaries of contract staff. These civil servants are known as *pegawi tidak tetap* (PTT), or officials without permanent contracts, and include doctors, nurses and midwives. Originally introduced as a means of staffing remote regions in the wake of the zero-growth policy for the civil service, this scheme has continued after decentralization with the MoH meeting the salaries and allowances for some staff working in the districts. While clearly anomalous in the context of the grand design of decentralization, the continuation of this scheme reflects the failure of other equalization measures to give less favored regions the fiscal capacity to employ their appropriate share of the national stock of trained health staff. Payments are made directly to the bank accounts of the contracted individuals. They do not pass through the Dinas office and are therefore not reflected in district level budgets (APBD2).

45 See for a detailed review of the general intergovernmental fiscal transfers Annex K.

The flow of funds via the Askeskin scheme has changed several times in its short life. Until 2008, the payment of claims for hospital services provided to Askeskin members had always been handled by PT Askes, the third-party payer contracted by the MoH to administer the scheme. These payments were made directly to the claiming hospitals. Payments to primary healthcare providers have been more variable. For the first six months of the scheme's operation beginning in January 2005, PT Askes was responsible for paying capitation to Puskesmas, in a few cases directly to Puskesmas bank accounts, but more commonly via the District Health Office. For the second half of that year, the MoH undertook to make payments for primary healthcare services, usually delivered in kind in the form of vehicles and motorcycles. Throughout 2006, PT Askes resumed responsibility for payments to primary healthcare providers. Then, from early 2007, the MoH took back the function of paying all primary healthcare providers by direct transfer into Puskesmas post office giro accounts. Since 2008, however, the function of claims payment for hospitals has now been assumed by the MoH. It is the relatively simpler situation as it existed in 2006 that is represented in Figure 3.9.

Figure 3.9 Intergovernmental fiscal flows for the health sector 2007[46]



46 In 2008 the flow of Askeskin funds changed with the MoH now paying hospitals directly, while PT Askes only has responsibility for administering the membership of the program.

Table 3.4 Summary of intergovernmental fiscal flows for the health sector

Transfer/ Revenue:	Flow:	Use:	Targeting:	Comments, Size & Significance:
DAU	Straight into APBD I and II	Partially earmarked: used for salaries and remainder used at discretion of province/district. De facto, first call is payment of salaries.	Address horizontal imbalances	Majority of budget for health from DAU
Shared Revenue	From center to APBD I and II	Goes into APBD – up to district/province discretion	Address vertical imbalances	Substantial in some provinces
PAD	Goes directly into APBD I and II	To discretion of district/ province	Depends on local revenue raising capacity (health tariffs constitute a significant share)	Could be increased by allowing for different taxes (substantial at the provincial level)
DAK	Straight into APBD II	Narrowly defined as construction or rehabilitation of primary care facilities. Requires matching contribution of 10 percent from APBD2	Reflects national priorities, in health, deferred investment in primary care facilities	Small (US$0.30 per capita/year) – Health policy-makers propose increase and to allow for 'operational' use as well
Dekon	From APBN to APBD I or hospitals– and for districts from APBD I onto APBD II Most *dekon* managed by PHOs but most benefits in cash or kind transferred to DHOs	Earmarked for non-physical expenditures	Address national priorities	Substantial – policymakers propose a decrease (present policy goes against decentralization principles)
Tugas Pembantuan	From APBN straight to hosptitals or APBD II (and then to Dinas)	Earmarked for physical assets/ infrastructure	Address national priorities	Very small
PTT	Directly to PTT staff member personal account	Salaries and allowances for staff in under-staffed regions	Understaffed regions	One of the few policy instruments to correct regional imbalances in staffing
Askeskin	Straight to hospital or Puskesmas (latter through Dinas)	To cover costs for providing free healthcare to the poor	Variety of targeting problems related to beneficiaries	Non-contributory insurance scheme facing rapidly rising costs

Recently, some health sector professionals and fiscal decentralization experts have argued for a reform of the DAK. First, it has been proposed to substantially increase the amount of DAK and allow its use for operational purposes. Allowing for the operational use of DAK funds would, however, require legal amendments. Second, it has been proposed to decrease the level of deconcentrated spending and convert it into a form of the DAK. Many argue that moving forward on fiscal decentralization requires diminishing the level of central government directed development spending in the regions through deconcentrated spending. In this view, the recent increases in central government expenditures for the health sector through deconcentrated spending go against the principle of decentralization and the ideas set out in Law No. 33/2004 Article 108, which states that deconcentrated spending should be gradually reduced. The counter-argument that is deployed by some health professionals is that many regional governments have displayed a weak commitment to health in general and to public health services in particular, so it is only central government willingness to spend for these purposes that ensures a minimally adequate budget for programs such

as disease surveillance and immunization. It is apparent that this counter-argument has force if the alternative to deconcentrated spending is an expanded DAU, but it is weak if the alternative is a liberalized DAK, because the center still prescribes the uses of DAK funding.

Despite the importance and dynamism of this debate, the DAK currently only constitutes a small share of the total health expenditures at the local level. On average, the DAK for the health sector constitutes less than 1.0 percent of the total local government budget. Although most districts receive the grant,[47] the amount is only about Rp 2,700 (US$0.30) per capita per year. Arguments in favor of increasing the DAK for health are supported by the fact that, compared with other sectors receiving DAK funds, the health sector is only provided with a very small share of the total pool of resources. The education sector, for example, has seen its DAK allocations double from 2004 to 2005, whereas the grant allocations for health remained stable despite increased fiscal space (Table 3.5).

Table 3.5 DAK allocations by sector

	Total (Rp bn) 2005	Per capita (Rp) 2004	Per capita (Rp) 2005	Number of districts that received DAK	% of the total LG budget
DAK Health	**609**	**2,094**	**2,761**	**324**	**0.33**
DAK Education	1,205	2,996	5,464	324	0.65
DAK Roads	878.5	3,851	3,983	325	0.47
DAK Irrigation	369.5	1,640	1,675	221	0.20
DAK Fisheries	309	1,402	1,401	296	0.17

Source: World Bank, SIKD Database, 2004/2005, based on data from MoF.

One issue of the debate is focused on whether the transfer is effective in reducing equity imbalances across districts. Since nearly all districts receive the DAK, any policy targeted at equity would need to be based on per capita levels of the transfer. At present, it seems that the matching grant is not necessarily based on any proxy of average income on the district (such as poverty headcount, GRDP per capita or household expenditures per capita), nor on needs in terms of health outputs or outcomes (such as number of Puskesmas or the number of doctors per Puskesmas, skilled birth attendants, or immunization).[48]

Sub-national governments' own-source revenues include local taxes, but also user charges from healthcare provision and fees. However, the latter constitute only a limited share at the provincial level. Taxes on electricity, and on hotels and restaurants make up 75 percent of total district level tax revenues. The most significant user charges are for health services, followed by building permits and fees for the use of other public assets.[49] Although fees for hospital services are much higher, user fees that are returned to regional governments as *retribusi* for health services come mostly from Puskesmas, given their higher utilization rates. Other own-source revenues include those generated by local government enterprises and interest income on unspent balances. How much of the user charges for health is retained by, or comes back to, the actual Puskesmas or district health office depends on local regulations, which are variable from place to place, and differ with the source of payment (general public, Askeskin and Askes for civil servants).

47 The majority of districts receive either deconcentrated spending or DAK funds, only 45 districts (out of 400) do not receive any (neither for health nor for other types of DAK or decon). These districts are spread over 20 provinces; they include only one kota, while the overwhelming majority are kabupaten, possibly new kabupaten such as Bener Meriah in Aceh. Some 69 percent of the 444 districts have DAK and 80 percent of the districts have deconcentrated funding. Tugas Pembantuan cannot be distinguished in 2004 but Tugas Pembantuan funding in 2005 is almost insignificant (less than 1 percent of total spending).

48 See Annex L for scatter plots illustrating some of these findings.

49 See Annex M for more detailed figures on the composition of own-source revenues at the district and province level for 2004.

3.5. Planning, Budgeting and Financial Management in the Health Sector

Budget realization indicators demonstrate the need for improvement in budget performance in the health sector. Actual expenditures have consistently deviated from plans, and subsidies through Askeskin, as well as transfers through regions via the deconcentration mechanism, have been disbursed late. This trend was observed across the board for the government, as particularly capital/development expenditures tend to be lower than initially budgeted. It appears to be a long-term trend now that spending always starts slowly and accelerates towards the end of the year (World Bank, 2007c). This spending pattern is cause for concern because project implementation is disrupted by an adverse budget cycle. Project implementation starts late and, in the case of multi-year projects, is interrupted at the beginning of each year.

In 2006, 73 percent of the MoH budget allocation was spent. This is not very different from the realization rate in 2001/02 (WHO-PHER, 2004), when the central government realized spending of around 75 percent. In particular, operational expenditures under goods and consultant services perform poorly in terms of actual disbursements. In terms of the economic classification analysis that follows, the category of civil works sees only half of its budget spent (Table 3.8). Social assistance appears to be the best performer in terms if spending its allocated budget. This is rather misleading because the funds are considered allocated the moment they are transferred to the post offices, where they may subsequently remain in the post office accounts for a substantial period of time before being truly spent.

In general, low levels of disbursement can be explained by the delayed availability of funds and rigidities in reallocating resources between weak and better performing activities. Given substantially increased public resources for health, financial management systems are even more important in ensuring spending quality and effectiveness. Currently, Indonesia's health budgeting and execution systems have considerable room for improvement and modernization.[50] The 2007 PER reports that although Indonesia has made progress in establishing a sound legal framework to manage its public finances, significant problems remain and these also apply to the health expenditure system. For example, regarding budget realization, central government expenditures have consistently deviated from initial plans, making planning more difficult.

Spending starts slowly in the budget year and, for the past five years, Indonesia has spent 50 percent of its total capital expenditures during the last quarter of the year (World Bank, 2007c). This spending pattern is a major concern for project implementation, including in the health sector. Project implementation not only starts late but is also interrupted at the beginning of the year to wait in order for funding to be released. Weak budget preparation and underestimations lead to mid-year revisions reducing the credibility of the approved budget. Rigid budget execution is aimed at ensuring that the budget complies with political priorities, but leaves very little flexibility for adjustments in composition of inputs. Reallocations from non-performing to performing activities can hardly be realized due to the lengthy approval process involving parliament (DPR). Although the idea is to move towards performance-based budgeting, so far there has only been limited impact on allocative decisions from the integration of the planning and budgeting exercises. The decisions continue to be driven by input compositions of the budget rather than spending programs and their corresponding priorities.

Box 3.1 Rigidities in the budget process: An example of health project work at the district level

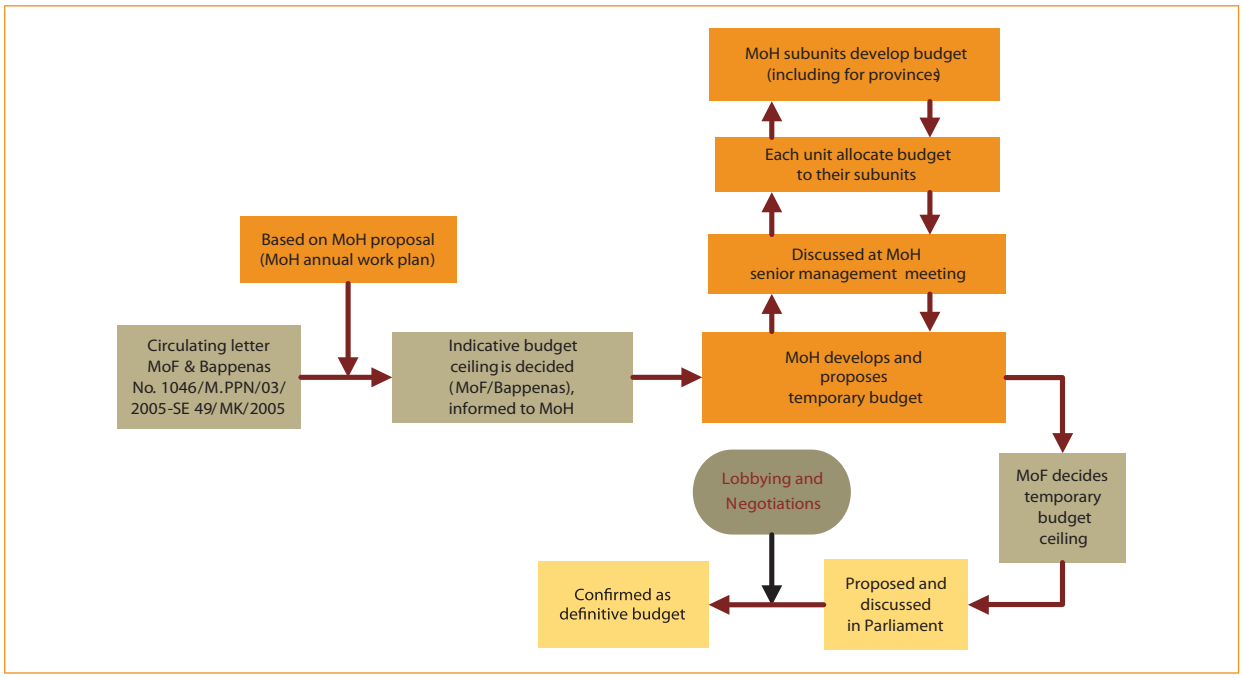
In 2003, the GoI borrowed around US$105 million to finance its Health Workforce and Services Project. The project supports health sector reform in Jambi, West Sumatra, East Kalimantan and West Kalimantan, involving around 50 districts in the four provinces. The project was declared effective on December 31, 2003. By December 31, 2007, however, at which time the project had been active for four years, project funds had only been available for district spending for the previous 25 months. During the first couple of years, the main constraints for disbursing project funds were the complex fund-channeling arrangements under on-granting agreements between the central and the district levels, requiring involvement of district parliaments. More delays were caused by the late release of budget documents due to the frequent changes of government budgeting processes. In 2007, the MoF decision to cut the budget for staff travel was followed by lengthy and time-consuming revision of budget documents. Although only one year remains of the agreed five-year project implementation period, project disbursement is still only around 45 percent.

50 World Bank, 2007c, provides a detailed description of this budget process in Chapter 6.

As planning and budgeting is a political process, not just a technocratic one, this may result in sub-optimal policies and budget allocations. In health, for example, several programs that are known to be less cost effective are preferred just because they produce more tangible outputs. Also, the deliberation of the sectoral work plan and budget by parliament sometimes extends too far into implementation details, such as how and where a public health facility should be built, undermining work plans that have ben developed based on sound evidence. In order to ensure that the policy and budgeting process achieves its intended results, the government and parliament could consider the following; (i) refer to the agreed Government Work Plan (RKP) document that shows sectoral priorities and activities, (ii) with performance-based budgeting becoming a reality in Indonesia, line ministries should be given the authority to set priorities and design activities and to a lesser extent the MoF and Bappenas, and (iii) limit the role of parliament for the provision of general inputs and guidance during the deliberation of the government budget and work plan.

The diagram below provides an overview of the central level's planning and budgeting process for the health sector.

Figure 3.10 Central government planning and budgeting cycle for the health sector



Sources: Atmawikarta, A., 2008, and Marhaeni, D., 2008.

3.6. Expenditures by Budget Classification

In 2005, Indonesia introduced a unified budgeting system and the traditional classifications of "routine" and "development" that had been used until then were dropped. Instead, the new budget distinguishes between: (i) discretionary spending (similar to what was previously called "development"); (ii) non-discretionary spending (part of what used to be labeled "routine"); and (iii) an economic classification that includes the following sub-classifications: personnel, material, social assistance and capital, all of which used to be called "routine". For consistency, however, this report continues to calculate development spending for the years 2005-07.

Development expenditures[51] are defined as "state expenditure aimed to finance development projects to achieve national development objectives, both material and non-material" (Law No. 2/2000 on the State

51 The development budget was eliminated and a new budget line for capital expenditures introduced in 2004 for central government and in 2005 for regional governments. Capital expenditures have been effective since 2005, following Law No. 17/2003 on public finance. This category is defined as expenditures covering payments for the purchase or production of new or existing durable goods, or goods with a life of more than one year, to be used for productive purposes e.g., bridges, roads, school buildings, health clinics, etc.

Budget, or APBN). However, this definition does not disclose the true nature of the division that existed between the routine and development budgets for health. This division did not coincide with the customary distinction between recurrent and capital budgets. The routine budget contained only recurrent items, principally salaries and allowances, but it did not contain all recurrent expenditures. A large share of expenditure on drugs, vaccines, travel and other operational costs was included in the development budget, along with the more conventional capital purchases.[52] It is more helpful, however, to think of the routine budget as the one that financed the basic installed capacity, while the development budget financed the means to animate that capacity to deliver services.

Table 3.6 Summary of public health expenditures by level of government and economic and functional classification

Expenditures	Amount (Rp bn)	Year	% of Total Exp.
Center*	12,189	2006	39
Province**	5,100	2006	16
District**	13,900	2006	45
Total national 2005	**31,189**	**2006**	**100**
Budget classification	***National level***	**2004 (most recent available)**	
Development	***9.9***	2004	60
Routine	***6.8***	2004	40
Total national 2004	**16.7**	**2004**	**100**
Economic classification***	***Central level***	**2006**	
Personnel expenditures	1,528	2006	14
Goods and consultants	3,069	2006	28
Investment/capital	3,076	2006	28
Social assistance	3,344	2006	30
Total central 2006	**11,017**	**2006**	**100**
Functional classification	***Central level only***	**2006**	
Drugs and medical supplies	597	2006	5
Individual healthcare	3,970	2006	36
Community health	3,834	2006	35
Other (executive, research, other health, education)	2,697	2006	24
Total central 2006	**11,017**	**2006**	**100**

Source: Data combined from: World Bank SIKD database (based on data from MoF); Bureau of Planning, MoH.
Note: * Allocation; ** Estimated figures; *** for sub-national economic classification see Section 3.4.

The recent increase in overall public spending on health has been driven almost exclusively by development expenditure. Development expenditures shot up after 2001 (in absolute terms they nearly doubled from 2002 to 2003, and in terms of share there was an increase of about 15 percent annually through to 2004, which remained the case until 2004), while routine expenditures stayed essentially the same in absolute terms; a small decrease at central and provincial levels was balanced by an increase at the district level, and routine spending even decreased in terms of spending shares per level (Table 3.7).

The increase in development spending at the district level after 2001 was probably a result of decentralization. This reflected the change whereby most functions for healthcare provision became the responsibility of the local levels. Increases in development spending at this level of government probably result from increased purchasing and procurement executed by districts after decentralization.[53] In addition, the introduction of the DAK block grant, earmarked for infrastructure, increased development spending in absolute terms, as well as relative to personnel

52 A mapping of the 2004 budget from the previous to the unified system reveals that capital expenditures accounted for about 56 percent of the amount reported previously as development expenditures, while the remainder was reclassified among several lines of routine and expenditures and social assistance. As is clear from Table 3.6, much of the ongoing work remains to be finalized to include data for the years after 2004, before further analysis can be done.

53 This trend was observed in other East Asian countries with decentralized health service provision as well. See for more information in Lieberman et al., 2005, p155-179).

expenditures. However, after 2004, the trend seems to have reversed, with the center once again taking on a larger role with regard to spending on development. Increases in such central expenditures may also be partially explained by spending through the recently introduced Askeskin program.

Table 3.7 Levels and shares of health expenditures at different levels of government

	2001		2002		2003		2004		2005		2006		2007		2008*	
	Rp trn	%	Rp trn	%	Rp trn	%	Rp trn	%	Rp trn	%	Rp trn	%	Rp trn	%	Rp trn	%
Central	**3.1**	**34**	**2.9**	**26**	**5.8**	**36**	**5.6**	**34**	**5.8**	**31**	**12.2**	**39**	**17.5**	**45**	**16.8**	**42**
Development	2.3	74	2.4	84	5.3	92	5	89	-	-	-	-	-	-	-	-
Routine	0.8	26	0.5	16	0.5	8	0.6	11	-	-	-	-	-	-	-	-
Provincial	**1.7**	**19**	**2.4**	**22**	**2.8**	**18**	**3.0**	**18**	**3.3**	**17**	**5.1**	**16**	**5.6**	**14**	**5.9**	**15**
Development	0.6	33	0.9	39	1.5	52	1.8	60	1.8	54	-	-	-	-	-	-
Routine	1.2	67	1.4	61	1.4	48	1.2	40	1.5	46	-	-	-	-	-	-
District	**4.4**	**47**	**5.7**	**52**	**7.5**	**47**	**8.1**	**48**	**9.9**	**52**	**13.9**	**45**	**15.9**	**41**	**17.0**	**43**
Development	1.2	28	1.5	26	2.9	39	3.1	38	4.0	40	-	-	-	-	-	-
Routine	3.2	72	4.2	74	4.6	61	5	62	6.0	60	-	-	-	-	-	-
Total National Expenditures	**9.3**	**100**	**11**	**100**	**16**	**100**	**17**	**100**	**19.1**	**100**	**31.2**	**100**	**39.0**	**100**	**39.7**	**100**
Total Development	**4.1**	**44**	**4.8**	**44**	**9.7**	**61**	**9.9**	**59**	**5.8**	**30**						
Total Routine	**5.2**	**56**	**6.1**	**56**	**6.5**	**39**	**6.8**	**42**	**7.5**	**39**						

Source: World Bank staff calculations based on data from MoF.
Note: * Provincial and district spending based on transfers and revenues and predicted on the basis of previous years.

3.7. Economic Classification of Expenditures

Central government expenditures can be classified according to the nature of such spending into the current GoI categories for economic classification using four main divisions. These divisions are personnel, goods and consultants, capital or investment and social assistance, as in Table 3.8.[54] When assessing the composition of the central government health expenditures according to these groups, it becomes clear that a little less than one fifth of central spending goes to personnel-related costs (personnel and consultants). This is far less as a share than seen in many other countries. No reliable earlier data are available for trend analysis. However, the low share may be explained by the large share of social assistance. Taking social assistance out of the picture increases the share of personnel to 20 percent, still on the low side. In fact, non-operational expenditures are two thirds of the salaries for civil servants and PTT doctors together.

More than 11 percent of the total central government health budget is spent on travel costs and only 1 percent on maintenance. Investment in equipment is the largest expenditure category, with 16 percent of the total, and civil works and operational expenditure each have 6 percent of total expenditures.

54 Total expenditures for this level of government are slightly higher than the figures provided before as here figures from the MoH are used as opposed to the MoF and these also included spending toward the government's recent cash transfer program focused on providing free healthcare for the poor, Askeskin.

Table 3.8 Central government expenditures: Economic classification, 2006

	2006			
Type of Expenditure:	**Allocation (Rp bn)**	**Realization (Rp bn)**	**Difference A/R (%)**	**% share of realization**
Personnel Expenditures	**1,920**	**1,528**	**80**	**14**
Salary and allowances for civil servants	781	624	80	6
Salary and allowances for military / police	0	0		0
Salary PTT doctors	786	621	79	6
Salary and allowances for high rank officials	6	5	86	0
Honorarium	340	273	80	2
Overtime payments	4	3	73	0
Specific form of honoraria (*belanja vakasi)*	3	2	62	0
Temporary personnel	0	0	4	0
Goods and Consultants Expenditures	**4,679**	**3,069**	**66**	**28**
Operational expenditure*	1,352	645	48	6
Non-operational expenditure**	1,108	834	75	8
Consultant services	756	322	43	3
Maintenance	114	93	82	1
Travel	1,349	1,175	87	11
Investment/Capital Expenditures	**4,706**	**3,076**	**65**	**28**
Land investment	724	620	86	6
Equipment and machines	2,699	1,778	66	16
Civil works	1,282	678	53	6
Social Assistance	**3,847**	**3,344**	**87**	**30**
Fuel subsidy programs	2,831	2,758	97	25
Block grants for education***	472	128	27	0
Small grants to local institutions	2	0	15	0
Scholarships	116	48	41	0
Other social assistance (disaster relief and outbreak response)	553	503	91	5
Total	**15,152**	**11,017**	**73**	**100**

Source: MoH, Bureau of Planning, 2007.
Note: * Operational expenditure cover office operational costs including the purchasing of stationary, utilities, etc. ** Non-operational expenditure cover program expenditures to finance trainings, workshops, drugs, vaccines, printed materials, etc. *** Block grants for education are funds to finance the education needs of certain personnel, for example, specialist trainings.

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Since 2005, a large share of government expenditures is allocated towards the category social assistance, which includes funding for the Askeskin program. Table 3.9 from PT Askes, the Askeskin program's executive agency, shows a breakdown of expenditure on Askeskin for 2006.[55]

55 Detailed data on the program were not obtained from the MoH,

Table 3.9 Askeskin program expenditures, 2006

Unit	Expenditure category	Amount (Rp bn)	Share of total (%)
Puskesmas	Sub-total	750	26
	Inpatient	30	1
	Outpatient	720	25
Hospital	Sub-total	1,433	50
	Inpatient	1,424	49
	Outpatient	9.5	0.5
Pregnancy care		61	2
Medicine	Sub-total	653	23
	Inpatient hospital	538	19
	Outpatient hospital	115	4
Total		**2,896**	**100**

Source: PT Askes, 2006.

Up to the end of 2006, the program expenditures[56] were about Rp 2.9 trillion, which amounts to about 22 percent of the central government budget for health. This figure is expected to increase as the program expands. Most of the funds were spent on the provision of inpatient and outpatient care, although a little less than a quarter of the funds were also spent on medication at the hospital level. In terms of shares of expenditures, reimbursements to hospitals took the largest chunk, mostly for inpatient treatment, while a quarter of the program was spent on direct transfers to Puskesmas, mostly for outpatient treatment (Table 3.9).[57] Annex S describes in further detail the characteristics of these and the other Indonesian health insurance programs mentioned above.

Deconcentrated funds are largely spent on service delivery, whereas Tugas Pembantuan is spent on physical assets. The MoH also provides another breakdown of its expenditures, which combines the four main divisions of the economic classification with a fourfold split by major functions (Table 3.10). The first two of these are broadly central functions,[58] while the latter two are essentially regional functions, to which the central government provides additional resources in the form of deconcentrated and Tugas Pembantuan funds. The transfers are not reflected in local budgets, but pass via the Provincial and District Health Offices to programs or go straight to hospitals in the case of Tugas Pembantuan, and are earmarked for addressing national priorities in the health sector.

This breakdown shows that of the funds devoted to the central functions, nearly half comprises so-called social assistance funds, which here include mostly Askeskin transfers. It is rather misleading to attribute this expenditure to the center, since these funds are largely spent in the regions. At the level of the vertical offices of the MoH, nearly half of the funds go to personnel or consultancy-related costs, whereas the remainder tends to be spent on investment. As the overall share of this category is relatively small — only about 16 percent of the total — such significant investment costs are, in practice, limited and mostly concern building maintenance and upgrading of hospitals under central management, port health authorities, or training centers (Bapelkes). For the deconcentrated funds the classification shows a mix across the spending items, with a large amount spent on goods and a significant portion going to investment. Tugas Pembantuan spending concerns only a very small share of the total central government budget and is mostly spent on investments as mandated for this flow of funds (Table 3.10).

56 These expenditures do not include the spending on program management and supervision, which has so far amounted to about 5 percent of total budget for the program.

57 Unfortunately it is not possible to do a full assessment of the expenditures for lack of trend data. The allocations as shown in Table 3.10 do show some unexpected shares allocation shares so it is highly recommended to do this further study as only then the implications of changes in allocations between categories can be seen and the consequences for efficiency and quality can be addressed.

58 In terms of the expenditures that occur under the central offices that are based in the regions, these funds are spent on central functions, such as hospitals, port health authorities, training centers (Bapelkes), specialized clinics, etc.

Table 3.10 Central government economic classification by transfers/administrative units

	Allocation (Rp bn)	Realization (Rp bn)	Difference A/R (%)	% of Realization
Central government	**8,047**	**6,431**	**80**	**58 (100)**
Personnel	1,150	810	70	13
Goods and consultants	2,298	1,450	63	23
Investment	1,357	1,034	76	16
Social Assistance	3,242	3,137	97	49
Central offices in the regions (vertical offices)	**2,059**	**1,741**	**85**	**16 (100)**
Personnel	615	554	90	32
Goods and consultants	498	416	83	24
Investment	935	761	81	44
Social assistance	11	10	94	1
Deconcentration	**3,531**	**2,420**	**69**	**22 (100)**
Personnel	129	160	124	7
Goods and consultants	1,804	1,176	65	49
Investment	1,043	889	85	37
Social assistance	555	195	35	8
Tugas Pembantuan	**1,514**	**426**	**28**	**4 (100)**
Personnel	25	3	13	1
Goods and consultants	79	28	35	7
Investment	1,371	393	29	92
Social assistance	39	2	4	0
Total	**15,152**	**11,017**	**73**	**100**

Source: MoH, Bureau of Planning, 2007.

Sub-national governments spend the largest share of their budget allocations for health on routine expenditure and within that type of expenditure, personnel is the highest. In 2005, 64 percent of expenditure at the provincial level and 81 percent at the district level went towards personnel. After personnel, the remaining funds were allocated mainly for goods expenditures. Table 3.11 shows the trends between 2002 and 2005 and Figure 3.11 illustrates shares.

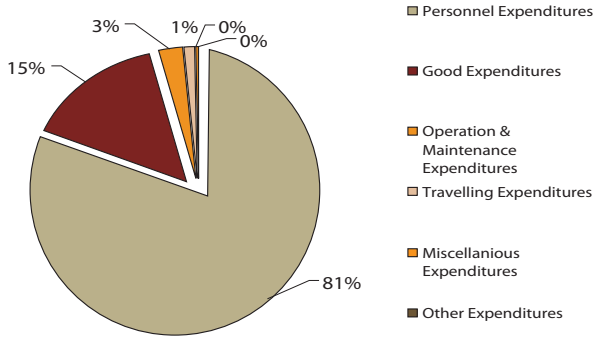
Table 3.11 Routine expenditure distribution by local governments, 2002-05

Rp billion

	District								Province							
	2002	%	2003	%	2004	%	2005	%	2002	%	2003	%	2004	%	2005	%
Personnel	3,182	70	3,850	79	4.081	82	4,852	81	847	52	887	61	818	66	876	64
Goods	779	17	640	13	683	14	882	15	515	31	334	23	353	28	418	30
OM	119	3	116	2	115	2	152	3	62	4	64	4	59	5	68	5
Travel	28	1	47	1	49	1	70	1	8	1	12	1	14	1	17	1
Miscellaneous	421	9	215	4	56	1	14	0	207	13	147	10	5	0	0	0
Total routine expenditure	**4,258**	**100**	**4,869**	**100**	**4,984**	**100**	**5,970**	**100**	**1,639**	**100**	**1,444**	**100**	**1,248**	**100**	**1,380**	**100**

Source: World Bank staff calculations based on data from MoF.
Note: At constant 2004 prices.

Figure 3.11 Routine district health expenditures level, 2006



Source: World Bank, SIKD Database, based on data from MoF.

Neither provinces nor districts allocate significant funds to operational and maintenance expenditures. Expenditure on goods has decreased both as a share and nominally over time: district expenditure on goods decreased by 12 percent whereas provincial expenditure on goods decreased by almost one third. This may in part explain the problems encountered by health personnel in carrying out their supervision responsibilities adequately and low levels of maintenance. However, the development budget also included operational and maintenance expenditures until 2005, which may explain low levels in the routine budget.

Table 3.12 Economic classification – Dinas/hospital level

Institution:	Category/ Item	Average % of budget on item
District Health Office	Medicine and Vaccines	24.4
	Medical Instruments	7.2
	Wages and Incentives	54.6
	Building – Investment	10.4
	Vehicles – Transport	3.9
	Operational Puskesmas	**4.9**
Hospital	Medicine and Vaccines	11.0
	Medical Instruments	21.9
	Wages and Incentives	36.0
	Building – Investment	9.0
	Operational Hospital	**23.5**

Source: Selected District Health Accounts (2003-06).
Note: Data from 10 different districts in two provinces.

In particular, operational funds for Puskesmas are low, at around 5 percent. When we look at a sample of spending at the District Health Office (including Puskesmas) and hospital level, this trend is confirmed. Hospitals, however, spend a little more, at around a quarter of their budgets.

Local governments have very limited scope to make decisions regarding spending based on local needs. At the district level, the very high share of personnel expenditures, which are non-discretionary, reiterates this point. A number of sub-national governments have analyzed their spending and proposed efficiency gains by retro-fitting their personnel structures.[59] However, it turns out this would lead to significant losses in central grant allocations, as the main variable determining the balancing funds (notably the DAU) is regions' wage bills. By reducing personnel, a region's entire allocation will be reduced. Thus, in addition to having little discretion in allocating funds, there are also no incentives to becoming more efficient.

59 Source: Supervision reports PHPI, PHPII and HWS/PHPIII.

3.8. Functional Classification of Expenditures

In terms of the functional allocation of health expenditures, the programs that constitute the majority of the central budget are the 'community health' and 'individual health' programs. These categories cover the central government's main health programs but there is limited information available on what these programs are. Generally, it appears that the 'community health' program is focused on the provision of public health centers and their networks, including community health centers (Puskesmas), mobile public health centers and village midwives, whereas the 'individual health program' is focused on providing hospital care in particular. The 'community health' program also includes immunization, environmental health programs, and other traditional public health activities. These two main categories together constitute around 70 percent of the central government's health programs. Other substantial categories are related to the execution of the programs and administration. Environmental health programs only make up about 2 percent, whereas nutrition comprises 3 percent of the central government's health budget (Table 3.13).

Table 3.13 Functional classification of central government expenditures, 2006

Programs	Allocation	Realization	Difference R /A	Share of Total Realization
	Rp bn	%	%	%
Executive and legislative iInstitutions	**1,112**	**791**	**71**	**7.1**
Drugs and medical supplies	**655**	**597**	**91**	**5.4**
Individual healthcare	**5,294**	**3,970**	**75**	**35.7**
Individual healthcare activities	2,724	2,461	90	22.2
Individual healthcare programs	2,590	1,529	59	13.8
Community health	**5,399**	**3,834**	**71**	**34.9**
Governance and leadership	0	0	na	0.0
Health promotion and community Empowerment	145	133	92	1.2
Environmental health	339	195	58	1.8
Public health activities	2,682	2,149	80	19.1
Communicable disease control	1,425	860	60	7.8
Community nutrition	548	323	58	3.0
Health policy management	13	7	56	0.1
Research	**176**	**144**	**82**	**1.3**
Other health	**2,615**	**1,748**	**67**	**15.3**
Human resource	945	753	80	6.8
Health policy management	1,573	943	60	8.5
Health research	0	0	0	0.0
Education	**15**	**14**	**91**	**0.1**
TOTAL	**15,152**	**11,017**	**73**	**100**

Source: MoH, Bureau of Planning, 2007.

All this bodes well for the allocative efficiency of spending towards public health. However, the ambiguities in functional classification make it hard to reach conclusions. For example, the government also classifies the various programs into three main categories: curative (20 percent), preventive (51 percent) and operational (29 percent), and most programs are classified as preventive healthcare interventions. These classifications, however, appear somewhat arbitrary as large programs, both on public and individual health, seem to contain significant curative components, but are classified mostly as preventive.

The ambiguities in the functional classification of the central government's health budget indicate the need for improved programmatic budgeting based on clear definitions. In order for the government to link its expenditure allocation to outputs and outcomes, health information systems should be improved to ensure adequate monitoring and evaluation. However, in addition to this, the budget also needs more complete information in order to allow analysis by health program. At present, programs are described only in a very general manner, providing little insight into how to reallocate expenditures or change expenditure categories towards more efficient, categories.

Given that it is currently not possible to allow for a country-wide representative assessment of functional expenditures at the local level, only a sub-set of 10 districts has been analyzed, providing some initial insights for further research. At the district level health office, the largest programs as a share of the development budget are once again those related to community health services, communicable disease control, and drugs and food supplies. Another substantial category is related to transportation and is labeled 'vehicles'. This category covers expenses related to the procurement of ambulances and other emergency transportation supplies. It appears that certain public health programs, such as preventive activities, nutrition, maternal/child and environmental health are not viewed as public health priorities, if allocation of funding were to be the proxy indicator (Table 3.14). However, it is necessary to make interpretations using these various categories with care, as some of the other categories may include activities actually related to those former, seemingly under-funded categories.

Table 3.14 Functional classification of selected district health office expenditures

District Health Office - Financing by Program		
Program:	**Total (%)**	**Development budget only (%)**
Routine/Project administration	48.5	8.1
Drugs and food	12.8	19.8
Public health services	13.1	20.6
Vehicles*	6.7	11.8
Communicable disease control	9.7	18
Health workforce	2.7	5
MCH/Family health	2.6	4.7
Health promotion	1.8	4.5
Nutrition	1.3	3
Environmental health	0.7	1.6

Source: Selected District Health Accounts, 2002-06.
Note: *This category concerns vehicles, but may include facilities (civil works) and medical equipment.

Box 3. 2 The case of TB : High priority on paper, minimal funding in practice

Although considered a national priority, as it is also one of the MDGs, apparently the Indonesian TB program fails to receive the attention that it deserves, especially at the sub-national level. TB programs at the provincial and district levels depend on funds through allocations from the center (deconcentrated spending) and pledged donor fudning. In 2004, a study by the Center for Health Research (CHR), UI found that less than half of the TB program funding came from the districts, and almost 90 percent of the operational costs were covered by funds stemming from center and international agencies.

The study also found that most districts and provinces surveyed spent less than 0.1 percent of their total budgets, or on average 2 percent of health budgets, to the Stop TB Program. Worse still, over a three-year period, it was observed that most of the districts and provinces could not even maintain this budget level and showed decreasing trends. It was difficult to maintain the level of funding because those governments did not have multi-year district-level commitments to stop the disease. The sustainability of TB program funding has since become questionable; as with the decrease in donor funding 10 years after the financial crisis, local counterpart funding is expected to fill the gap, but apparently this is not yet happening. In part, an explanation for this phenomenon might be the lack of transparency of spending on TB compared with other health or social interventions (such as aid for the poor, or scholarship programs for students, etc.), and hence a by-product of decentralization.

Source: Health Financing of the TB Program of 7 Districts in 4 Provinces of Indonesia, Center for Health Research, University of Indonesia for KNCV, WHO, and USAID, 2006.

Assessment of the Health System: Benefit Incidence, Efficiency and Quality

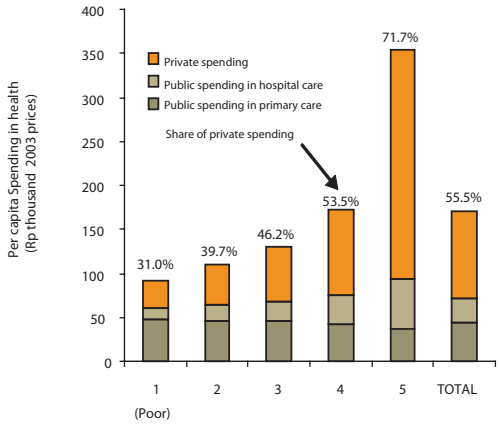
Chapter 4

4.1. Benefit Incidence of Public Spending

While the benefit incidence of public spending on primary healthcare is not pro-poor but neutrally distributed across quintiles, spending on secondary healthcare positively favors the rich. Through subsidies for hospital care, public spending generally benefits richer income groups more than the poor. While the public health services most utilized by the poor are basic healthcare facilities, Indonesia spends about 40 percent of public healthcare resources on regressively targeted subsidies to public hospitals (Figure 4.1) (World Bank, 2006g).

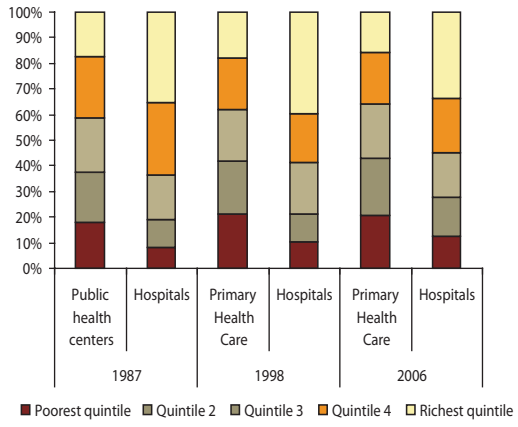
The poor have very little access to public hospitals and, hence, do not make use of the vast majority of the spending that is channeled into secondary care. Of the funding that is spent on hospital care, the benefits that accrue to the poorest quintile of the population are about 13 percent, while the benefits for the richest quintile are about 34 percent (Figure 4.2). Spending on secondary care is a highly regressive way of allocating limited resources at a time when Indonesia is struggling to meet its medium-term development targets in health.

Figure 4.1 Benefit incidence of spending (public and private)



Source: World Bank staff calculations.

Figure 4.2 Healthcare utilization by quintile and type of care, 1987-2006



Source: World Bank, 2007c, updated with Susenas, 2006.

However, utilization figures have improved since the introduction of the Askeskin program in July 2005, and hospital spending now appears to benefit the poor to a greater extent (from 10 percent of benefits accruing in 2005 to 13 in 2006). This improvement is mostly due to a small but significant increase in hospital utilization among the lower quintiles. The benefit incidence analysis applied here takes into account the recent changes in utilization, but the spending figures for hospital and Puskesmas spending are still based on 2004 expenditures. As a result, potential improvements in benefit incidence may be understated because the increases in public spending on Puskesmas through the Askeskin program are not included here.

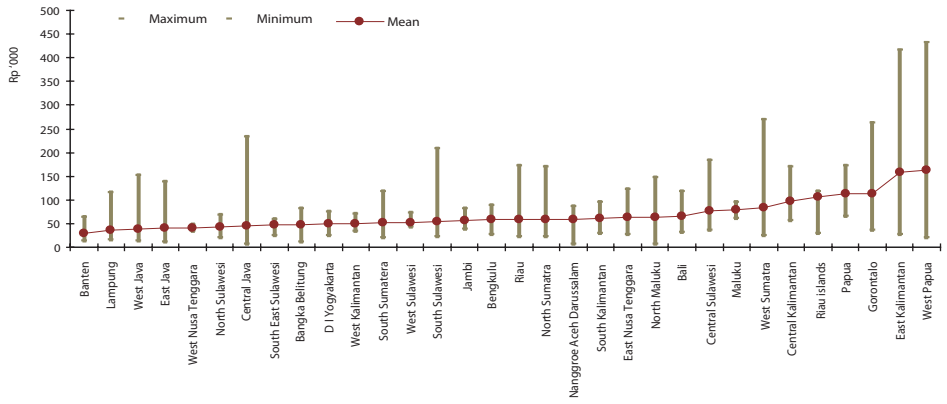
At the same time, out-of-pocket (OOP) expenditures still make up a significant part of all spending on health. OOP spending also comprises the majority of private spending, and constitutes the most unequal way of paying for healthcare and denying financial protection. The next chapter addresses OOP spending in more detail, as well as the ongoing reforms in the area of health insurance. In this chapter, the government's recent efforts to improve utilization of health services by the poor through the Askeskin program are discussed.

4.2. Distribution of Public Health Financing

The level of public health expenditures varies considerably between regions in Indonesia, and this cannot necessarily be explained by differences in income or health status. As highlighted previously, some of the intergovernmental fiscal transfers are not necessarily aligned with poverty or outputs (skilled birth attendants). District public expenditures for health are, as expected, higher for districts with larger budgets and higher per capita incomes.

As own-source revenues are limited, these public expenditures at the district level reflect in large part the differences in the level of funds coming from the center. Figure 4.3 shows how differences between provinces are limited, whereas within provinces there are significant variations between districts, particularly in Papua, East Kalimantan, and Gorontalo. Interestingly, Central Java also shows large differences at the district level, while its provincial average of per capita spending for health is on a par with the rest of Indonesia. In 2005, on average, district spending on health was about Rp 46,000 per capita.

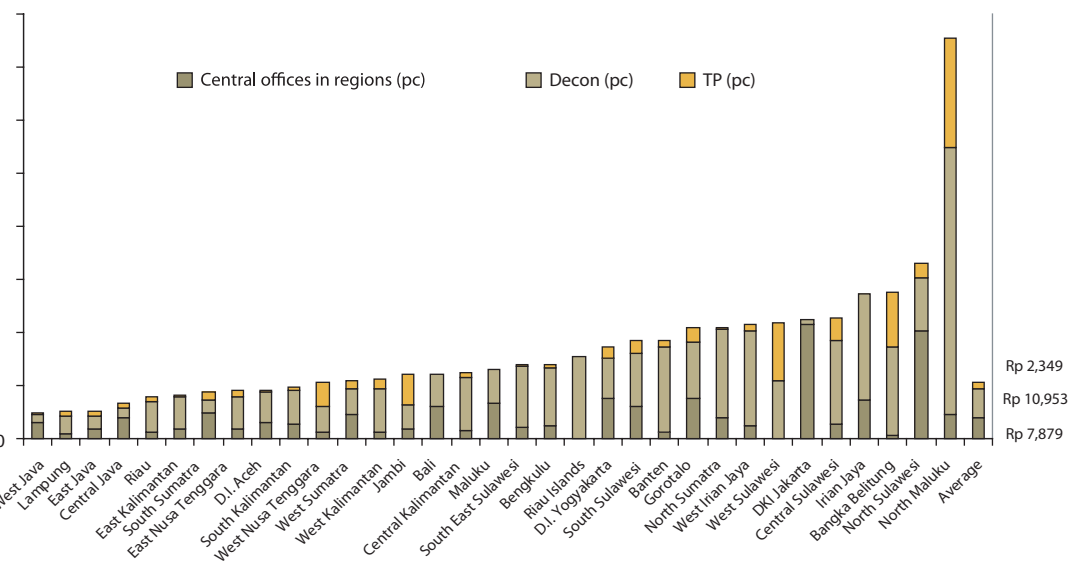
Figure 4.3 District public health expenditure by province, 2005[60]



Source: World Bank, SIKD database, based on data from MoF.

In addition, district spending on health is complemented by central government expenditures and, on average, the regions receive about Rp 20,000 per capita annually. This aggregates the sum that central offices based in the regions spend, together with deconcentrated and Tugas Pembantuan funds contributed regionally (Figure 4.4). This implies total central and district spending per capita of about Rp 66,000 in 2006.

Figure 4.4 Central government health sector spending by province, 2006[61]



Source: MoH, Bureau of Planning, 2007.

60 In this graph the minimum points to districts for which the lowest public health expenditures were observed, and the maximum points to those with the highest expenditures within the province. However, for some of the provinces, there were districts for which no expenditures were recorded. These districts were neither included in the minimum and maximum point generations, nor in the mean calculations.

61 The surprisingly high per capita spending through deconcentrated spending and Tugas Pembantuan in Maluku Utara is due to an increase resulting from an Inpres for the region to accelerate recovery in the post-conflict period (MoH, Bureau of Finance).

The majority of central development spending (deconcentrated and Tugas Pembantuan) goes to regions in western Indonesia, **while per capita support in the eastern regions is more than double that of the west.** This is roughly in line with the government's policy of providing equalizing support to lagging regions, which are mostly situated in the eastern islands. However, this only seems to be the case at the provincial level. For example, when analyzing these expenditures at the district level, deconcentrated spending neither seems to be allocated based on needs in terms of poverty, nor on outcomes. In fact, there appears to be a slight negative correlation between deconcentrated per capita spending and the poverty rate.[62] This is an important finding as these public transfers constitute around 22 percent of central government expenditures on health, and more than half of the total spending from the center to the regions. Since deconcentrated spending has not yet been phased out as planned under PP No. 55, this could be an issue of increasing concern. At the same time, arguments for increasing spending to those regions with greater needs based on poverty or income proxies should be made with caution, particularly when taking into account the significant levels of unutilized fiscal space at the sub-national level.

4.3. The Link between Spending, Utilization and Outcomes

Given the recent increases in spending, and considering Indonesia's still moderate performance in certain health indicators, research assessing the relationship between resources and outcomes is warranted. While previous sections of the report provide some insights into why certain outcome indicators, such infant and child mortality, vary across regions as well as socio-economic strata, this section provides some additional analysis. The analysis performed focuses on the district level and, while preliminary in nature, yields some interesting hypotheses for further research.

We examine the impact of resources on two service delivery outcome indicators: rates of DPT3 immunizations and the level of skilled birth attendance. Here, the skilled birth attendance indicator refers to percentage of births where the first helper involved in the delivery process is a skilled birth attendant. The former is linked with child mortality and the latter serves as a proxy for maternal mortality. For other outcome indicators, such as diarrhea incidence, infant and child mortality and nutrition, district level data have significant shortcomings, particularly when using data from the household surveys. In terms of expenditures, the impact of only public health expenditures is addressed, as data on private health expenditures through insurance and private companies are unavailable at the disaggregate level. See Annex P for more detailed information on the indicators included in the analysis.

Analyzing scatter plots of district public health expenditures, these two outcome indicators show a weak relationship at best. Simple cross-sectional regressions of public spending (in natural log form) on these outcomes confirm that the relationships are not significant. One reason could be due to large omitted variable bias, as other variables that are likely to affect outcomes are not included. However, there also appears to be no direct impact of public spending on health outcomes, even after controlling for other determinants such as education (average years of female education) and income (measured as household expenditures per capita, as well as the districts' GRDP per capita). For skilled birth attendance levels, female education and income seem to be significant determinants. See Annex P for the regression tables after adding income and education indicators as control variables.

62 See Annex N for a number of scatter plots of deconcentrated health spending per capita and outcome and poverty indicators.

Figure 4.5 Log health spending per capita and DPT3 immunization rate

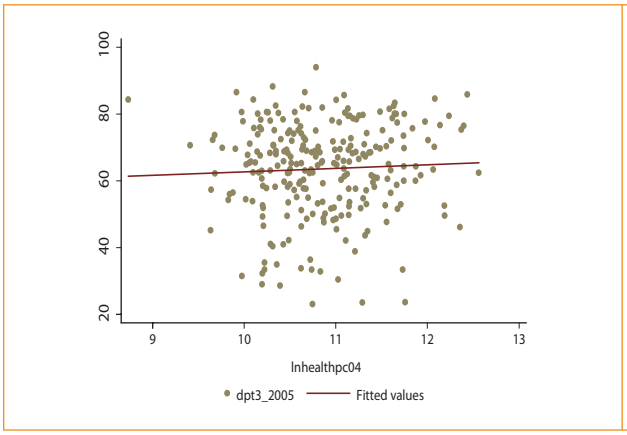
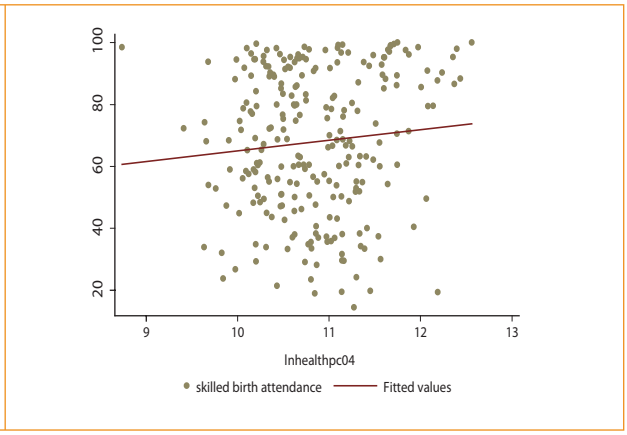


Figure 4.6 Log health spending per capita and % skilled birth attendance



Source: World Bank staff calculations based on SIKD database and Susenas 2005.

Indicators proxying urbanization or remoteness explain variations in health outcomes to a large extent. Adding a new variable measuring the level of remoteness of the district into the equation increases explanatory power significantly, even more so as the indicator turns out to be a very significant determinant of DPT3 immunization levels, as well as the level of skilled birth attendance.

Another important indicator that yields significant results when regressing on outcomes is a district's level of health service utilization.[63] The regression results for DPT3 are provided in Annex P. For skilled birth attendance, utilization was also found to be highly significant, as well as the rural population indicator, and education, percent female population and income (as GRPD per capita). These results can also be found in Annex P.

The significance of the rural population indicator suggests some form of interplay between demand and supply indicators, possibly captured by 'remoteness'. This could be related to the number of staff at the health facilities, their skill levels, staff absentee rates, infrastructure and care quality, consumer satisfaction, or others.

In terms of supply indicators, for skilled birth attendance as an outcome it was subsequently found that the distance to the nearest skilled midwife is a significant outcome determinant. The regression results indicate the variable to be significant. For DPT immunization, the distance to the Puskesmas was not significant (see Annex P for details).

While no effect of spending on utilization was found in this cross-sectional analysis, spending was found to affect utilization in Indonesia when analyzing longer periods of time. Previous work using panel data for a number of years showed that local public spending results in substitution effects of public for private care, while no effect was found on overall healthcare utilization. Increased routine spending was found to draw non-poor patients from the private sector to public hospitals, and poor patients to public primary care. Development spending, in turn, appears to be effective in the case of primary healthcare for the poor, and to a lesser extent hospital care (Kruse, Pradhan and Sparrow, forthcoming).

63 It is important to note here that skilled birth attendance is for the largest extent measured by skilled attendants visiting the homes of women, next to the women visting (maternity) clinics, and hence birth attendance only to a small extent capture in the utilization variable itself.

Box 4.1 The importance of good policies and institutions for health expenditures to impact outcomes: New evidence from an international study

The theoretical link between increases in health public expenditures and improved health outcomes is complex for several reasons. First, an increase in government health expenditures may result in a decrease in private health expenditures. Second, incremental government expenditures may be employed ineffectively (for instance, expenditures allocated to high-tech equipment or advanced hospitals may have little effect on public health if morbidity indicators show the need for increased resources for primary care). Third, even if extra funds are applied appropriately, they may yield little benefit if complementary services, both inside and outside the health sector, are lacking, for example, roads or transportation services to hospitals and clinics and easy access to water and sanitation (Wagstaff et al, 2002a).

Spending can improve health outcomes but it is equally important to improve the quality of health policy-making and health institutions. In a study covering 57 countries, Wagstaff et al. concluded that the quality of policy and institutions as measured by the Country Policy and Institutional Assessment (CPIA) Index highly influences the impact of increased spending on health outcomes. For countries with a low score of 1 or 2, improvements in health outcomes are not significant. For a country such as Indonesia with a score of 3.6, increasing the health budget by 10 percent could reduce the MMR by 7 percent, while changes in U5MR, TB and immunization would be insignificant. Further support in order to improve: (1) allocation of spending; (2) geographic, project, population and bottleneck targeting, and; (3) provider accountability, would help improve the efficiency of spending — a necessary first step to enable spending to actually affect outcomes.

Source: World Bank, 2007c, and Gottret and Schieber, 2006.

The relationship between spending, utilization and outcomes is clearly an area that merits further research, and the analysis performed here is a first step to inform future efforts. It remains difficult to capture causality from the aggregated data used here, as there are other variables at work that have not been controlled for. Nevertheless, the current research provides input for new hypotheses, which could focus not only on current outcome levels but changes in outcome levels over time. This could be done by using panel data, as well as focusing on the likeliest missing link in the effect of spending and utilization on health outcomes, namely efficiency. The next two sections provide some preliminary insights into efficiency at the hospital and Puskesmas levels and the more general concept of efficiency, or performance, at the district level.

4.4. Efficiency at the Hospital and Puskesmas Level

Data limitations mean that it is not possible to conduct a comprehensive assessment of the technical and allocative efficiency of the health system. In most settings, data on average and marginal costs of health service provision at health facilities are a useful starting point for assessing technical efficiency. In Indonesia, however, there have been no reliable data on hospital costs since the 1980s. Numerous costing studies have been conducted for health centers over the years, but these studies are hampered by small sample sizes and lack of consistency in the methodologies used. The comprehensive Health Sector Review will likely include facility costing work, and a TOR for such work is included in Annex O. What is clear from the available data is that utilization rates at both public and private facilities are relatively low by international standards. Low utilization rates are likely to be associated with sub-optimal levels of productivity.

Similarly, in most settings, the share of expenditures allocated to preventive care versus curative care is a starting point for assessing allocative efficiency. The way in which public expenditure data are recorded makes it difficult to distinguish between hospital and non-hospital spending, and even more so between curative and preventive spending. As already mentioned, the lack of data on functional allocation of spending is a critical gap in the evidence base needed for policy-making.

4.5. Measuring Efficiency at the District Level

Analysis of technical efficiency at the sub-national level can provide valuable insights, allowing for an initial identification of efficient regions and possibly generating explanations for variations in output attainment across districts. In the sections above, we mostly discussed hospital performance measures and the need for improved unit cost estimates at various facility levels, representative at the national level. However, since decentralization, districts are the units mostly responsible for health service provision and, hence, in this section efficiency measures at the district level will be discussed. It is important here to distinguish between the idea of cost efficiency discussed earlier and the broader concept of technical efficiency for which district-level estimates can be created.

In general, information on efficient sub-national regions can be useful for a number of reasons. First, as part of a stock-taking exercise, it can provide insights in cross-district variations in terms of health outcomes. Further, after the identification of districts' relative efficiency measures, the approach might allow for the generation of further insights into those factors that contribute to differences in terms of output attainment, as well as identify those factors that are not necessarily policy-related and are often beyond the control of district governments. The analysis could feed into follow-up projects such as case studies of seemingly 'efficient' districts to further develop hypotheses and research into efficiency determinants.

In this section, technical efficiency at the district level is defined as output relative to maximum output for given input levels (Kumbhakar and Lovell, 2000, in Tandon, 2006). Our approach here follows a framework developed by Hanson et al. (2003) and updates the work Tandon performed for Indonesia in 2004.[64] The way efficiency is assessed here is through the estimation of a frontier production function (the maximum observed output for all available input levels). Health system attainment is measured in terms of an *output* index that combines achievements on health system outcomes. The index here is based on a set of indicators measuring the level of skilled birth attendance, (female) life expectancy, and the coverage of measles and DPT3 vaccinations.[65] Similarly, the amount of inputs to the health system is measured in terms of a composite *input* index.[66] The input index was constructed as a weighted average of expenditure and economic/fiscal capacity indicators (public health expenditures per capita, gross regional domestic product, district level fiscal capacity), infrastructure and human resource indicators (the number of Puskesmas per 100,000, and the number of nurses and doctors per 100,000), and indicators related to the accessibility of health facilities (such as the service areas in km^2 of Puskesmas and hospitals).[67]

64 This research has been performed with expert inputs from Tandon on how to update the work he performed regarding efficiency at the sub-national level in Indonesia. See: Tandon, A. (2005). The district level index constructed here is somewhat different in that some variables are differently defined, but overall take into consideration the same input and output variables. One significant difference, however, is the fact that this time around the analysis includes public expenditure variables that were previously not included. One disadvantage of the inclusion of these variables is the fact that Papua province was nearly completely dropped from the number of observations due to missing variables. However, the analysis was performed without including these public spending variables as well and results were similar to those obtained by Tandon, indicating low inputs as well as outputs for most districts in Papua. At the same time it showed an efficiency level relatively close to the frontier, thereby pointing towards the potential need to increase inputs to ensure more significant health outcomes. See Annex P for more details on the analysis including Papua province.

65 Vaccination rates are a good proxy for the strength of broader health service delivery systems because an effective vaccination program relies heavily on structures to ensure the constant availability of a broad range of health system inputs at the peripheral level (such as health facilities, appropriately trained staff, health information systems) (Ranson et. al, 2003).

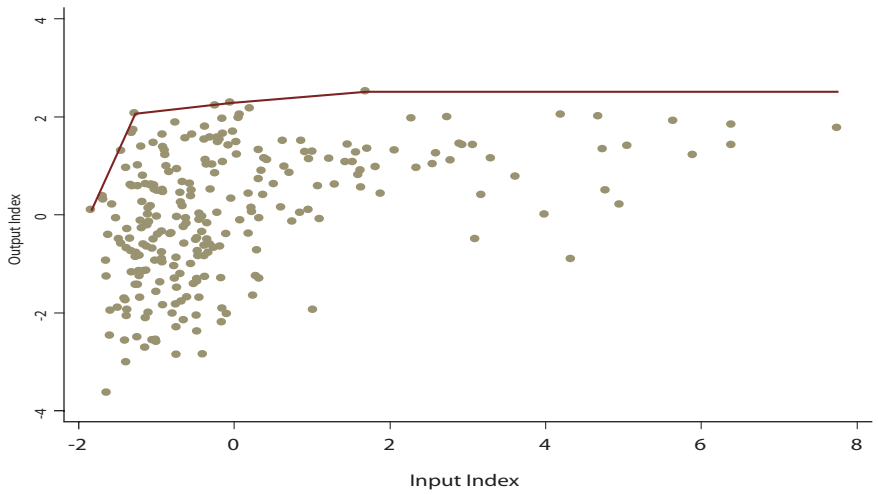
66 Instead of a proxy for resource inputs, the Indonesia sub-national application used a more general conceptualization of factors influencing outcomes: these factors were taken to be an index of district-level constraints to attainment of district level health outcomes. See for more information on overall constraints indices in Annex Q, where the framework as set out by Hanson et al is discussed in greater detail.

67 Please refer to Annex P on more information with regard to the choice of variables.

Certain exogenous determinants were included in the indices, such as average years of female education and public health expenditures as a *share* of total expenditures. Educational attainment, particularly female education, could be considered an exogenous determinant of health in that, for the same resource input, higher educated populations are likely to have systematically higher health outputs.[68] Similarly, controlling for the level of sectoral expenditure, a higher *share* of that sector in total expenditure may serve as a proxy for political commitment to that sector and may have a positive influence on outcome attainment (Ranson et al., 2003). In the applied framework, efficiency in converting inputs into outputs is based on how far the output of a given production unit is from the maximum output (the estimated "frontier").

There are wide variations in Indonesian district level health system performance as measured by the two indices, and only a few districts lie on the constraint frontier. Most districts have similar inputs, but fluctuate widely in terms of outputs. Some districts, however, have very high inputs and are still quite far from the frontier, such as Kota Gorontalo, Sukabumi and Banjarmasin, and Kabupaten Kutai Barat, potentially indicating significant inefficiencies. Kota Denpasar, Kota Bitung, and Kabupaten Klaten are close to, or on, the frontier and given their inputs are achieving maximum outputs in terms of health outcome attainment. At the same time, a large number of districts appear to have low inputs, as well as low outputs, such as Kabupaten Sampang and Kabupaten Pandeglang in Java. This could suggest a need for increases in efficiency at current resource levels, as well as increases in resource outlays as pathways to further outcome improvements.

Figure 4.7 Best practice frontier of health sector performance at the district level

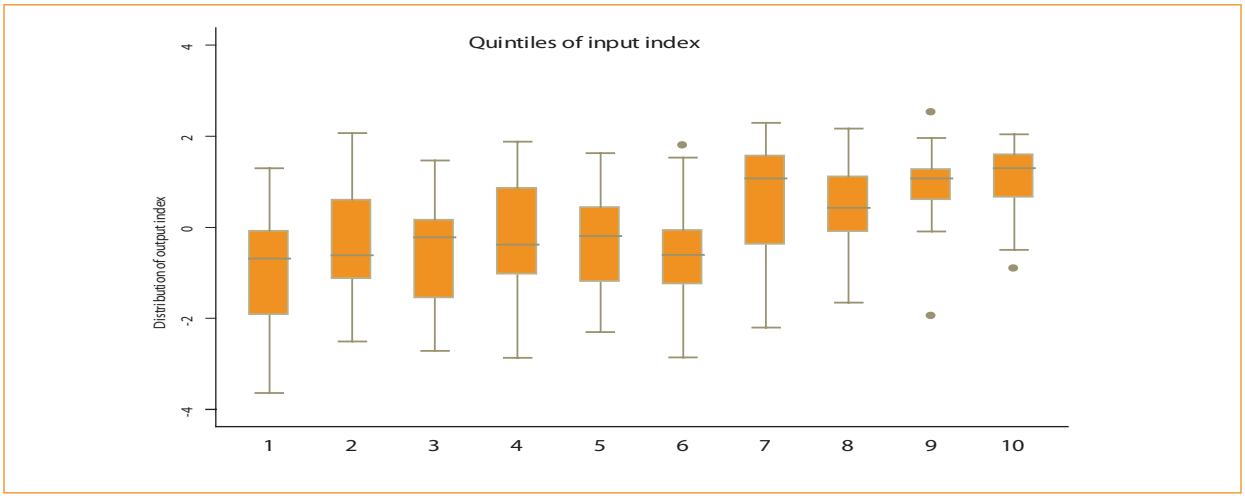


Source: World Bank staff calculations based on Susenas/BPS and districts' budget data.

Certain districts appear to have difficulties translating higher inputs into higher outputs and health outcomes. Figure 4.8 indicates that various districts at the lowest deciles of inputs, hence using the least inputs, perform equally well or even outperform districts at higher deciles. At the same time, variation in output achievements is considerable in these lower deciles, and this decreases as the level of inputs increases. The top performers in each decile generally correspond to the districts at the best-practice frontier. These districts, particularly those at the lower deciles of the input index, warrant further study as their performance is high despite resource constraints.

68 Moreover, female education is a key factor on the demand side and has been shown to be related to child health outcomes, for reasons that are probably related to women's agency, their openness to new health technologies, and their ability to use such technologies effectively (Hobcraft, 1993, in Rason, 2003).

Figure 4.8 Indonesian district-level health system efficiency analysis: Distribution of the output index by input quintile



Source: World Bank staff calculations based on Susenas/BPS and districts' budget data.

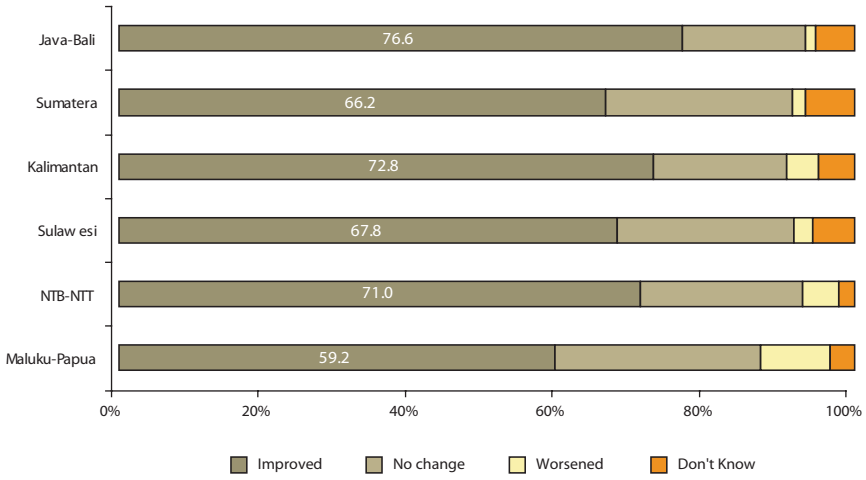
The fact that the best-practice frontier has a relatively gentle slope indicates that at some point additional inputs only add marginal benefits, although caution is warranted. At the same time, this might also point towards the need for further research, as the marginal slope and frontier shape could in part result from omitted variables, as well as exogenous indicators not included here, such as governance and corruption indicators. Nevertheless, these results provide insights into which districts appear to be performing better than others. This analysis can therefore feed into further hypotheses about what may be driving these differences — a prerequisite for embarking on policy reform.

4.6. Assessment of Quality and Consumer Satisfaction

First evidence on a limited subset of districts shows that decentralized public services in health, but also education and administration, have improved (Kaiser, Pattinasarany and Schultze, 2006). In general, the quality of health services since decentralization shows no clear trend. Meanwhile, the quality of the police service, which has not been decentralized, has deteriorated. These findings are based on the recently completed GDS2, managed by the World Bank. The survey covered 134 districts throughout 29 provinces and within the health sector collected data from heads of Puskesmas (773), private health providers (2,183), heads of public hospitals (123) and collected secondary data from Puskesmas (776). The survey collected a variety of empirical data through interviews and observations, but also focused on perceptions with regard to public service delivery and satisfaction levels.

In terms of perceived changes in public service delivery for the health sector, the survey found that over 70 percent of users saw improvements in overall health services over the past two years. At the same time, people living in Java and Bali saw more improvement in public health services than their counterparts living in Maluku and Papua, where only 59 percent of people reported to have observed positive changes in their health services (Figure 4.9). At the same time, it was found that clients living in urban areas are more likely to experience improvements in public service delivery than those residing in rural settings.

Figure 4. 9 Regional differences in perceived changes for public health service delivery



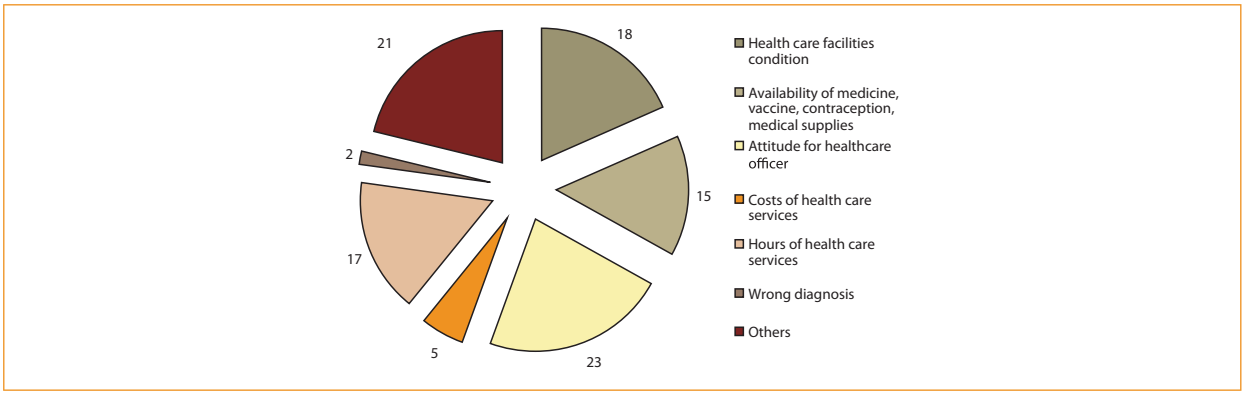
Source: World Bank staff calculations based on data from the World Bank GDS2 survey.

In terms of the level of satisfaction with public health services, 58 percent of people surveyed find the service satisfactory. This compared with 31.4 percent who find it somewhat satisfactory, while the remainder claim levels of service are unsatisfactory or do not know. Again, discrepancies among regions are evident, and survey results show that people in Papua and Maluku are least satisfied. Only 48 percent find services satisfactory and nearly 18 percent find services unsatisfactory. This is mirrored in the results seen in the urban/rural split with the latter group being slightly less satisfied with regard to public healthcare.

Clients mostly perceive that conditions of health facilities, attentiveness of staff, and availability of medicine have improved in recent years. Service fees and waiting times, however, are judged less positively, and more than 10 percent of people perceive that these aspects of the health sector have worsened.

Interestingly, complaints about the health system mostly concern the quality of facilities and attitude of health workers. Also, the hours of service availability is another major source of complaints (Figure 4.10). At the same time, only a small proportion of clients criticized or expressed concerns about health services, and nearly 70 percent of those who never stated their concerns said that they had nothing to complain about. Hamlet (*desa)* heads further claimed that the availability of preventive health services had improved. Nutrition, health promotion and disease prevention were all judged to have improved. This was despite the fact that only 50 percent of Puskesmas heads attested to improvements in the availability of medicines, vaccines, contraceptives and medical supplies and equipment.

Figure 4. 10 Nature of most common complaint at health centers, 2005



Source: World Bank staff calculations based on data from the World Bank GDS2 survey.

Puskesmas heads experience shortages in supplies of medicine and equipment, given their responses to questions about the level of adequacy of certain services. Particularly midwifery services were evaluated as being inadequate in two thirds of cases. This is a striking observation given the fact that there seems to be wide access to such services in Indonesia, particularly since the *bidan-di-desa* program was implemented. Complaints here are thus likely to refer to the quality of the services and indicate potential shortcomings in midwives' education and technical capacity (Table 4.1).

Table 4.1 Heads of health units' opinions on local goods and services for the health sector

Health services	% Yes	% No
Currently, is/are the following services in this district/city adequate?		
General practitioner services	45	55
Midwife services	33	67
Nursing care	41	59
Medication	74	26
Vaccination	83	17
Medical supplies	65	35
Medical equipment / instruments	43	57
Access to the Puskesmas	75	25
Access to the public hospital	60	40

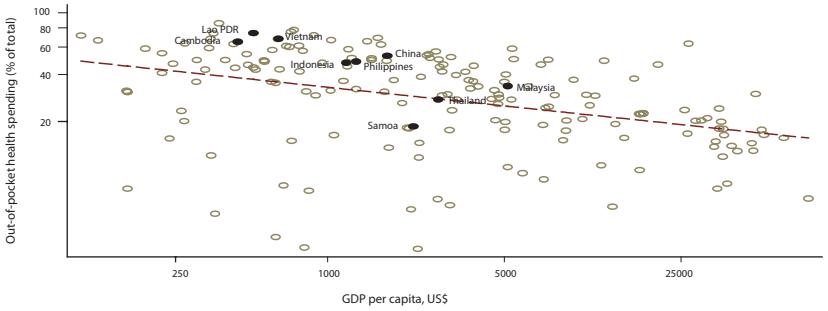
Source: World Bank staff calculations based on data from the World Bank GDS2 survey.

Out-of-Pocket Spending and Health Insurance Reforms

Chapter 5

Given that public spending on the health system is low, out-of-pocket payments are high in Indonesia, as they are in nearly all East Asian systems, except for Thailand. Laos, Vietnam, Cambodia, China, the Philippines and to some extent even Malaysia all fall above the trend-line and indicate higher levels of out-of-pocket (OOP) health spending that would be expected given these countries' incomes (Figure 5.1).

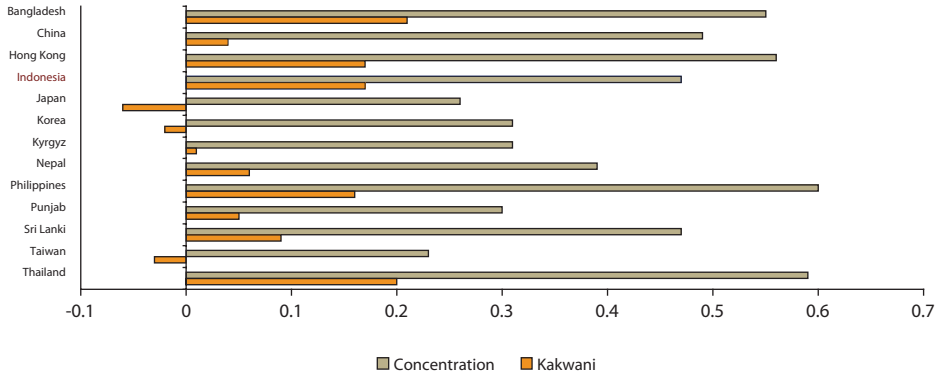
Figure 5.1 OOPs in Indonesia are high, but are also high in most East Asian health systems



Source: World Bank, 2007, based on WDI
Note: Log Scale.

Moreover, analyzing the distributional incidence of healthcare financing in Indonesia shows that the better-off tend to spend more on healthcare. The same is true for many countries in East Asia as illustrated in Figure 5.2 by the concentration indices.[69] However, it would be misleading to conclude from this analysis that the systems analyzed are progressive in terms of financing, since a significant share of health expenditures comes from direct OOP contributions, at about 50 percent.

Figure 5.2 Distributional incidence of healthcare financing in Asia



Source: EQUITAB Working Paper No.1, 2005.

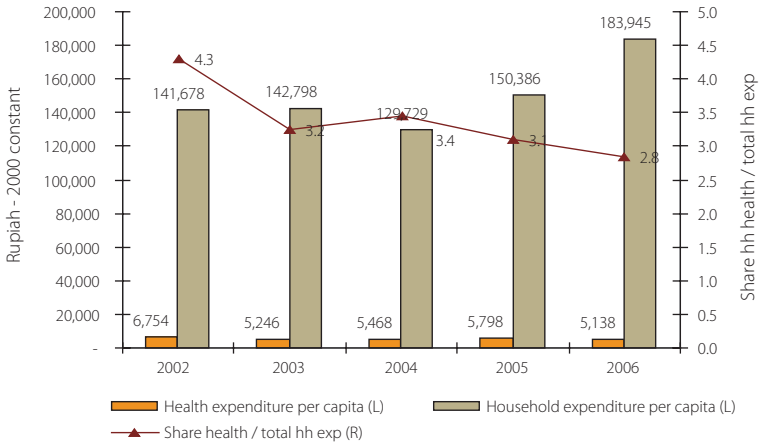
This chapter examines the high proportion of out-of-pocket spending in Indonesia. This is one of the major equity issues facing the country in the health sector. Also discussed is the burden of catastrophic payments for medical care and the potential of collective pre-payment schemes to advance equity and financial protection goals. In this context, the ongoing and proposed reforms of Indonesia's health insurance schemes and the experience with Askeskin — the latest scheme for the protection of the poor — are reviewed.

69 Positive Kakwani indices. The Kakwani index is a numerical index oif the distribution of payments in relation to ability to pay. It is calculated graphically by looking at the distribution curve of overall tax payments made by the poor to rich households and comparing this distribution with the distribution of overall consumption across the same households with the index computed as twice the size of the area between the curves. A positive number implies that the share of payments by richer households is greater than their share of overall consumption. A negative number implies the opposite.

5.1 Out-of-Pocket Expenditures and Catastrophic Spending on Health

OOP spending is necessary in Indonesia because virtually all providers of health services, whether public and private, charge fees for services, while insurance coverage is very limited. There is little systematic evidence on these fee levels in either the public or private sectors, but anecdotal reports suggest private providers — who do not benefit from budget subsidies — charge considerably higher fees. It is estimated that OOPs accounts for close to 50 percent of all health spending,[70] which denies individuals the benefits of risk-pooling and financial protection inherent in insurance arrangements. As long as high OOP levels exist, equity in health financing will be difficult to achieve.

Figure 5.3 HH health expenditures have changed little over time while total HH expenditures have increased



Source: World Bank staff calculations based on various years of Susenas.

In Indonesia, 2.8 percent of total household expenditures are currently spent on health, but the trend shows a decline (Figure 5.3). Over the past four years, OOP expenses have decreased significantly from about 4.3 percent of total household expenditures to the current 2.8 percent. This decrease resulted from an absolute decrease in per capita health spending with increasing total household expenditures per capita, rather than a substitution effect due to increased government spending. While OOP spending is a high proportion of total spending on health, it is not a high proportion of total household spending. However, when compared with other spending items, such as tobacco, it is very low. The average household spends 11.5 percent of its total expenditures on tobacco, compared with 11 percent on protein rich foods and 2.8 percent on health. Figures 5.4 and 5.5 show how household spending on health as a percentage of total household expenditure has varied over time, and how it differs across socio-economic quintiles.

70 Estimate based on NHA, 2007, which indicates that private health expenditures are about 65 percent of total health expenditures, and that private OOP payments are 74 percent of those private health expenditures. This implies that OOPs constitute 48 percent of total health expenditures.

Figure 5.4 HH health expenditures by quintile, 2001

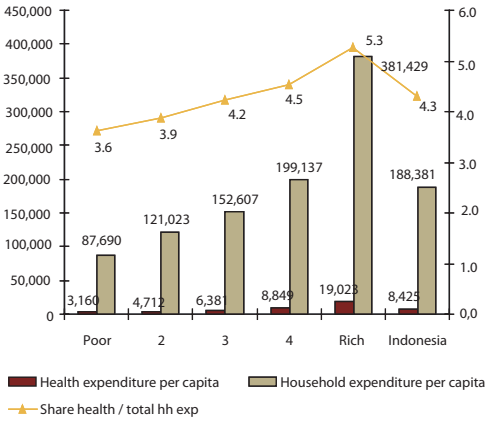
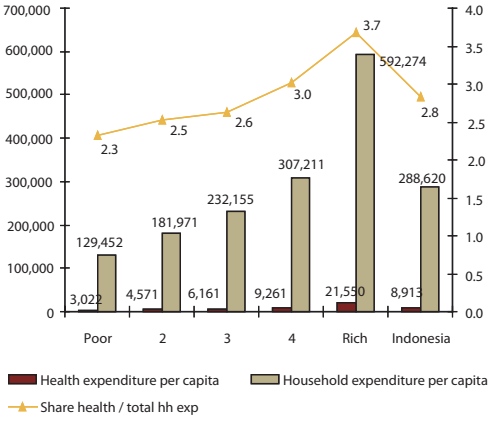


Figure 5.5 HH health expenditures by quintile, 2006



Source: World Bank staff calculations based on Susenas, 2005, and 2006.

Box 5. 1 Smoke gets in the poor's eyes: Household spending on tobacco is four times higher than health spending

A small household study was performed in four lower-income neighborhoods in Yogyakarta from 2005 to 2006, examining economic characteristics of households, health-seeking behaviors, and spending for health. The study sampled 220 households categorized as poor, defined as those families receiving support through the beras miskin scheme (Rice for the Poor program, or Raskin). The study was conducted in four cycles over 12 months following the same households.

From the four cycles, the trend of household spending for health can be characterized as a U-shaped line, with the highest spending (about 5.5 percent) occurring at the beginning of the year, dropping to about 2 percent in the middle of the year, and then subsequently rising again to about 3.5 percent by the end of the year.

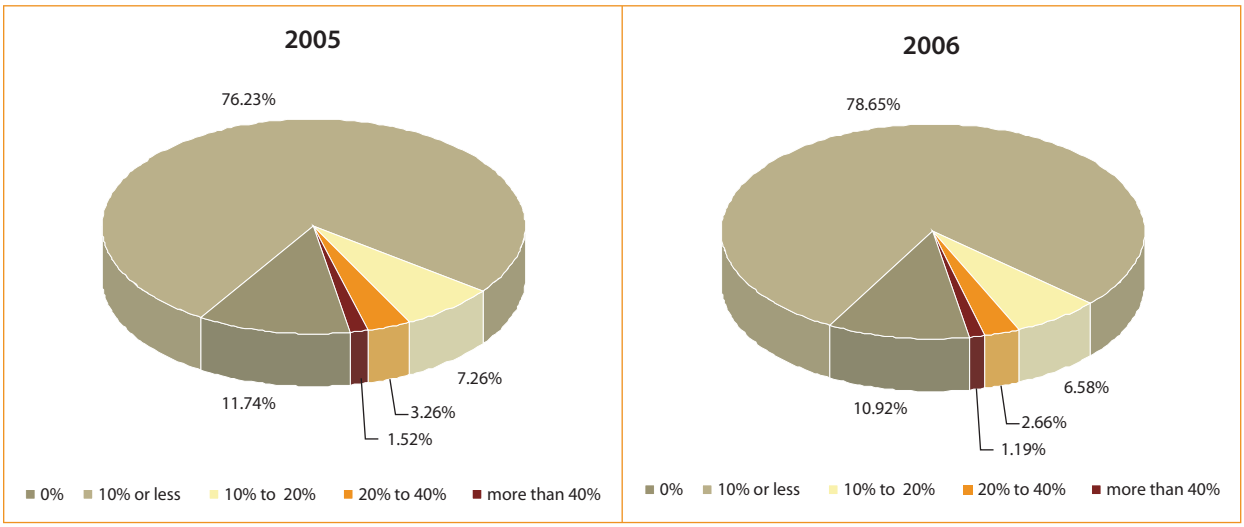
One of the more striking findings was that health spending is consistently and significantly below household expenditure on tobacco, which is around 13 percent on average. While the shares of household health spending decrease significantly mid-year, spending for tobacco drops only slightly. These findings are consistent with the figures generated from the data provided in the Susenas 2006 household survey from BPS.

Taken together with the results regarding the poor's health-seeking patterns, which are primarily self-medication and a dependency on OTC drugs, these high shares of tobacco spending at the household level should motivate the government to take measures to better protect the low income groups from poor health.

Source: Center for Health Service Management, UGM, 'Purchasing Behavior in Urban Poor Areas', Yogyakarta, 2005-06.

Catastrophic expenditure decreased between 2005 and 2006. Catastrophic expenditure (i.e. when health expenditure exceeds 40 percent of a household's capacity to pay) decreased between 2005 and 2006 from 1.5 percent of households to 1.2 percent (Figure 5.6 and 5.7).

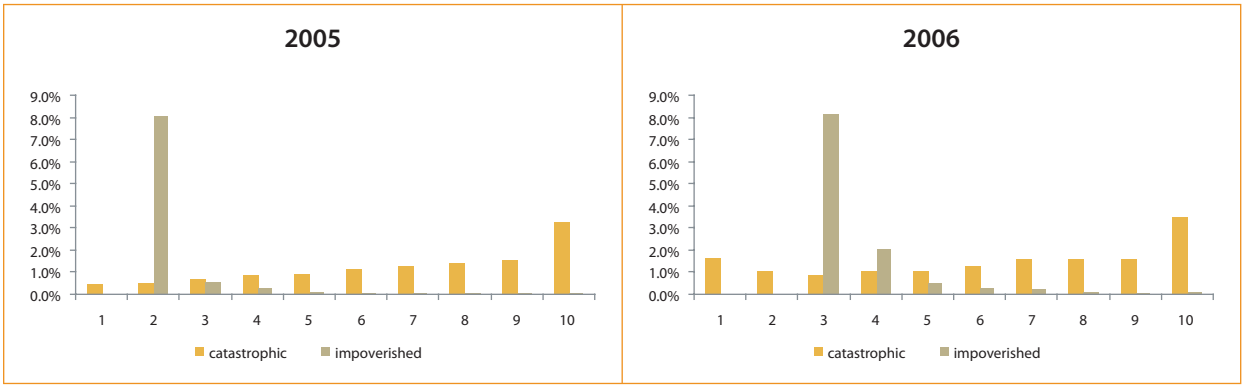
Figure 5.6 Percentage of households at different levels of health spending, 2005-06



Source: World Bank staff calculations based on Susenas, 2005, and 2006.

OOP payments for healthcare can lead to financial difficulties for some households and, at times, those families even fall into poverty. However, the percentage of impoverished households decreased from about 1.2 percent overall to about 0.9 percent in 2006. In 2006, the hardest hit group was the second poorest. Notwithstanding these improvements, this group still constitutes a substantial segment of Indonesia's 230 million inhabitants.

Figure 5.7 Percentage of households that incurred catastrophic health costs and became impoverished, 2005-06

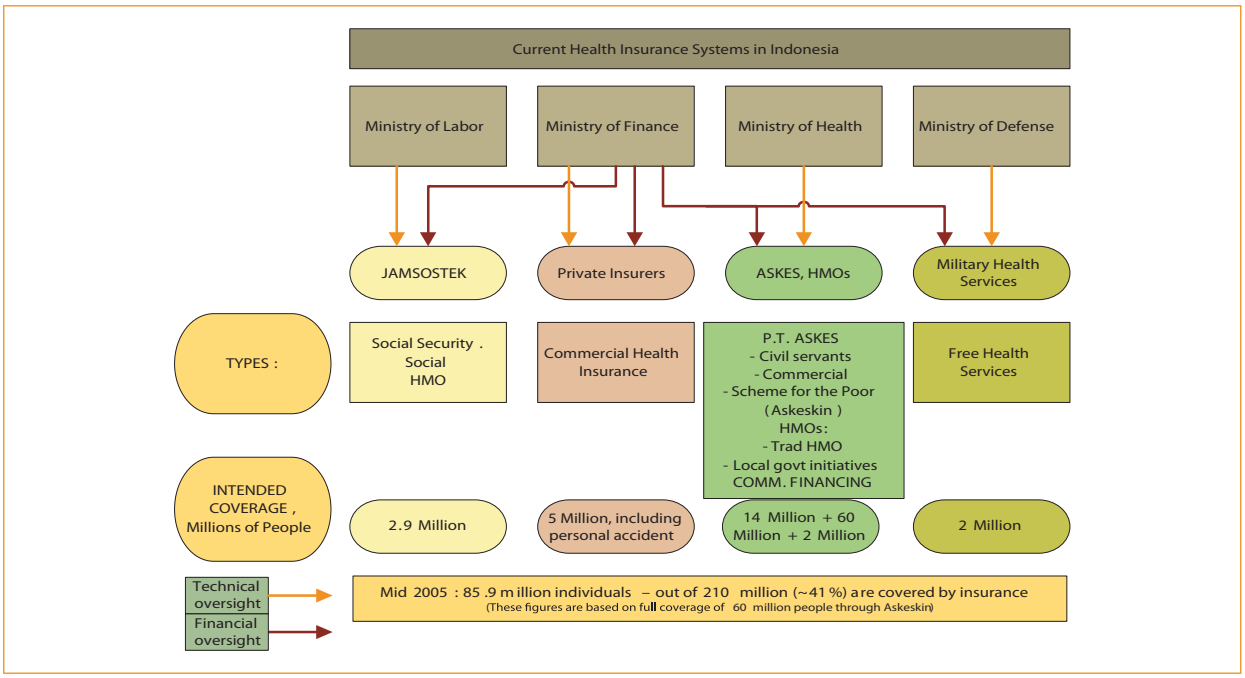


Source: World Bank staff calculations based on Susenas, 2005, and 2006.

5.2 Risk-Pooling and Health Insurance Reforms in Indonesia

The challenge for a middle-income country such as Indonesia is to redirect high levels of OOP spending towards either private or public risk-pooling arrangements, so that individuals have financial protection. In Indonesia a variety of public and private insurance arrangements coexist, resulting in a fragmented system that does not cover all risk groups. The fragmentation of the system creates higher administrative costs, and major equity and risk selection problems (the former is the case especially because certain schemes only enroll individuals who are above a certain income threshold, hence creating ineffective sub-pools), and also limits pool size (Figure 5.8).

Figure 5.8 Current health insurance systems in Indonesia – Type and coverage



Source: MoH, 2007.

Indonesia's health insurance market targets formal sector workers, with the provision of financial protection to this market having evolved slowly over the years. The provision of health insurance was initiated with a social health insurance scheme for the civil servants, Askes, in the 1970s. This was followed about 30 years ago by a similar scheme, Jamsostek, covering formal private sector employees. In addition to these schemes targeting formal sector employees, there have been sporadic attempts to provide financial protection to other groups.

The community-based health insurance scheme, known as Dana Sehat, was promoted in the 1970s as one of the government's programs for the poor. The program was managed by communities and levels of membership contributions were decided by community leaders. The Dana Sehat offered only limited benefits (primarily for primary care, hospitalization was not covered) and therefore failed to attract a significant membership pool. In 2006, only 0.6 percent of the population were members of this scheme, and the drop-out rate has remained high, with around 60 to 90 percent of members not renewing their memberships. Other forms of community-based health insurance also exist, such as a scheme specifically directed for pregnant women, called Tabulin, intended to finance the cost of emergency obstetric care. Again, participation in this scheme is very limited due to inadequate coverage and only partial benefits, fostered by a limited pool of funds. There are, however, numerous interesting, partially successful community-level schemes in Indonesia, such as the well-known case of healthcare provision in Bali's Jembrana district (Box 5.2). While there are still limitations to scaling up such schemes, lessons can certainly be learned.

Box 5. 2 The case of health insurance reform in Jembrana district, Bali

The Jaminan Kesehatan Jembrana (JKJ or Jembrana Health Insurance) scheme began in Jembarana district, Bali, in March 2003 and provides free primary healthcare to all members; free secondary and tertiary care is also provided for poor members. The scheme has improved the access of both poor and non-poor citizens to healthcare. Before JKJ, only 17 percent of district citizens were covered by any kind of health insurance; now, 63 percent are covered. The percentage of ill people who sought treatment in Jembrana more than doubled from 40 percent in 2003 to 90 percent in 2004. For the poor, the increase was from 29 to 80 percent. Increased access of the poor to health services is due primarily to the inclusion of private providers in the JKJ scheme.

Although on paper out-of-pocket healthcare costs have increased sharply for poor non-members, in practice most public providers still provide free care for all poor clients. This increases access of even non-member poor to healthcare, but subjects them to the discretion of providers who have the legal right to refuse them free services. Meanwhile, JKJ registration requirements have prevented many of the poor from joining. JKJ's attempts to become self-financing have focused recently on a new one-membership-card-per-person system (rather than the old one-card-per-family scheme), and this is likely behind a drop in membership of the poor, from 66 percent in 2004 to 22 percent (re-registered under the new system) by May 2005, since many poor families cannot afford to re-enroll all members.

By increasing access to private providers, JKJ has increased competition between public clinics and private doctors for clients. JKJ has also improved both healthcare quality and client satisfaction. It is likely that JKJ's enforcement of strict standards on equipment, treatment, medication, and referral has contributed to the improvement. JKJ does not, however, appear to be financially sustainable. There has been a rapid, unbudgeted increase in district spending on JKJ. JKJ' s inclusion of non-poor citizens adds greatly to its cost: in 2004, 95 percent of the Rp 9.5 billion in JKJ claims were made for services to non-poor clients. The informal inclusion of poor non-members also increases JKJ costs, as those who provide free services to poor non-members are in fact usually reimbursed by JKJ. Finally, investment in JKJ administration is grossly inadequate, and JKJ's legal basis could be partially challenged by the law on centralized health insurance.

Source: World Bank, 2006a, p. 114.

With the exception of Askes and Jamsostek, these insurance programs have had little impact on access to health and financial protection. The various risk protection schemes that were implemented in the three decades following the launch of Askes were mainly driven by the government as MoH programs. However, with the exception of the first two social insurance schemes — Askes and Jamsostek — the other efforts had insignificant impacts on access to health services and provided only limited protection from catastrophic health expenditures.

Health insurance participation remains low despite the advent of Askeskin, but has started to rise significantly. At present, only about 27 percent of the population is covered by one of the current schemes, according to Susenas data. Nonetheless, health insurance participation is now showing a marked increase from participation in recent years, which had remained stagnant at about 20 percent over the past five years. The recent 7 percent increase is mostly attributed to the introduction of the Askeskin health insurance scheme for the poor, which will be discussed in more detail below. The other main schemes, such as Askes and Jamsostek, only cover about 5 and 3 percent, respectively, while private insurance companies and other schemes cover another 3 to 4 percent, respectively (Figure 5.9).

Community health insurance schemes are so small that they are not even included in a separate category in the figures below, which illustrates insurance participation by insurance type. Analyzing participation by income quintile, it becomes clear that the poor are the main beneficiaries of the health card and the Askeskin system, while individuals in richer quintiles are mostly covered by the civil servant schemes of the formal private sector social health insurance, Jamsostek (Figure 5.10).

Figure 5.9 Percentage insurance participation over time by type of insurance, 2003-06

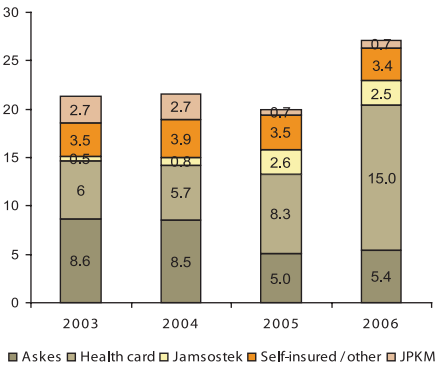
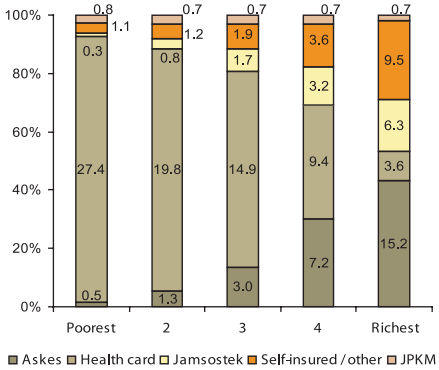


Figure 5.10 Percentage insurance participation by income quintile, 2006



Source: World Bank staff calculations based on various years of Susenas.

Askes for civil servants provides a comprehensive benefit package to its members, but has a very high level of co-payments. The Askes scheme, which is managed by a state-owned, for-profit company, PT Askes, covers around 15 million members: civil servants and their families, as well as retirees of the civil service, including those from the military. All government employees, including retirees, contribute 2 percent of their base salary regardless of the number of dependants. The government provided no direct contributions to the premium until 2002, when it started providing a contribution equivalent to one half of one percent of salary. The cost-sharing required from the members, especially for hospital services, remains significant because users invariably have to pay fees far higher than the tariff negotiated by Askes with the hospitals, since the latter are usually well below the published hospital rates.

Although those insured through the Askes scheme enjoy a comprehensive benefit package, they can generally only use public healthcare facilities, which are often perceived as providing relatively low levels of care. As a result, data from the Susenas 2006 household survey show that from 28 percent of members who had one symptom of illness only around 42 percent sought care, and only 21 percent of those used the public provider network that is covered by PT Askes.

The social health insurance scheme for private sector workers, Jamsostek, suffers from its opt-out policy and covers only a small fraction of the intended target population. This scheme is managed by PT Jamsostek, a state-owned company that operates based on the Labor Social Protection Law to provide health insurance for formal private sector workers. Jamsostek requires a contribution of 3-6 percent of private sector workers salaries, depending on the marital status of the beneficiary, which is paid wholly by the employer. Participation in the Jamsostek scheme is conditional and this explains why in 2006 the scheme only covered 14 percent of the eligible employees. The opt-out clause in the Jamsostek Law (No. 3/1992) allows employers to enroll their employees in alternative schemes, provided that they have better benefits than those covered by Jamsostek. Employers who do opt out have essentially three alternatives. One is direct provision, whereby the employer directly provides hospital and physician services. A second is enrollment in a private insurance scheme. The third option is to reimburse employees for medical care costs wherever these are incurred.

In addition to the opt-out provisions, Jamsostek has a major problem in that it is unable to ensure the compliance of employers with their legal obligations. As a private company, it is unable either to employ an inspectorate to check compliance, or to bring legal action against defaulters. As a consequence, many employers, particularly in small-scale and rural enterprises, do not enroll their workforce for any form of social protection.

Unlike Askes, Jamsostek excludes coverage for catastrophic conditions, such as cancer treatment, heart surgery and renal dialysis, but allows beneficiaries to seek private as well as public care (in selected regions). Jamsostek is currently contracting providers directly, which vary among regions. In some regions the provider network is limited to public sector facilities, while in others beneficiaries can use a mix of public and private facilities. The provider payment mechanism as prescribed by Government Regulation (PP) No. 14/1993 is capitation. However,

this payment mechanism is often unattractive for hospitals and primary care physicians/facilities, especially when membership in the area concerned is small. Table 5.1 summarizes the differences between the two established social health insurance schemes. Annex T provides details on Askeskin spending by category across all provinces.

Table 5.1 Summary of the differences between the two main social health insurance schemes

Characteristics	Askes (1968, 1992, 2005)	Jamsostek (1992)
Groups mandated	Civil servants, retired civil servants, retired military personnel.	Private employers with > 10 employees or pay salary > Rp 1 million a month.
Contribution/Premium	Civil servants: 2% of basic + 1% govt. no ceilings.	3% salary for bachelor. 6% salary for married employees. Ceiling Rp 1 million per month. Not changed since 1993.
Contributor	Civil servants: Employees 66%, employers started contributing in 2003.	Employers 100%.
Carrier	PT Askes, for profit.	PT Jamsostek, for profit.
Benefits	Civil servants: Comprehensive, no specific exclusion. Drugs are covered if prescribed within the formulary (DPHO).	"Comprehensive". But, cancer treatment, cardiac surgery, hemodialysis, and congenital diseases are excluded. Drugs are covered if prescribed within the formulary.
Dependent covered	Spouse + 2 children under 21 years, not working and not married.	Spouse + 3 children under 21 years, not working and not married.
Service provider & payment mechanism	Mostly contracted public health centers and public hospitals. Special fee schedules for civil servants.	Mixed: public and private providers. Fees are negotiated.

Despite its intention, Social Security Law No. 40/2004 has not yet led to the implementation of a national health insurance scheme providing sufficient benefits to those most in need. The 2004 law on the reform of the National Social Security System (called Jamsosnas) aims to build on the existing social security schemes (Askes, Jamsostek, Taspen and Asabri) that had failed to provide proper coverage to their beneficiaries because of their low levels of enrollment, inadequate benefits and poor governance. The new scheme aims to cover all Indonesian citizens regardless of whether they are formal, informal or self-employed workers.

The proposed system, Jamsosnas, is built on three pillars. These three pillars are: (i) social assistance for citizens who cannot meet their basic needs; (ii) a compulsory social insurance scheme financed both by employers and employees; and (iii) the possibility to voluntarily take out additional private insurance. The scheme will be run according to the principles of: mutual assistance (where the wealthier pay for the less fortunate), compulsory membership, not for profit, and portability. Underlying management principles will be openness, risk aversion, accountability, efficiency and effectiveness, and the money collected through the program will be administered as a trust fund, while the organization will function as a not-for-profit entity (in contrast to Askes and Jamsostek now).

Within this scheme the National Health Insurance (NHI) is designed to provide comprehensive health benefits ranging from benefits for preventive treatments to those covering catastrophic illnesses. It will be administered by the National Health Insurance Provider Agency and its regional offices, and supervised by the National Social Security Board. The latter will consist of 15 people from the GoI, as well as members of employer/employee organizations. Regional governments draft regional regulations for social security administering bodies within the norms, standards and procedures defined in the legislation. The authority is to be shared between central and local governments. The NHI scheme defines standard health services as primary health services (general practitioners), referral health services (specialists) and other health services (prescription drugs, laboratories). However, the types of services that are covered under these various programs remain unclear.

Services provided are to be contracted at an agreed price, which is to be determined by the social security administrative bodies and the association of health facilities in each region. Thus, this price may vary across regions. The social security administering bodies will examine each bill for health services: if there is evidence that

a service is substandard or genuinely not needed by the patient, the corresponding payment will be withheld. In so doing, the national support systems (NSSs) aim to guarantee tariffs and quality of health service for their participants.

In theory, both public and private providers (who have agreed on a service contract with the GoI) would be allowed to deliver health services under this plan. However, there is no requirement in place for providers to service all NHI beneficiaries. This might result in only the public providers participating in the scheme if private providers think that they are not compensated enough for the services they deliver under the program, potentially limiting choice and quality of treatment. Under this scheme, social security provision is the sole responsibility of the government and there is no room for competition in the provision of the social security benefits. Experience from other countries has shown that such publicly funded schemes often fail due to problems relating to demographic transitions, excessively generous benefit levels, un-sustainability, and poor governance.

The cost of the overall Jamsosnas program is likely to be substantial. The benefit packages are currently not well defined and may end up being too broad, hence adding to the costs. Costs are planned to be borne mostly by formal employers and workers who are obliged to make contributions to the scheme in order to receive its benefits. For the NHI program, formal sector workers and their employers must pay a 6 percent payroll tax on the workers' gross income, split equally between the two of them. The combined amount of payroll taxes paid by the private sector to fund the program could be as high as 18 to 20 percent of the workers' payroll, thus imposing a substantial burden on the economy and threatening its competitiveness. Informal workers are allowed to receive the benefits even though their contribution to the funding of the program has been left undecided in the draft law.

The government is planning to subsidize the coverage of those whose income falls below the minimum wage (UMR), which constitutes a very large group. Given the high number of Indonesians who fall into this category, especially in rural areas, this may result in a budget deficit or jeopardize the sustainability of the program. The program also fails to address the imminent problem of a rapidly ageing population, which implies the payment of higher healthcare benefits.

In practice, the idea is that in the short-term Jamsostek will expand to provide services to formal workers, while Askes will gradually expand its program to cover informal sector workers, while continuing its current coverage of the poor and civil servants. It is assumed that in the medium-term the existing Askes and Jamsostek schemes will function in parallel and be restructured to trust-based schemes, operating on a not-for-profit basis. Askses would eventually assume the responsibility of providing insurance to all those individuals who are ineligible for Jamsostek membership, but initially it will focus on provision for the poor, whose contributions will be paid for by the government.

Nevertheless, many issues exist with extending coverage to the informal sector (which at present constitutes two-thirds of all Indonesian workers). Most important of these are determining the level of fees and the method of collection, particularly in the absence of employers. First, it will be difficult to determine the amount that should be contributed by informal sector members although various options exist, mostly based on a system composed of so-called 'income' bands, where income levels should be based on household assets. Second, collection of fees could be enabled by providing positive incentives for poor informal sector workers through the provision of subsidized care. Negative incentives are provided through the higher fees that could be charged to uninsured individuals, particularly when fees better reflect 'real' costs of health providers, due to lower supply-side subsidies provided by government to Puskesmas and hospitals. (Supply-side subsidies are expected to be lowered with the gradual expansion of demand-side subsidies through the NHSI.)

Box 5. 3 Expanding insurance coverage to the informal sector: Lessons from Thailand

Prior to the implementation of the universal coverage program in 2001, the Thai health system was characterized by a multitude of health financing schemes. Different health financing schemes were in place, targeting different population groups, and the informal sector was first targeted by the Thai government through the community financing scheme in 1983. The scheme subsequently transformed into the voluntary health card scheme (VHCS) in 1991, but due to its voluntary nature suffered from problems related to adverse selection, system abuse, and low cost recovery. The previous schemes still left around 30 percent of the population uncovered. For these reasons and in order to close the coverage gap, in 2001 the government introduced a universal coverage program (UC), also known as the 30 Baht scheme because of the co-payment sum per chargeable episode. The program merged the VHCS and the medical welfare scheme that covered the population and other vulnerable groups.

The implementation of the universal coverage program was expanded rapidly. It faced difficulties at the beginning with technical issues such as identifying the uninsured, reforming provider payments, and contracting providers. As it progressed, several measures to improve efficiency and equity were introduced, such as risk adjustments, and a high-cost and emergency care pool at the central level. The program has been successful in increasing health insurance coverage up to 95 percent of the population in 2005, with 20 percent from the formal workers schemes, civil servant and private sector formal employees, and the UC covering the remaining 75 percent. The program is very popular with the public and has improved the population's perception on their 'right to health'. However, the program still faces some challenges; its long-term financial sustainability is being questioned as demographic and epidemiological changes occur; the merger with the other two schemes into a single plan needs further adjustments of benefit packages and the provider payment system, and it needs a sound information system.

Source: Hanvoravongchai, Piya, and William Hsiao, 2007.

5.3 Health Insurance for the Poor: The Askeskin Program

As part of the first 100 days of the current government, the Ministry of Health devised a scheme popularly known as Askeskin (an acronym of *asuransi kesehatan orang miskin*, or health insurance for the poor). Askeskin was targeted on the number of poor as estimated by the Central Bureau of Statistics (Badan Pusat Statistik, or BPS), then at about 36 million people. The selection of beneficiary households is performed by district governments, similar to previous schemes. The benefits to which the poor are entitled are: free healthcare at Puskesmas and free inpatient treatment in third-class public hospital wards, subject to very few exclusions. Funds for the scheme come entirely from the APBN budget of the MoH and no co-payments are required from beneficiaries. Payment of providers takes the form of capitation for Puskesmas services, together with reimbursement of claims at a negotiated tariff for hospital services and drugs drawn from an essential drugs list. Payments to providers are made by PT Askes through its network of regional and branch offices, while keeping the funding entirely separate from its other operations. PT Askes is permitted to deduct 5 percent of the notional premiums for administration and a further 5 percent for promotion of the scheme. The annual cost of the scheme was originally estimated at Rp 2.1 trillion, at a notional premium of Rp 5,000 per person per month. The scheme was introduced countrywide on 1 January 2005.

Regional governments projected far larger numbers of poor than the estimated 36 million, raising the number of beneficiaries to about 60 million. With this increase in beneficiaries, the annual cost increased to Rp 3.6 trillion from the original Rp 2.1 trillion. In light of the short time between the conception of the scheme and its implementation — insufficient to prepare the PT Askes administration, the health service providers or the general public — take up of the scheme was low in 2005, and only about Rp 1.3 trillion was spent, of which Rp 1.13 trillion was for health services. Expenditure continued at a low level in the first half of 2006, but by year-end total expenditure had reached

Rp 2.9 trillion. However, the earlier experience of low payments appears to have influenced the decision to allocate only Rp 2.7 trillion for the operation of Askeskin in 2007.

By April 2007, outstanding claims by hospitals on Askeskin came to light totaling Rp 1.4 trillion. By September, the MoH had begun to recall deconcentrated funds already distributed as part of its plan to close the deficit, while travel budgets were slashed by 70 percent. The MoH estimates the cost of the scheme in 2007 to be Rp 4.5 trillion and has a financing plan in place to mobilize this sum.

The rapid transition from a situation of apparent surplus to one of looming deficit has been brought about by a number of factors. First, the number of beneficiaries was not fixed at the 60 million implied by adoption of the National Family Planning Agency (BKKBN) standard of poverty. The number of beneficiaries is now estimated at 76.4 million. At least part of this increase has been driven by the ease with which people can obtain a certificate of poverty, the *lurah* letter (SKTM), which is provided by village heads. Up to now, SKTM have been accepted as evidence of poverty and are seen as equivalent to ownership of an Askeskin card itself (i.e. SKTM holders do not need Askeskin cards). It is highly likely that there is a process of adverse selection involved, whereby those anticipating major medical expenses seek to obtain entitlement to free care. Based on this enlarged membership, the MoH made its estimate of the cost of the scheme in 2007, although still using the same notional premium.

A second factor that is clearly at work is moral hazard on the provider side. This does not apply to capitation payments, which are made on the basis of a notional provision of Rp 1,000 per poor person per month. However, there are inevitably incentives in a third-party payer scheme for providers to be over active in investigation and treatment. Indications of moral hazard, such as a sharp rise in the Cesarean section rate, investigation of elusive skin allergies, and polypharmacy, are anecdotally reported and there are probably some cases of outright fraudulent claims.

The largest single factor at work is clearly the combination of the low notional premium underlying initial estimates of the cost of the scheme and the absence of co-payments. When Askeskin was initiated with a notional premium of Rp 5,000 per person per month, the average expenditure for an Askes member was around Rp 12,000 per month (the estimate for 2007 was Rp 16,000 per person per month), and this figure was constrained by a very high level of co-payments. Since the only difference between the benefits offered by the two schemes was that Askeskin members were limited to the use of third-class inpatient accommodation, Askeskin was likely to induce higher utilization since it was totally unconstrained by the need for co-payments. Factors that might have countered this tendency towards higher utilization included poorer physical access to health providers encountered by Askeskin beneficiaries compared with civil servants, and the previous low utilization rate of inpatient services by the poor. Initially, utilization by Askeskin beneficiaries was low, but there was little to restrain higher utilization once beneficiaries realized that the scheme was actually delivering on its promises. In the absence of any effective cost containment measures, consumer moral hazard can now be added to the provider moral hazard implicit in any third party-payer scheme.

As indicated, coverage of the program was much lower than initially planned, but as the program progresses the targeted 60 million poor should be reached relatively soon. An estimated 16.3 million individual cards were distributed in 2005 according to Susenas panel data, significantly lower than the 60 million people that the MoH claims to have been reached by the program (World Bank, forthcoming). According to program data to December 31, 2006, the program then covered about 65 percent of the target population, or about 40 million people (see Annex R).

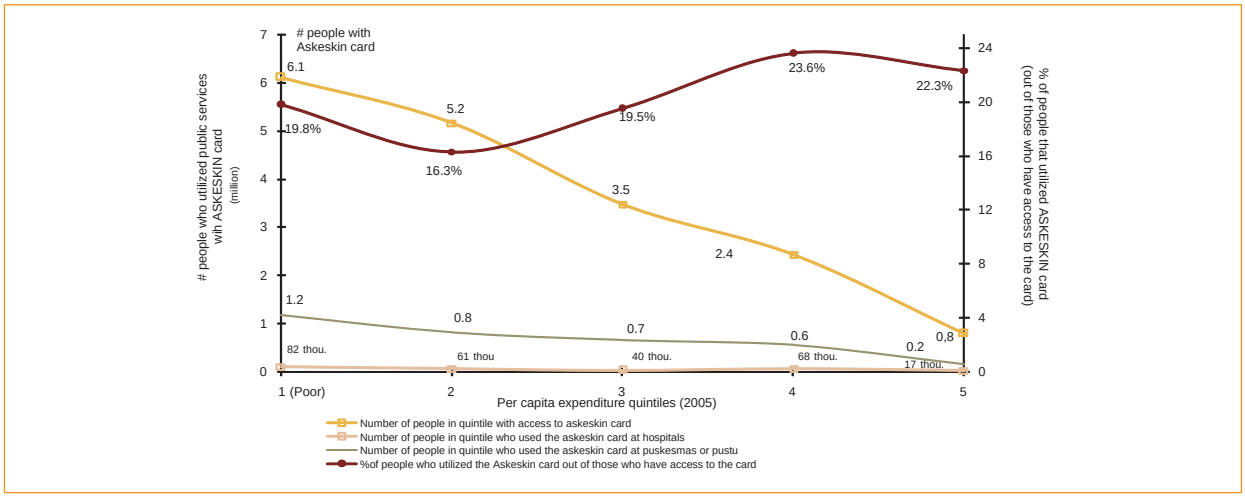
Access to healthcare for the poor remains low when analyzing the coverage of all three 'cards for the poor' (Askeskin, SKTM[71] and health cards). Program rules allow for the poor to access Askeskin program benefits by using any one of the following three cards or systems: the Askeskin card, the health card, or the SKTM, which was previously highlighted as having added to the scheme's targeting problems. Program coverage in 2005, when one takes into account all three of these beneficiary cards for accessing health facilities, was only 10.3 million households with 40.7 million people[72] living in them. This fell well short of the 60 million targeted (World Bank, forthcoming).

71 SKTM is a letter provided by the kelurahan or village leader, stating that the person is poor.

72 Note that Askeskin card itself is an individual card and does not guarantee access to health facilities for other members of the household; hence even the 40.7 million individuals' count is an overestimate of the actual number of people the program reaches.

Most cardholders used the program for primary care, and not for hospital services. In 2005, only 8.5 percent of program users visited hospitals, while 91.4 of the poor used the card *only* in Puskesmas or Pustu. Furthermore, card utilization in community health centers (72.2 percent) and hospitals (63.3 percent) was concentrated in Java and Bali in 2005. Given high population density, logically these areas have the largest group of cardholders, at about 61 percent of the cards distributed up to December 2006.[73] When analyzing these data it is necessary to bear in mind that, while the impacts on utilization appear limited, the analysis used here is based on the latest available Susenas data (2006), which were collected in 2005. Therefore, it is possible that these data understate the program's impact. Recent anecdotal evidence indicates that demand from the poor for healthcare at both Puskesmas and hospitals seems to have increased substantially.

Figure 5.11 Utilization of Askeskin card by quintile



Source: World Bank staff calculations based on Susenas 2006 poverty programs module.

Given the underlying pro-poor distribution of cards, Askeskin card utilization is also slightly pro-poor. However, controlling for access to the Askeskin card, the percentage of those in the upper quintiles who utilize the card is higher (Figure 5.11). Individuals in the poorest quintile accounted for 34.8 percent of all utilization with Askeskin cards (while they had access to 34 percent of the cards) and the utilization pattern follows the targeting of the cards. However, in the bottom quintile only 19.8 percent of individuals who had access to the card utilized it compared with 23.3 percent of the top two quintiles that utilized the Askeskin card. Therefore, the likelihood of someone in the upper quintiles utilizing health services with the Askeskin card was higher than those in the poorer quintiles (World Bank, forthcoming).

Having access to the Askeskin card is associated with increased utilization of Puskesmas/Pustu and a reduced utilization rate of private clinics controlling for level of income. Access to the Askeskin card in a household was associated with increased utilization of Puskesmas/Pustu by 0.22 individuals in the household and reduced utilization by 0.05 individuals in private clinics (controlling for the number of people in the household as well as income levels). However, there was no statistically significant relationship between having access to the card and utilizing health services at public or private hospitals.[74]

The fact that there appears to be no increase in utilization of services by cardholders at the hospital level is puzzling. This is especially the case since other survey data (GDS2) indicate that hospital budgets have increased by about one-third on average, mostly due to Askeskin reimbursements. Hospital administrators reported that the program had a major impact on hospital income and, in 2005, about about 28 percent of the total budgets of the surveyed hospitals came from the Askes program. This increase in hospital budgets over one year, which coincided with the start of the Askes program, indicates that the increase in hospital budgets is probably an impact of the

73 Data from PT Askes, see Table T.1 in Annex T.

74 This could be due to small sample size in the Susenas poverty module in 2006, which allows for only 8,700 households in the sample when merged with the 2005 data. As hospital visits are already rare phenomenon, a larger sample is required to establish a relationship between access to the card and increased hospital utilization.

program. This is consistent with the fact that in 72 percent of hospitals hospital administrators said that the most significant impact of the Askes program was 'an increase in hospital income'. According to hospital administrators, the extra budget from the program was used mostly to pay for doctors' services (26.1 percent), medical supplies (25.1 percent) and medicines (16.6 percent).

Box 5. 4 Askeskin, increasing demand and hospital capacity: Are there enough beds?

Concerns over the capacity of third-class hospital wards surfaced soon after Decree No. 1202/2005 on the Askeskin scheme was signed. Since the scheme allows for free inpatient treatment for those who have health cards or who have the lurah letter (SKTM), demand for care is expected to increase with the lowering of financial barriers for the poor. The limited number of third-class beds in many public and private hospitals may constrain the response to such increased demand.

Simple analysis assessing whether current capacity is adequate to respond to current and projected utilization, taking into account different assumptions on the demand side, shows that the number of beds needed to cover the conservative estimate of the target population (54 million poor individuals) is already below capacity. This implies that the existing number of third-class beds at public hospitals will already be insufficient to serve the target population if there are no changes in the number of inpatient care beneficiaries. At the same time, however, there are likely to be changes in the utilization pattern for inpatient care as the scheme continues and becomes socialized among the poor. Furthermore, the average length of stay (ALOS) may change. For different estimations of hospital capacity based on a number of different assumptions (beneficiaries, utilization, and ALOS), refer to Annex S.

Given that the SKTM is not difficult to obtain, it is possible that there may not be sufficient beds to provide for the Askeskin scheme unless private hospitals are included in the benefit plan and can comply with MoH regulations regarding provision of beds for the poor. The possibility of involving private hospitals may also require MoH to revisit the pricing method used in the Askeskin scheme, which currently offers reimbursement of less-than-market costs (subsidized service costs), since public hospitals receive a variety of supply-side subsidies.

The MoH's decision to expand the third-class inpatient capacity of public hospitals needs to be carefully reviewed, taking into account the amount of resources (unit costing will be required) needed for such an expansion. Otherwise, the expansion could exhaust public funds for individual care and lead to neglect of public health functions. Anecdotal evidence currently suggests that increased demand for third-class inpatient services has almost drained public hospitals' resources, such as health personnel, especially nurses, as well as drugs and supplies.

Source: World Bank staff calculations based on data from MoH and Susenas. See Annex V for more details on the methodology, the different scenarios and the data sources used in these calculations.

5.4 Future Challenges in Health Insurance

The combination of state subsidies and user charges to finance public provision of healthcare has had adverse effects on equity, as revealed by the benefit incidence studies. The poor used all formal health services at a lower frequency than higher socio-economic groups, and they were particularly infrequent users of hospital inpatient services. Attempts to give greater access to the poor prior to Askeskin were largely ineffective owing to a combination of insufficient funding, poor targeting of beneficiaries, and weak accountability for the funds provided. The extent to which Askeskin will transform the historic pattern of inequitable access to healthcare remains to be established, although one favorable indicator is that it is more generously funded than previous schemes.

Resource mobilization for the public sector has hitherto been performed through two main modes: the public revenue system and direct out-of-pocket payments. The adverse consequences of reliance on out-of-pocket payments were discussed above, and the desirability of moving towards some form of prepaid risk-pooling mechanism emphasized. But this modality remains largely undeveloped in Indonesia. The numbers of those covered by contributory health insurance schemes remain modest, at around 11 percent of the total population. The satisfaction

that has been expressed at the increase in financial protection in recent years through the development of Askeskin needs to be tempered by recognition that no pre-paid resources have been mobilized by this scheme. Because its members make no financial contribution, the advent of the scheme has merely shifted the balance in funding the public provider system away from direct individual payments towards collective payments via the tax system. While this is a positive shift in itself, it increases the burden on general public revenue, which may threaten the sustainability of the current scheme and inhibit future developments.

It is widely assumed that, as envisaged by the Social Security Law No. 40/2004, the future of health financing will shift away from both out-of-pocket payments and the use of general public revenue towards an expansion of contributory insurance schemes. There are good precedents for extending the benefits of social health insurance to employees in the formal sector. The great challenge for the future will be to design a method of assessing and mobilizing contributions from workers in the informal sector.

As the scope of social health insurance increases, so this will begin to affect the ways in which services are purchased. At the moment, the public sector can be characterized as following a vertically integrated model, by which the public authorities that mobilize and pool the resources also own and manage the provider facilities. They pass resources in cash or kind to the facility managers in the expectation that these resources will be used to optimize the provision of health services, but generally with no explicit statement regarding the quantity or quality of outputs. This comfortable internal relationship necessarily changes when the provider of resources is not the owner and manager of the health facilities. Whether formalized or not, a contractual relationship develops between the purchaser and provider of services. It is typical of contractual relationships that they become more formalized and more explicit over time, not only with regard to the basic dimensions of price and quantity, but also the specification of the service and the conditions of payment. The possibility is also opened of competition between service providers, if there is more than one serving a given catchment population. The attractions of competition as a spur to provider efficiency and explicit statement of outputs have led a number of countries that once operated the vertically integrated model to deliberately introduce a purchaser/provider split, and thereby convert to the contract model.

The contract model is still at a nascent stage in Indonesia. This is partly because of the small scale of insurance funds prior to Askeskin, partly because institutional relationships were developed at a time when governance of the insurance carriers did not reflect the interests of the insured. Jamsostek and Askes are essentially passive purchasers, mostly accepting what providers have to offer. This tradition of passive purchasing has been continued in Askeskin because it was envisaged as an instrument primarily for the financial protection of the poor, and not as a lever to influence the outputs of the provider system. This could change, as a consequence of the pressures for cost containment that might be brought to bear on Askeskin and for greater consumer satisfaction in the longer established health insurance schemes.

A fundamental question that is posed by the contract model is whether insurance schemes should restrict their choice of provider to the public sector, as with few exceptions they have done hitherto. There are two factors, in addition to inertia and the tradition of state provision within the vertically integrated model, that account for current practice. One is that many (but by no means all) private providers have been forced to occupy a market niche that serves higher income clients with a taste for high standards of amenity. The related factor is that private providers find it difficult to compete on price with public providers in receipt of a supply-side subsidy.

This raises the even more fundamental question, in an era when financial protection of the poor is being provided by a demand-side subsidy: what are supply-side subsidies to public providers for? The appropriateness of public funding for services with a public good character is not in question, but the majority of budgeted expenditure is applied to the production of individual medical care. Perhaps a challenge for the future is to focus public expenditure on the two key missions: protection of the poor through demand-side subsidy of insurance premiums, and concentration of supply-side subsidies on public health. Then both the public and private providers of medical care services would stand on an equal footing and insurers would be free to choose between them on the basis of performance criteria alone. A scenario in which public providers rely on contracts rather than budgets for the bulk of their funding would be challenging indeed!

ANNEXES

Annex A: Summary Data Sources, Economic Classification, Central versus Sub-national Expenditure Figures (NHA and DHA)

1.1. Summary Main Data Sources

The main statistical and budgetary primary datasets used in this report were extracted from the following sources:

- **Central government (health) expenditures**: Ministry of Finance (MoF) data of audited realized expenditures for 1994 to 2006. Preliminary realization data were used for 2007 (first revision January 2008) and the 2008 budget (APBN) approved in October 2007.
    - **Functional classification – Central government health expenditures:** In order to allow for the central government expenditure functional classification for the health sector, expenditure data from the Ministry of Health (MoH) for 2006 was used.
- **Province and district government public spending:** The data for 2000-05 are processed from the MoF's Regional Fiscal Information System (Sistem Informasi Keuangan Daerah, or SIKD) dataset. World Bank staff computed estimates for sub-national spending for 2006-07 based on historical shares across sectors and aggregate transfers budgeted by the central government.
    - **Functional classification – Sub-national government health expenditures:** The data used for the analysis of the functional classification were based on a sample of district data from Lampung and Yogyakarta province, because neither the SIKD database nor the raw data from the MoF allowed for a comprehensive, more representative analysis of expenditure for the health sector by program or function. Hence a small sub-set of district health accounts data was analyzed.
- The Central Bureau of Statistics (BPS) Annual National Socio-Economic Household Survey (Susenas) was the source of demographic, economic (OOPS), and social information from households for 2000-06.
- The National Labor Force Survey (Survei Tenaga Kerja Nasional, or Sakernas) for 2004 to February 2006 was the source for labor statistics.
- The Village Potential Statistics (Podes) for 2004-05 provided information on village infrastructure characteristics nationwide. This survey is conducted in the context of periodic censuses (agriculture, economy and population). The survey contains information on the number of health centers, clinics and hospitals as well as on numbers of health staff (public and private) at the district level. In addition, distances to the infrastructure can also be generated from the survey.
- The **Indonesian Demographic Health Survey (IDHS) 2002-03** was used mostly for the analysis of outcome variables for the health sector. The survey sample size is large and allows for comparisons over time as data are collected generally every five years.
- **The Governance and Decentralization Survey** (**GDS**) 1+ and 2, provided data on indicators for governance and decentralization from households and non-households at the district and village level, as well as information collected at health at delivery points. The main questionnaires that were used for generating information on the health sector were:
    - Head of the Puskesmas (GDS 31)
    - Secondary data from the Puskesmas (33)
    - Health Unit (GDS 35)
    - Private Health Services (GDS 36)
    - Head of the Hospital (GDS 37)

Several other primary datasets were drawn from statistical publications, studies by research and academic institutions, and reports from international organizations. All of these sources are listed in the reference section.

Table A.3 below summarizes the different types of data classifications, the corresponding data sources, and their shortcomings.

1.2. The Economic Classification of Expenditures

The economic composition of expenditures: In terms of the type, or the economic characteristics of the transactions on which resource are spent, public spending is classified as follows:

- **Routine expenditures** including: (i) personnel expenditures (wages and salaries), (ii) interest payments (domestic and external), (iii) subsidies, (vi) material expenditures in goods and services, and (v) other current expenditures.

- **Development expenditures** defined as "state expenditure aimed to finance development projects to achieve national development objectives, both material and non-material" (Law No. 2/2000 on the State Budget, or APBN). The amount reported as development spending also includes some salaries and materials, which technically should be regarded as routine spending. The development line budget was eliminated in 2004 with the introduction of a unified budget with a new budget line for capital expenditures.

- **Capital expenditures effective since 2005**, following Law No. 17/2003 on public finance. This category is defined as expenditures covering payments for the purchase or production of new or existing durable goods, or goods with a life of more than one year, to be used for productive purposes e.g., bridges, roads, school buildings, health clinics, etc. A mapping of the 2004 budget from the previous to the unified system reveals that capital expenditures accounted for about 56 percent of the amount reported previously as development expenditures, while the remainder was reclassified among several lines of routine expenditures and social assistance.

- **Transfers to regions** comprising revenue sharing, General Allocation Funds (DAU), Special Allocation Funds (DAK), and special autonomy and adjustment funds.

1.3. Central Level Health Expenditures and National Health Accounting in Indonesia

When discussing the composition of *total* health expenditures, the tool that is generally referred to is the National Health Accounts or NHA.[75] The full range of information in the NHA normally includes not only what is considered as the main public expenditures on health, undertaken by the central MoH and its analogous departments at the provincial and district levels, but also those outside the main system: health expenditures by other government departments such as the military and police, and of particular importance in Indonesia the national family planning agency (BKKBN) expenditures on health by parastatals,[76] and expenditures by public insurers. In addition to public expenditures, the NHA includes private expenditures, those incurred by households, private companies and private insurers.

In Indonesia, although the NHA is not yet complete, a series of reliable estimates of total expenditure does exist. Past work to develop the NHA has been handicapped by limited data availability, incomplete coverage, inadequate funding of empirical survey work, and idiosyncratic data management. A new task-force, comprised of experts from the University of Indonesia (UI), the MoH the World Bank (WB) and the World Health Organization (WHO), is now working on establishing a uniform NHA system based on standard methodologies and data deemed of appropriate quality by all stakeholders. The data coming from these new efforts uses both MoH and MoF data to ensure conformity of data and the consolidation of a variety of figures (Table A.1.).

75 The system is designed as an international comparable system to capture the full range of information contained in these resource flows and reflects the main functions of health care financing: resource mobilization and allocations; pooling and insurance; the purchasing of care, and; the distribution of benefits (WHO.int/NHA)

76 In the case of Indonesia this would be Garuda and Pertamina, the latter being known to run one of the best reputed hospitals in Indonesia. A sample survey of their expenditures was carried out in 2001, but there are doubts about the representativeness of the survey and reliability of the data collected.

In this report the NHA *total* (private and public) expenditure data for Indonesia are used mostly for cross-country comparisons, since the international scope and uniformity of the accounting system is well-suited for such assessments. The NHA estimates provide in principle a comprehensive overview of private expenditures, including outlays by households, private firms, private insurance schemes, expenditures through social security and other non-governmental entities. Hence, when comparing private expenditures across countries, NHA data are used, while when analyzing OOPS or catastrophic spending in greater detail at the national level, we resort to more accurate calculations from Susenas, performed annually by the BPS.

For the detailed national-level analysis, World Bank calculations based on MoF data are used. Owing to differences in coverage and classification, values for public expenditure from the two sources cannot be reconciled and the main differences are summarized in the table below.[77] A selection of the latest NHA indicators is provided in the summary Table A.2.[78]

Table A.1 Main ratio expenditure indicators from NHA and the World Bank (based on MoF)

	2001	2002	2003	2004	2005	2006	2007
NHA data							
Government health expenditure – share total gov't expenditures	4.2	5..3	4.6	5.0	5.0	-	-
Government health expenditures – share of GDP*	0.9	0.9	0..9	1.0	0.9	-	-
World Bank staff calculations							
Government health expenditure – share total gov't expenditures	2.6	3.3	4.0	4.0	4.2	4.5	5.0
Government health expenditures – share of GDP*	0.5	0.6	0.8	0.8	0.8	1.0	1.1

**Note*: These are calculated by taking total expenditure on health (THE) as % of GDP multiplied by the share of general government expenditure on health (GGHE) as % of THE.

77 The difference is mostly that the WB figures have lower estimates for GHE as share of THE, and therefore also lower GHE as a share of GDP, probably because the NHA is overstating sub-national expenditure and might be including more central health expenditures as it also takes into account funds flowing through other agencies than MoH.

78 Note: This table portrays only selected indicators from the NHA.

Table A. 2 Selected NHA for Indonesia

Selected ratio indicators* for expenditures on health	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total expenditure on health (THE) as % of GDP	**2.3**	**2.2**	**2.1**	**2.3**	**2.3**	**2.3**	**2.7**	**2.8**	**2.9**	**2.8**	**2.7**
General government expenditure on health (GGHE) as % THE	***27.2***	***28.5***	***30.0***	***27.9***	***30.4***	***26.3***	***33.1***	***33.7***	***31.6***	***34.2***	***34.7***
Private sector expenditure on health (PvtHE) as % THE	***72.8***	***71.5***	***70.0***	***72.1***	***69.6***	***73.7***	***66.9***	***66.3***	***68.4***	***65.8***	***65.3***
GGHE as % of general government expenditure	**4.0**	**4.1**	**3.4**	**3.3**	**3.7**	**3.7**	**4.2**	**5.3**	**4.6**	**5.0**	**5.0**
Social security funds as % of GGHE	10.5	9.6	11.5	8.7	6.8	7.5	8.9	10.2	11.7	10.8	21.3
Prepaid and risk-pooling plans as % of PvtHE	4.1	4.3	4.5	4.5	5.1	4.7	4.1	5.1	5.6	5.9	6.0
Private households' out-of-pocket payment as % of PvtHE	76.4	75.4	74.0	74.7	73.6	72.2	75.1	75.3	76.0	74.7	74.3
Non-profit institutions expenditure on health as % of PvtHE	2.6	2.7	2.7	1.6	1.5	1.4	1.2	1.1	1.0	1.0	0.9
External resource on health as % of THE	1.2	1.4	1.6	3.9	3.6	7.9	3.2	2.1	0.8	1.3	1.2
Selected pc indicators for expenditures on health	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Total expenditure on health / capita at exchange rate	26	28	25	12	17	18	20	25	31	33	34
Total expenditure on health / capita at int'dollar rate	75	80	79	73	76	78	96	105	114	118	122
General government expenditure on health / cap x-rate	7	8	8	3	5	5	7	9	10	11	12
General government expenditure on health / cap int. $ rate	20	23	24	20	23	21	32	35	36	40	42
Financing Agents measurement for health expenditures (Rp bn)	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Total expenditure on health	**11,407**	**13,150**	**14,673**	**23,648**	**28,114**	**31,463**	**43,889**	**50,745**	**58,106**	**63,938**	**73,521**
… General government expenditure on health	***3,099***	***3,743***	***4,395***	***6,609***	***8,555***	***8,281***	***14,509***	***17,106***	***18,373***	***21,885***	***25,479***
… … Territorial governments	496	574,	713	731	1,085	4,429	7,169	8,055	8,741	19,516	20,043
… … … Central government	**2,278**	**2,808**	**3,177**	**5,302**	**6,887**	**3,234**	**4,264**	**5,602**	**7,481**	**8,296**	**8,823**
… … … … of which MoH	1,845	2,260	2,644	4,865	6,290	2,646	3,143	4,467	5,509	6,729	7,157
… … … State, regional, provincial authorities	258	297	341	392	392	409	437			11,220	11,220
… … Social security funds	325	361	,505	,576	,583	,617	1,292	1,744	2,151	2,369	5,436
… Private expenditure on health	***8,308***	***9,407***	***10,277***	***17,039***	***19,559***	***23,182***	***29,380***	***33,639***	***39,733***	***42,053***	***48,042***
… … Prepaid and risk- pooling plans	337	400	463	774	996	1,095	1,194	1,717	2,208	2,466	2,871
… … Private firms and corporations, excl private insurance	1,405	1,667	1,929	3,255	3,875	5,044	5,789	6,225	6,931	7,740	9,012
… … Non-profit institutions serving households (e.g. NGOs)	219	252	279	278	293	316	344	382	407	422	446
… … Private households' out-of-pocket payment	***6,347***	***7,089***	***7,606***	***12,732***	***14,396***	***16,727***	***22,053***	***25,316***	***30,186***	***31,424***	***35,712***

Source: WHO, 2007.

1.4. District Level Health Expenditures – District Health Accounting in Indonesia

A series of studies of district level expenditures (DHA), mostly sponsored by externally funded projects, has been undertaken. Particularly since decentralization, but in some instances even before, there has been an interest in examining the composition of health expenditures at the sub-national level, as an input to improved planning and budgeting processes. A series of studies of district level expenditures, mostly sponsored by externally funded projects, has been undertaken. In 2004, WHO commissioned a synthesis study.[79] It appears that the utility of the studies is limited, as the comparability of findings between various studies has been undermined by inconsistent coverage and classification systems.

In Indonesia various systems for sub-national health accounting have been developed, but the MoH has not yet decided on which system to use, as responsibilities for budgeting requirements remain unclear and, subsequently, large differences in the quality of accounting across districts are observed. There are two main systems that are currently being used by about 20 percent of the districts in Indonesia: first, a system developed by UI in collaboration with WHO and, second, a system developed by the MoH's Bureau of Finance. Both systems were disseminated in the districts by teams of experts who trained local government health office (Dinas Kesehatan) staff for short periods of time. Despite training efforts of UI, WHO, and MoH local capacity for DHA is limited, particularly in terms of using the systems for the actual analysis of funding gaps, and (re)aligning budgets with local priorities.

More recent initiatives offer new opportunities. In recent years, a number of districts have participated in an initiative from the MoH Bureau of Finance, which has sought to record and classify district level expenditures in some detail. It is unclear whether this effort has yielded any useful results, because it is subject to the same limitations as previous studies, while the computer software provided to districts to input their data incorporates a number of arbitrary assumptions and divisions of values entered, resulting in a cumbersome and non-transparent data array. In 2007, under the auspices of the GTZ SISKES project, a fresh attempt was made to develop a framework for the recording and classification of district level public (main system only) expenditures on health, which expanded on previous efforts by including significant non-budgetary flows. Despite its still limited coverage, this endeavor was designed to be aligned to NHA, using the same basic classification system and terminology.

Table A.3 Types of analysis and expenditure data characteristics

Type of analysis:	Aspects of analysis:	Data source and concerns:	Chapter
Cross-country Analysis	Health expenditures (total: public and private) compared to other countries	WDI data – These figures estimate sub-national public expenditures and are hence slightly different from the Indonesia figures constructed with MoF data which use actual sub-national expenditures	Various Chapters
Cross-sectoral Analysis	Health compared to other sectors	Estimates based on MoF public expenditure data.	Chapter 3 – Section 3.1
Aggregate trends, expenditures by level of government, and budget classification	Public health expenditures over time and by level of government – distinctions can be made between routine and development expenditures as well	Estimates based on MoF public expenditure data. Classification mechanisms have changed over time, but can be regrouped allowing for analysis of routine versus development spending.	Chapter 3 – Section 3.2, 3.4, and 3.5
Economic classification of health expenditures – Central Level	Public health expenditures by economic classification for central government	Estimates based on MoH expenditure data – the data analyzed here are for 2006 only as for this year the most comprehensive data were made available. Aggregate figures for central spending from MoF and MoH differ slightly	Chapter 3 – Section 3.6

79 Mardiati et al, Synthesis study of District Health Accounts, WHO, 2004.

Economic classification of routine health expenditures – Sub-national Level	Routine public health expenditures by economic classification for sub-national governments	Estimates based on MoF routine expenditure data – Expenditures analyzed are available up to 2005.	Chapter 3 – Section 3.6
Functional classification of health expenditures – Central Level	Public health expenditures by functional classification for central government	Estimates based on MoH expenditure data – the data analyzed here are for 2006 only as for this year the most comprehensive data was made available. Aggregate figures for central spending from MoF and MoH differ slightly	Chapter 3 – Section 3.7
Functional classification of health expenditures – Sub-national Level	Public health expenditures by functional classification for sub-national governments	At present no nationally representative data is available for district spending by function or program. Particularly since after decentralization the system of expenditure reporting has changed and currently not all districts in Indonesia apply district health accounting. Even those that have DHA systems do not necessarily have data that allows for useful comparisons. In this PER a sub-set of 10 districts' health accounts data has been analyzed to provide initial insights in how to proceed with further analysis that will allow for representative comparisons at the national level.	Chapter 3 – Section 3.7

Annex B: Indonesia World Bank Ongoing AAA Portfolio for the Health Sector at a Glance

Product Type/ Code	Major AAA	Summary – Key Topics Addressed:	Delivery Status
TA	Support to Government-led "**Comprehensive Health Sector Review (HSR**)"	GoI is in the process of preparing for the new Medium-Term Development Plan (2009-14), in which the health sector is a key-topic. The World Bank-supported TA will provide policy options as inputs in the following core-areas: Health Financing; Health Work Force; Decentralization and other potential areas (Pharmaceuticals, Physical infrastructure, Management and Organization and Public Health).	Background Paper, February 2008 (completed); Interim report by December 2008; Final report by March 2009
		HEALTH FINANCING*	
ESW	**Health Financing (EW-P107276)**	▪ Assess the performance of the health financing system in Indonesia and highlight strengths and weaknesses of current public and private systems and proposed reforms; ▪ assess the impacts of the underlying factors affecting health financing including epidemiologic, demographic, and nutrition trends, current health and related (e.g., education) system configurations and policies, economic trends and decentralization issues, all in the context of the underlying political, institutional, and geographic realities of Indonesia; ▪ address the implementation and financing challenges brought about by Law 40/2004 introducing universal coverage through a NSHI scheme; and, ▪ address the need for additional policies to protect households from falling into poverty due to catastrophic health events.	Interim Report by June 2008 Input Report to Government HSR December 2009 Final Report Health Financing by June 2009
ESW	Fiscal Space and Macro-economic Picture	▪ The fiscal space analysis will examine options, opportunities, and constraints related to raising fiscal space for health by examining projections for economic growth, growth elasticity of health spending, as well as other health-sector specific issues that are pertinent for the government's resource envelope.	Chapter in Health Financing & Stand-alone Paper August 2008
ESW	Actuarial Estimates	▪ Perform an actuarial assessment of the differences in the baseline benefit packages and make recommendations for changes that would improve health outcomes, financial protection, the equity, and financial sustainability of the individual schemes	Chapter in Health Financing Paper
ESW	Provider Payment Methods	▪ This will assess how providers are paid and how services are purchased under existing programs in Indonesia. It will also review the international and regional evidence on this area and provide recommendations on what sort of policies should be adopted.	Chapter in Health Financing Paper
ESW	Health Public Expenditure Review - 'Investing in Indonesia's Health: *Challenges and Opportunities for Public Spending*'	▪ The AAA builds on the chapter on health spending published in the national PER 2007, but adds to it by including new information on: ▪ i) Public expenditures at the district level, ii) The flow of funds in the health sector; iii) Efficiency analysis and further assessments of quality and consumer satisfaction; and iv) Out-of-pocket spending and health insurance reforms.	Final Report May 2008

HEALTH WORK FORCE*			
ESW	Health Work Force	Health Labor Force Survey: ▪ Distribution of the health work force and deployment duration ▪ Dual practice, private sector and access to care ▪ What is the current status and deployment of health workers ▪ What is the impact of the emerging private sector for health care provision on access to care and quality of care received ▪ How do health workers decide to locate to remote areas and how have these decisions changed over time ▪ What are the factors affecting the duration of health worker employment	Interim Report December 2009 Input Report to Government HSR December 2009 Final Paper June 2009
TA	Background and Overview Paper	▪ Current Status of Health Work Force (Doctors, Nurses, Midwives) ▪ Current Health Work Force Policies ▪ Issues in Health Work Force in Indonesia ▪ Future Challenges	Background paper June 2008

* World Bank key areas to support GoI-led comprehensive Health Sector Review include decentralization which is cross-cutting and therefore not included here.

Annex C: What is the "Initiative for Public Expenditure Analysis" or IPEA?

This Public Expenditure Review for the Health Sector was funded through the Initiative for Public Expenditure Analysis and this annex provides background on the program.

1. Background of IPEA

In June 2004, the Indonesian government, local research institutions, and the international community (including the World Bank and the Netherlands Embassy) launched the Initiative for Public Expenditure Analysis (IPEA), which aims to meet the demands for analysis and capacity-building.

With macroeconomic stability regained, decentralization being implemented more smoothly than anticipated and increased budgetary flexibility expected in coming few years, this is an opportune time to explore options for the best possible use of Indonesia's public resource. Demands for public expenditure analysis are likely to increase given (i) the increase in role of fiscal policy in supporting growth, and (ii) that decentralization has become a reality the making public expenditure analysis more challenging.

IPEA aims to formalize existing good practice and provide an umbrella, as well as effective dissemination of existing activities, in the field of public expenditures and public financial management. IPEA envisions (i) the creation of products that are tailor-made and flexible to respond to client needs (ii) the implementation of processes that receive buy in from key policy makers, and (iii) effective capacity-building; while maintaining a clear focus on results and impact.

2. Objectives of IPEA

Two main objectives of IPEA are:

(i) **From good analytics to good policy**. IPEA seeks to provide a better understanding of actual government expenditures across administrative levels and sector, and to feed this analysis into policy dialogue to support movement towards a more accountable and service-oriented provision of public services.

(ii) **Capacity-building for our clients**. IPEA intends to build capacity of Indonesian institutions to carry out expenditure analysis on a regular basis. The audience is central and local policy-makers in government and parliament, as well as local research centers and other key stakeholders.

In addition, IPEA aims to provide the following capacity-building support to our clients:

(i) Targeted training and technical assistance for staff of ministries and research institutions.

(ii) Twinning of local research institutions with reputable institutions in the field of public expenditure analysis.

(iii) Secondments of staff from ministries and/or think-tanks to the World Bank for several months work to work on PER analysis.

3. Management Structure of IPEA

An important outcome in the administrative arena of the program is the creation of a strong steering committee, which had its first meeting on 6 April 2005 and has had regular monthly meetings since. The steering committee is composed of a core group consisting of representatives from the Coordinating Ministry of the Economy (EKUIN), the Ministry of Finance, Bappenas, LPEM (University of Indonesia) and the World Bank. Thirteen steering committee meetings involving wide participation by government officials have been conducted from April 2005 to February 2008.

4. Outcomes and Achievements of IPEA

Recent Outputs: January 2007 – December 2007

National expenditure review:

- **Second edition of - National Public Expenditure Review (PER) 2007: 'Spending for Development: Making the Most of Indonesia's New Opportunities' –** July 2007. The latest version of the national public expenditure review includes up-to-date local government expenditure figures as well as the latest economic outlook. The second edition was launched globally in Washington D.C. in July at a large seminar at HQ.

Sectoral public expenditure reviews:

- Updated Research Working Paper version of **'Investing in Indonesia's education: allocation, quality and efficiency of public expenditures'** – August 2007. Although the launch of the first version of the paper was in November 2006, the latest version of the document is an official World Bank Policy Research Working Paper (No: 4329), and as such has gone through a rigorous research board review, and is furthermore updated with the latest available data. Since its first launch four follow-up presentations for high level officials at MoNE, Bappenas, and the ESWG have been held as well as one presentation in Washington DC.
- IPEA is undertaking a **district education expenditure review** in preparation of the Education Sector Wide Approach, led by the WBOJ Education sector team. Data collection in four out of five provinces (8 out of 10 districts) in Indonesia has been completed for the review. The IPEA team presented the objectives and review methodology to officials at MoNE in September 2007.

Decentralization and intergovernmental fiscal relations:

- Research note on 'Oil Revenue Management, Domestic Petroleum Product Pricing, and Subsidies in Indonesia' is ready in draft version and undergoing final review. The preliminary results were presented to GoI in April 2007.

Support to MDG achievement report and activities on MDG financing:

- The IPEA team has been providing support to senior government officials in Bappenas who are responsible for the production of an official Indonesia MDG Monitoring report, to be finalized early 2008. The team provided technical support in terms of data analysis and quality monitoring and has presented on a variety of MDGs to the Bappenas team. Various PPT presentations have been delivered to the Bappenas team till date.

Regional public expenditure analysis:

- **A regional public expenditure review for Indonesia's Gorontalo province** is ready in draft version. In addition, a ***regional economic development report*** and an analysis of the Province's ***MDG achievements and challenges*** are available in first drafts. A regional workshop was held in August in Lombok where preliminary results were presented to a variety of regional stakeholders.

Indonesia Public Expenditures Website:

- IPEA completed the construction of an interactive English/Bahasa version of the initiative's website, containing its major deliverables as well as an online data-base, containing the latest public finance data (for various levels of government), accessible to the public. See www.publicfinanceindonesia.org

Outputs Delivered since Beginning of the Program

- **National Public Expenditure Review (PER) 2007: 'Spending for Development: Making the Most of Indonesia's New Opportunities'**. The PER is composed of various different chapters, covering the following topics: Fiscal Space and Macroeconomics Trends, Cross-sectoral Trends and Public Expenditures, Education Sector Expenditure Review, Health Sector Expenditure Review, Infrastructure Sector Expenditure Review, Public Financial Management, and Fiscal Decentralization and Regional Inequality.
- The PER first edition was launched at a national conference that gathered close to 300 stakeholders and policy makers on February 12, 2007. The PER's second edition with updated regional expenditure data was published in July and launched officially for a large global audience in Washington D.C.
- The PER and the budget datasets used therein are now available online on the new IPEA website at www.publicfinanceIndonesia.org
- **Public investment, fiscal space and expenditure allocation:** i) Fuel subsidy strategies; ii) Aggregate spending patterns across time, sectors, and levels of government; iii) Central government civil service wage bill management; iv) The timing and impact of recent fiscal policy measures: Implications for real growth in 2005-2006. December 2005

- **Sectoral public expenditure reviews:** i) Infrastructure finance in Indonesia; *ii)* Incidence of the electricity subsidy in Indonesia - May 2006; iii) Investing in Indonesia's education: allocation, quality and efficiency of public expenditures – October 2006 – An updated Policy Research Working Paper version of the note was published with the latest data in August 2007. The launch of the paper was in November 2006 and since four follow-up presentations for high level officials at MoNE, Bappenas, and the ESWG have been held. In addition, a presentation in Washington was held in January 2007; iii) A presentation on Health Financing was given by a senior health expert from Washington in June 2007. His insights will provide inputs into the Health PER work.
- **Decentralization and intergovernmental fiscal relations:** i) From DIPs to DAKs: A roadmap for implementing conditional grants; ii) On-lending and on-granting (presentation to senior government officials); iii) Improving local tax administration.
- **Regional public expenditure reviews:** i) Papua public expenditure analysis and capacity harmonization; ii) Aceh: Financing for reconstruction (draft); iii) Rebuilding a better Aceh and Nias (stocktaking of the reconstruction effort).
- **Public financial management**: i) PFM: Indonesia; Central Government Expenditures in 2005; ii) Review of the current planning and budgeting process.

Capacity Building for Our Clients and Outreach

IPEA has delivered several activities targeted to technical staff (typically echelon 3) with the following objectives: (i) enhance the practical skills of our counterparts required in their daily work; (ii) reduce the barriers between the different units and ministries.

Outputs Delivered:

- **Dissemination of the Public Expenditure Review 2007 in Regions of Indonesia: The PER Road-show:**
  - The IPEA PER Team traveled to various regions of Indonesia to present the results from the National Public Expenditure Review 2007 to universities, local governments and other regional stakeholders in the field. Presentations and seminars were held in Aceh, Palembang, Semarang, Mataram, Papua and Surabaya from March 5 to April 17.
  - The PER first edition was launched in Bahasa Indonesia to sub-national stakeholders at a large conference in Makassar, in May 2007.
  - The PER second edition was launched globally at WB HQ in Washington in July 2007.

- **Training in Financial Programming and MTEF:** aimed at developing targeted technical skills for a more effective planning and formulation of the government's Work Plan and national budget for FY 2007 and producing tailored outputs in financial management analysis that will subsequently be used to support the budget preparation process. Delivery and follow up activities:
  - *December 3-11, 2005*. Course in *Financial Programming* for government officials was delivered.
  - *December 14, 2005*. A course assessment and back-to-office report presented at the IPEA steering committee.
  - *February 2, 2006***.** A follow up working lunch was held with participants of the course, aimed at coordinating future activities to strengthen the macroeconomic framework of the government's National budget for FY 2007.
  - *April 16, 2006*. Technical discussions for the preparation of the 2007 macroeconomic framework.
  - *May 17-18, 2006*. Two day workshop with participants from Bappenas, MoF, Equin, and others as follow-up on the financial programming course, focused on its link with the Medium-Term Expenditure Framework.
  - *June –July 2006*. Secondment of Bappenas staff at the World Bank.

- **Training in Public Expenditure Analysis & Performance Based Budgeting (PBB):** aimed at introducing participants to performance-based budgeting and management in order to support the implementation plan of PBB as mandated by Law No. 17/2003. Delivery and follow up activities:
  - *May 4 to 9, 2006*. Delivery of the Course in Public Expenditure Analysis & Performance Based Budgeting, 'Managing Resource for Results'.
  - *May 31, 2006*. Back to office report, and facilitator's report was discussed with Steering Committee.

- *June 12, 2006*. Discussion lunch with participants of the course was held, in order to evaluate the training and discuss and plan future follow-up activities.
- *July 20, 2006*. Video Conference Lecture & Discussion Session 'Lessons Learned from International Experience with Performance Based Budgeting: The Case of South Africa'.
- *August 15, 2006*. Video Conference Lecture & Discussion Session 'Do's and Don'ts in Performance Based Budgeting: A Road-Map for Indonesia'
- *March- April 2007*. Senior public finance consultant provided technical assistance to DG budget at the Ministry of Finance and produced a report for the GoI with recommendations on how to move forward with the Performance Based Budgeting process, by suggesting specific modifications to budget request templates.

Annex D: Indonesian Government Policies and Strategies for the Health Sector

There are various[80] main sources of authoritative statements on the policy of the current administration, among these being the Presidential Regulation No. 7/2005 on the Medium-Term Development Plan 2004-2009 (RPJM 2004-2009), the Strategic Plan of the MoH 2005-2009 (Renstra), which was revised early in 2006, and the Government Annual Plan 2007 (the RKP 2007).

The Medium-Term Development Plan (RPJM) echoes the constitution in regarding access to health services as a basic right. It also views health development as an investment in human resources, and recognizes the role of improved health in economic development and poverty alleviation. It begins with a statement of problems that acknowledges the low level of, and disparities in, the health of the population, and their roots in poor environments and unhealthy behaviors. It also acknowledges the low performance of health services, manifest in the low quality, equity and reach of health services and the low numbers and uneven distribution of health workers. It then describes the target at the end of the plan period as improved public health by increasing access to health services, to be verified by the achievement of health status indicators: life expectancy reaching 70.6 years; infant mortality reduced to 26 per 1,000 live births; the maternal mortality ratio reduced to 226 deaths per 100,000 live births; and reduced prevalence of malnutrition in children under five from 25.8 to 20 percent.

The Medium-Term Development Plan 2004-09 announces six policy directions to attain the targets:

- Increasing the quantity, networks and quality of public health centers
- Increasing the quantity and quality of health personnel
- Developing a health insurance system for poor people
- Increasing awareness of environmental and behavioral factors in health
- Increasing health education
- Enhancing the equity and quality of primary health facilities

These broad policy directions are then elaborated in the form of a series of programs that broadly equate to the functional breakdown of the MoH budget. The program descriptions are largely in terms of activities, for example, to increase the availability of medicines and health supplies, but with no indication of the priority to be attached to each activity. How the activities will be performed, and how responsibility will be distributed between central and regional governments, and between public and private sectors, are not described. It is difficult to escape the impression that the plan largely ignores the existence of the private sector; there is just one mention in the description of 12 programs.

The MoH Strategic Plan 2004-2009 (Renstra) first appeared in August 2004, but was revised and reissued in May 2006. The introductory chapter explains the need for revision by reference to various problems and challenges which that have become heavier, more complex and more unpredictable since the original was prepared. It also explains that the revision was produced by means of four workshops involving all Echelon I and II officials of the MoH. Following a review of the challenges facing the MoH, and a declaration of the vision, mission and values underlying its role, the main strategies in the MoH Strategic Plan are identified as:

- Social mobilization and community empowerment for healthy living
- Improved quality of health services
- Improved surveillance of disease threats, and a revised health information system
- Increased health financing

Each of these strategies is elaborated in text and target statements. The first finds its main expression in the *desa siaga* concept, usually translated as "alert villages". The ideal is a community-supported, largely volunteer-staffed network focused around a modest static health facility. This facility is responsible both for identifying health needs and threats, and mounting appropriate responses in the form of basic services of preventive and promotive care, family

80 Occasional references are made to two earlier documents: the National Health System, and Healthy Indonesia 2010. The National Health System was originally issued in 1982, and was reissued, barely amended, in 2004. Healthy Indonesia 2010 appeared in 1999.

planning, pregnancy and delivery care, nutrition, and management of health emergencies. An improved quality of health services is to be brought about by an expansion of the service delivery network, increasing numbers and quality of human resource, and a supportive legal and regulatory framework. The improved health surveillance system is to be implemented by the increasingly active role of the community in identifying and reporting health problems in its area, and developing an outbreak investigation capacity. Increased health financing focuses on three themes: higher budgets for health, eventually reaching 15 percent of total expenditure at each level of government; health insurance starting with a scheme of health insurance for the poor (Askeskin); and facility level fund management. Prioritizing expenditure on prevention and health promotion within government budgets is specified as a target.

This statement of strategies is followed by a much longer section on programs, aligned to the principal budget headings used by the MoH, and a highly summarized statement of the resources required for implementation of the plan. As in the Medium-Term Development Plan, the means of implementing the stated policies are not clearly articulated. Nor is the mode of interaction with the regions that own and manage most of the provider systems where implicitly the interventions will take place.

On an annual basis the government presents its approach and policy directions for the health sector, among other sectors, in the government Annual Plan (RKP). The RKP follows the RPJM, but is more detailed in terms of the programs and activities. The objectives outlined for the health sector are the following:

- Improve free health services for poor households in Puskesmas (community health center) and 3rd class hospital wards to achieve 100 percent coverage levels;
- Fulfill the demand for health worker in 28,000 villages;
- Increase the percentage of villages that are able to achieve Universal Child Immunization (UCI) rates of 95 percent;
- Increase the case detection rate (CDR) of tuberculosis (TB) to 70 percent;
- Increase the CDR of dengue fever patients to 100 percent and also provide treatment for all patients;
- Increase the CDR of malaria patients to 100 percent and also provide treatment for all patients;
- Increase the CDR of people living with HIV/ AIDS (PLWHA) to 100 percent and also provide anti retroviral treatment (ART) for all patients;
- Increase the percentage of pregnant women who receive iron supplement (Fe tablet) to 80 percent;
- Increase the percentage of infants who receive exclusive mothers' milk to 65 percent;
- Increase the percentage of children under five year who receive Vitamin A supplements to 80 percent;
- Increase the percentage of food products that fulfill food safety requirements to 70 percent;
- Increase the coverage of production facilities audit in order to fulfill requirements in Good Medicine Production Practices (*cara pembuatan obat yang baik,* or CPOB) to 45 percent;
- Decrease the fertility rate to 2.17 per woman;
- Increase the number of active participants of family planning program to 29.2 million participants; and
- Increase the number of new participants of family planning program to 6.0 million participants.

The objectives are fulfilled through the activities outlined under the following focus areas:

RKP 2007 - Focus 5: Increase accessibility, distribution and quality of health services for the poor

a. Health services for the poor at third-class hospital wards with a provisional target for recommended health service for 76.8 million of poor or under-privileged citizens;
b. Health service for the under-privileged in Puskesmas and its network with a provisional target of basic health service for about 76.8 million of under-privileged citizens at Puskemas;
c. Health services for mother and child with a target of antenatal service (K4) of 87 percent and neonatal service visits (KN-2) of 87 percent, natal assistance by health workers of 85 percent, and baby visits of 80 percent; and
d. Increase in the number of facilities for basic health service with a provisional target of 1,500 Puskesmas, 2,200 assisting Puskesmas (Pustu), 28,000 rural health posts, 2,500 houses for doctors and Puskesmas paramedics.

Focus 6: Increase in paramedics and medical workers, particularly for basic health service in isolated and under-developed areas

a. Increase in medical workers, including specialist doctors, particularly for basic health services in Puskesmas and the Puskesmas network and also hospitals in municipalities/cities particularly in isolated, under-developed and

disaster areas with a target of providing and training 28,000 health workers and 56,000 health staff particularly in isolated, under-developed and disaster areas.

Focus 7: Prevention and eradication for transmittable diseases

a. Transmittable diseases eradication through prevention and eradication for transmittable diseases: 100 percent of dengue fever, malaria, HIV/AIDS patients found and cured, > 70 percent TB case detection rate and 95 percent of rural UCI;
b. Tropical transmittable disease research for TBC, dengue fever and malaria.

Focus 8: Management of under-nourished and malnourished problems in prenatal mothers, babies and children under-five

a. Management of under-nourished and malnourished problems in prenatal and lactating mothers, babies and children under-five through: complementary food intake to breast milk (*makanan pendamping air susu ibu*, or MP-ASI) for 1.2 million babies and children (6-24 months), Vitamin A for 2 million babies and 16 million children under-five/4 million *bufas,* Fe tablets for 4 million pregnant mothers, iodium capsules for 80 percent women in fertile age in heavy and medium endemic sub-district, and nutrition surveillance in 8,015 Puskesmas.

Focus 9: Usage increase of essential generic drugs, food safety, food and drugs supervision

a. Provision of essential drugs including program drugs: Rp 18,000/per capita/year;
b. Laboratory testing for drug sample, traditional drug, cosmetics, narcotics, psychotropic and other addictive substance (NAPZA), food, and household health training (*perbekalan kesehatan rumah tangga*, or PKRT) through laboratory testing on 97,000 samples; and
c. Provision of laboratory facilities and supplies with a provision target of: four new POM centers and 26 POM centers including six special labs, which fulfils 30 percent of the requirements from Good Laboratory Practice (GLP).

Focus 10: Revitalization of Family Planning Program (KB)

a. Network multiplication on governmental and private/non-governmental family planning (KB) service with a target of 65,000 family planning (KB) service areas providing promotion and counseling, and creating guarantee system for the payment of the KB program for the under-privileged, and also free contraception provision for 813,850 new under-privileged KB members (PB) and 9,534,600 under-privileged active KB members (PA);
b. Establishment, development, management and service of Teenager Reproduction Health Counseling and Information Center (Pusat Informasi dan Konseling Kesehatan Reproduksi Remaja, or PIK-KRR) with the target of 2,430 sub-districts with active and qualified PIK-KRR;
c. Increase in information access and family empowerment guidance service with the target of 45 percent (2.4 million) families becoming active BKB members, 38 percent (1.0 million) families becoming active BKR members, and 41 percent (0.9 million) families becoming active BKL members;
d. Intensification of advocate and communication, information, and education (KIE) of national KB program with the target of 14,300 villages/municipalities with community / religious leaders performing the advocate and KIE KB;
e. Enhancement of society-based field line operational network with the target of increasing the number of KB field worker supervisors (*pengawas petugas lapangan*, or KB-PPLKB) and trained KB field workers (*petugas lapangan*, or KB-PLKB/ *penyuluh* KB-PKB) of 26,500 workers;
f. Documentation of families and individuals within families with the target of 73,500 village/municipality performing the documentation and possessing the latest family record;
g. Competence increase for KB program managers and workers with the target of 26,500 PPLKB and PLKB/PKB which comply the competence standards; and
h. Provision of KB program service facilities and supplies with the target of providing KB program service supporting facilities and IT-based KB program information system development in the capital city and 33 provinces.

Annex E: PP No. 38 and Intergovernmental Roles and Responsibilities in the Health Sector

Sub-sector	Subordinate Sub-sector	Government	Provincial Administrations	District Administrations
1. Health Efforts	1. Disease Prevention and Eradication	1. Management of national scale epidemiologic surveillance of extraordinary occurrences 2. Management of national and international scale prevention and handling of potentially-epidemic communicable diseases as global commitment 3. Management of national scale prevention and handling of certain noncommunicable diseases 4. National scale handling of health issues caused by disasters and epidemic 5. Management of national scale health quarantine.	1. Implementation of provincial scale epidemiologic surveillance and investigation of extraordinary occurrences 2. Implementation of provincial scale prevention and handling of communicable diseases 3. Implementation of provincial scale prevention and handling of certain noncommunicable diseases 4. Control over operation of provincial scale handling of health issues caused by disasters and epidemic.	1. Implementation of district scale epidemiologic surveillance and investigation of extraordinary occurrences. 2. Implementation of district scale prevention and handling of communicable diseases. 3. Implementation of district scale prevention and handling of certain noncommunicable diseases 4. Operation of district scale handling of health issues caused by disasters and epidemic.
	2. Hygienic Environment	1. Management of National scale prevention and handling of environmental pollution	1. Implementation of provincial scale prevention and handling of environmental pollution	1. Implementation of district scale prevention and handling of environmental pollution 2. Environmental sanitation
	3. Community Nutrition Improvement	1. Management of national scale surveillance of malnutrition 2.a. Management of national scale handling of malnutrition.	1. Implementation of provincial scale surveillance of malnutrition. 2.a. Monitoring of provincial scale handling of malnutrition.	1. Implementation of district scale surveillance of malnutrition. 2.a. Implementation of district scale handling of malnutrition b. Improvement of family and community nutrition

Sub-sector	Subordinate Sub-sector	Government	Provincial Administrations	District Administrations
	4. Individual and Community Health Services	1. Management of national scale hajj health services 2. Management of health efforts and national reference 3. Management of national scale health efforts in border, remote, vulnerable and island areas. 4. Registration, accreditation, certification of health services pursuant to laws and regulations. 5.a. Granting licenses for certain health facilities	1. Guidance and control of provincial scale hajj health services 2. Management of certain secondary and tertiary reference health services. 3. Guidance and control of provincial scale health efforts in border, remote, vulnerable and island areas. 4. Registration, accreditation, certification of health services pursuant to laws and regulations. 5.a. Making recommendations to the government to grant licenses to certain health facilities. b. Granting licenses to health facilities involving class-B government non-teaching hospitals, special hospitals, equivalent private hospitals and supporting health facilities.	1. Delivery of district scale hajj health services. 2. Management of district-scale basic and secondary reference health services. 3. Implementation of health efforts in border, remote, vulnerable and island areas. 4. Registration, accreditation, certification of health services pursuant to laws and regulations. 5.a. Making recommendations to the government and the province to issue licenses for certain health facilities. b. Granting licenses to health facilities involving class-C and class-D government hospitals, equivalent private hospitals and group practice, general/specialist clinics and maternity clinics.
2. Health Financing	1. Public Health Financing	1.a. Establishment of norms, standards, procedures, and criteria for health care coverage b. Management of national health care coverage.	1.a. Management/ delivery, guidance, control of provincial scale health care coverage. b. Guidance and control of national health care coverage (Co-Administered Tasks).	1.a. Management/ delivery of health care coverage in accordance with local conditions. b. Delivery of national health care coverage (Co-Administered Tasks).
3. Health Human Resource	1. Increase in Number, Quality and Distribution of Health Workers	1. Management of strategic health workers 2. National scale macro efficient use of health workers. 3. Guidance and supervision over national scale education and training (diklat) and Training of Trainers (TOT) for health workers. 4. National scale registration, accreditation, certification of health workers pursuant to laws and regulations. 5. Granting licenses to foreign health workers in accordance with laws and regulations.	1. Provincial scale placement of strategic health workers, transfer of certain workers to other districts. 2. Provincial scale macro efficient use of health workers. 3. Provincial scale functional and technical education and training. 4. Provincial scale registration, accreditation, certification of health workers pursuant to laws and regulations. 5. Making recommendations to grant licenses to foreign health workers.	1. Use of strategic health workers. 2. District-scale efficient use of health workers. 3. District scale technical training. 4. District scale registration, accreditation, certification of health workers pursuant to laws and regulations. 5. Granting practicing licenses to certain health workers.

Sub-sector	Subordinate Sub-sector	Government	Provincial Administrations	District Administrations
4. Medicine and Health Supplies	1. Availability, Even Distribution, Quality, and Affordability of Medicines and Health Supplies	1. National scale provision and buffer stock management of drugs, certain health devices, certain reagents, and certain vaccines. 2.a. Registration, accreditation, certification of health commodities pursuant to laws and regulations. 3.a. Granting licenses to industries of health commodities, health devices, and Pharmaceutical Wholesalers (PBFs).	1. Provincial scale provision and buffer stock management of drugs, certain health devices, certain reagents, and certain vaccines. 2.a. Certification of production and distribution facilities of health devices, Class-II Home Health Supplies (PKRT). 3.a. Making recommendations to grant licenses to health commodity industries, PBFs, and Health Device Wholesalers (PBAKs). b. Granting licenses to PBF Branches and IKOT.	1. District scale provision and management of basic health service drugs, health devices, reagents and vaccines. 2.a. Sampling of pharmaceutical supplies in the field. b. Local inspection of pharmaceutical supplies production and distribution facilities. c. Supervision and registration of home-industry foods and beverages. d. Certification of health devices and Class-I PKRT. 3.a. Making recommendations to grant licenses to PBF Branches and Tradi tional Medicine Small Industries (IKOT). b. Granting licenses to pharmacies and drugstores.
5. Public	1.Empowerment of Individuals, Families, and Communities to Have Healthy Behavior and Develop Community-Based Health Efforts (UKBM).	1. Management of national scale health promotion	1.Implementation of Provincial scale health promotion	1. Implementation of District scale health promotion.
6. Health	1. Policies	1. Establishment of health-sector norms, standards, procedures and criteria	1. Guidance and control of health-sector norms, standards, procedures and criteria	1. Implementation, guidance and control of health sector operationalization.
	2. Health Research and Development	1.a. Management of national scale strategic and applied health research and development, and filtering of science and technology (Iptek). -	1.a. Implementation of health research and development in support of formulation of provincial policies. b. Management of provincial-scale regional health survey. c. Monitoring of provincial-scale health Iptek application.	1.a. Implementation of health research and development in support of formulation of district policies. b. Management of district-scale regional health survey. c. Implementation of Iptek filtering in district-scale health services.

Sub-sector	Subordinate Sub-sector	Government	Provincial Administrations	District Administrations
	3. Foreign Cooperation	1. Management of national-scale foreign cooperation in health sector	1. Implementation of provincial-scale foreign cooperation	1. Implementation of district-scale foreign cooperation
	4. Improvement of Supervision and Accountability	1. National-scale guidance, monitoring, evaluation and supervision	1. Provincial-scale guidance, monitoring, evaluation and supervision	1. District-scale guidance, monitoring, evaluation and supervision
	5. Development of Health Information System (SIK)	1. Management and development of national scale SIK and facilitation of the development of regional health information system.	1. Management of provincial scale SIK.	1. Management of district scale SIK.

Annex F: Health Work Force Salaries compared with Workers with Similar Education

Table F.1 Differences in monthly and hourly earnings—after controlling for individual characteristics

	Dependent Variable Log of Monthly Earnings Wages	Dependent Variable Log of Hourly Earnings
	Percentage Difference	Percentage Difference
Doctors	64 (6.2)	50 (5.0)
Nurses	23 (3.9)	25 (4.1)
Midwives	38 (4.2)	36 (4.0)
Other Health Staff	19 (4.5)	29 (6.2)
Age	7 (42.2)	8 (45.2)
Age square	0 (-35.4)	0 (-36.4)
Male	40 (49.5))	33 (40.5)
Rural	-21 (-36.3)	-16 (-25.5)
Educ. Diploma I & II	65 (28.0)	103 (38.7)
Educ. Akademi Diploma III	79 (35.1)	97 (40.2)
Educ. University Diploma IV	82 (55.2)	114 (68.5)
Constant	12 (55.2)	6 (227)
Observations	38,671	38,431

Source: World Bank staff estimates based on data from BPS, 2006.
Note: Conditional differentials are derived from the coefficients on the dummy variables for provinces in the multivariate regression of earnings (i.e. 100*(exp[b]-1), where b is the province-specific dummy coefficient estimate. Robust t-statistics reported in parenthesis. Significant at the 1 percent level. Earnings are defined as wage salary in cash plus wage salary in kind.

Annex G: The Distribution of the Probability of Absenteeism

The table below shows that although probabilities are not equal for all health workers, they do not seem to be very concentrated either, as the numbers found in the visits come close to those of the expected distribution in column 2.

Table G. 1 Distribution of absences of health workers across countries

Percent

	Percentage of providers who were absent many times in 2 visits			*For comparison: expected distribution if all providers had equal absence probability*		
	0	**1**	**2**	**0**	**1**	**2**
India	35.7	31.9	20.8	21.6	43.2	28.8
Indonesia	***46.1***	***41.0***	***12.9***	***36.0***	***48.0***	***16.0***
Peru	56.4	33.5	10.1	56.3	37.5	6.3
Uganda	52.0	38.0	10.0	39.7	46.6	13.7

Source: Chandhary et al., 2006.

Annex H: The Sectoral Distribution of National Public Expenditures for Indonesia

Table H. 1 Sectoral distribution of national public expenditures

Rp trillion

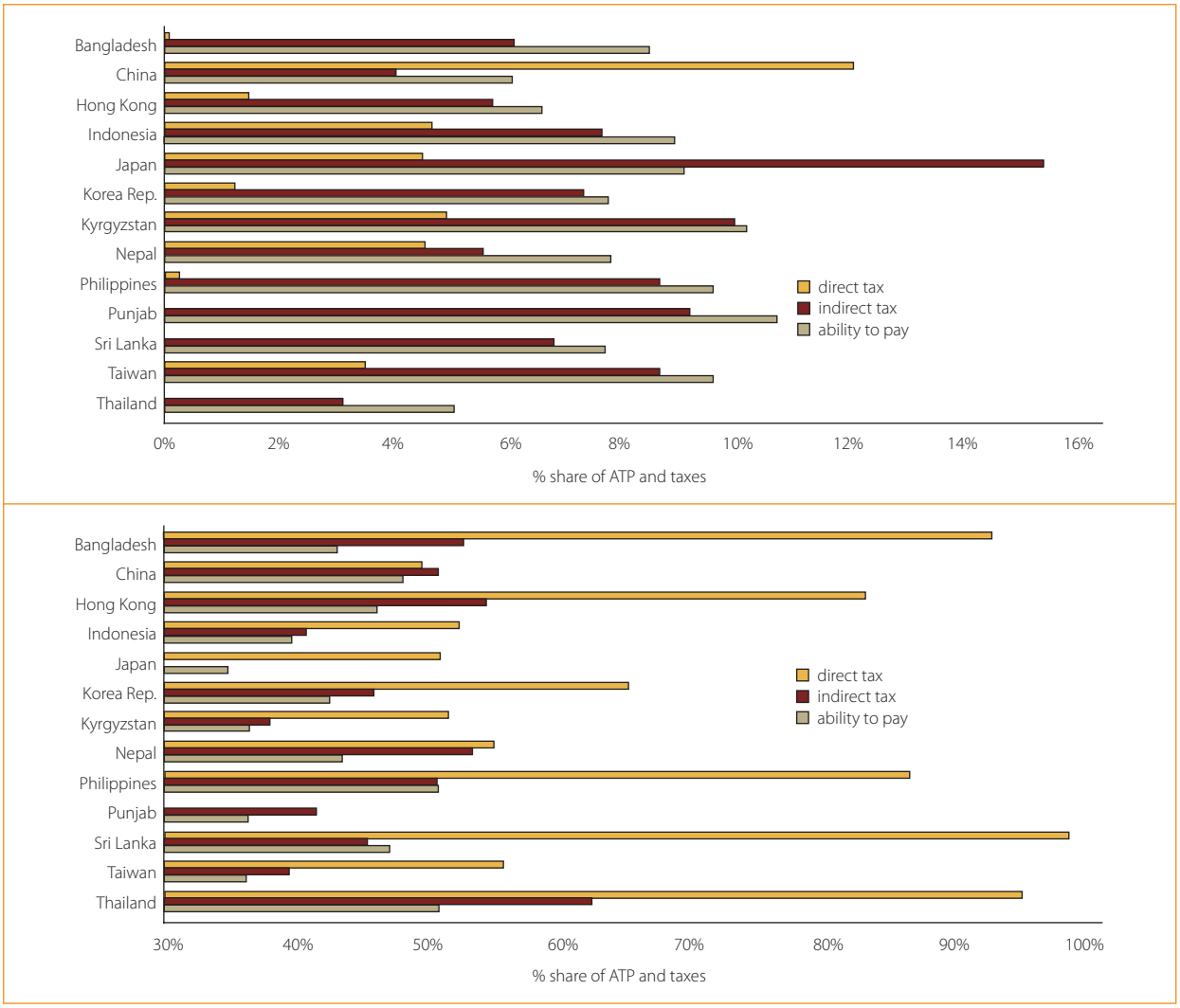
	2001	2002	2003	2004	2005	2006*	2007**
Agriculture	6.3	6.8	9	8.7	8.6	11.6	13.0
Education	40.5	43.1	54.3	48.8	52.9	75	80.9
Health	9.3	9.8	13.4	14	15.9	20.1	23.2
Mining	0.6	0.6	0.7	0.8	0.9	0.8	1
Trade, Nat. Business Dev., Finance & Corporate (includes debt service and subsidies)	192.8	133	126.3	151.1	167.2	175.9	175.9
Government Apparatus & Supervision Sector	31.7	31.3	42.7	42.6	45.3	66.5	63
Manpower Sector	0.6	0.9	1.3	1.2	1.1	1.5	1.5
Defense & Security	16.5	19.1	24.2	24.6	24.8	30.6	34.8
Environment and Spatial Planning	2	2.3	2.8	2.4	2.8	4.8	5.2
Infrastructure	32.4	31.5	43.3	32.7	38.8	49.5	50.7
Others	20.9	23.3	22	21.9	20.6	23.7	23.5
Total National	353.6	301.8	340	348.9	381.4	443.2	469.2

Source: World Bank staff calculations based on MoF and SIKD data.
Note: *= preliminary realization of APBN and estimates for sub-national spending, **= central government budget (APBN) and estimates for sub-national goverments.

Annex I: The Progressivity of Taxes and Ability to Pay

The figures below from the EQUITAP studies (O'Donnell and others 2005a, 2005b) confirm the progressivity of taxes in Indonesia as they outline the share of taxes for the richest and poorest quintiles of the population in a number of Asian countries.

Figure I. 1 Poorest (top) and richest (bottom) quintile share of taxes and ability to pay



Source: Equitap, WB 2005a/b.

Annex J: Sub-national Spending by Sector

Table J. 1 Spending at the sub-national level by sector, 2004

	Province		Kabupaten/kota		Total (Province + district/city)		Central / Deconcentrated		Total	
	(Rp bn)	(%)	(Rp bn)	(%)	(Rp bn)	(%)	(Rp bn)	(%)	(Rp bn)	(%)
Agriculture	1,823	6	4,201	4	6,024	4	2,679	8	8,703	5
Education	3,815	12	39,805	33	43,620	29	7,345	23	50,965	28
Health	3,000	9	8,108	7	11,108	7	2,395	7	13,503	7
Mining	195	1	74	0	269	0	230	1	499	0
Trade, NBD, FCS	479	1	681	1	1,160	1	185	1	1,345	1
Government Apparatus and Supervision Sector	12,327	38	35,529	30	47,856	32	613	2	48,469	26
Manpower Sector	426	1	452	0	878	1	177	1	1,055	1
National Defense and Security Sector	0	0	0	0	0	0	400	1	400	0
Environment and Spatial Planning	619	2	1,233	1	1,852	1	148	0	2,000	1
Infrastructure	8,321	26	17,147	14	25,468	17	14,099	43	39,566	22
Others	1,399	4	11,728	10	13,127	9	4,168	13	17,294	9
Total	**32,404**	**100**	**118,959**	**100**	**151,363**	**100**	**32,437**	**100**	**183,801**	**100**

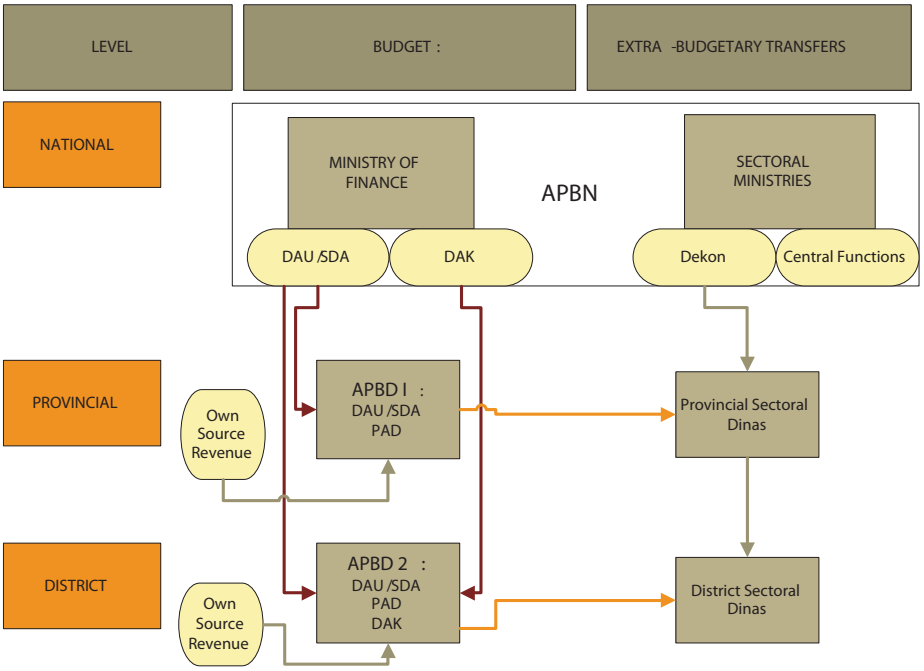
Source: World Bank staff calculation based on SIKD and DG Treasury data (MoF).
Note: NBD = National Business Development, FCS = Finance and Cooperative Sectors. Others category includes pensions, subsidy to subsidiary regions and other category. To avoid double counting the subsidy to subsidiary regions of the province is excluded. * = Preliminary figures from DG Treasury, MoF.

Annex K: Intergovernmental Fiscal Flow: General System Overview

When Indonesia implemented the decentralization law in 2001, its intergovernmental transfer system changed radically. The system shifted from earmarked funding to general grant allocations through the DAU (Dana Alokasi Umum), the implementation of revenue sharing between regions and new rights to issue a variety of (local) taxes. The heads of regions (districts and provinces) are no longer accountable to the central government, but are elected and held accountable by local parliaments. Administratively, the GoI allocated the responsibility for the implementation of most local service delivery including health services to the district governments.

Intergovernmental fiscal transfers are complex. Before decentralization,[81] central transfers were mostly in the form of earmarked grants. The largest of these transfers was the subsidy for autonomous regions (Subsidi Daerah Otonom, or SDO). Development spending was mostly financed by the Inpres (Instruksi Presiden) system, a presidential instruction fund that served an array of specific purposes, from re-greening to the construction of schools and public markets. After decentralization in 2001, central transfers were designed to minimize the vertical and horizontal fiscal imbalances incurred by regional governments and to subsequently implement the functions stipulated in the decentralization law. These transfers were called 'balancing funds' (*dana perimbangan*) and replaced the central transfers through SDO and Inpres. However, even after decentralization, 90 percent of funds reflected in regional budgets still come from the central level through the balancing funds and are composed of: DAU; SDA (Sumbur Daya Alam) or shared taxes, natural resource and revenue shares; and DAK (Dana Alokasi Khusus) or special transfers. Papua and Aceh also receive special autonomy transfers. In addition to these transfers from the central level, regional governments have their PAD (Pendapatan Asli Daerah) or own-source revenues.

Figure K.1 Intergovernment fiscal flows

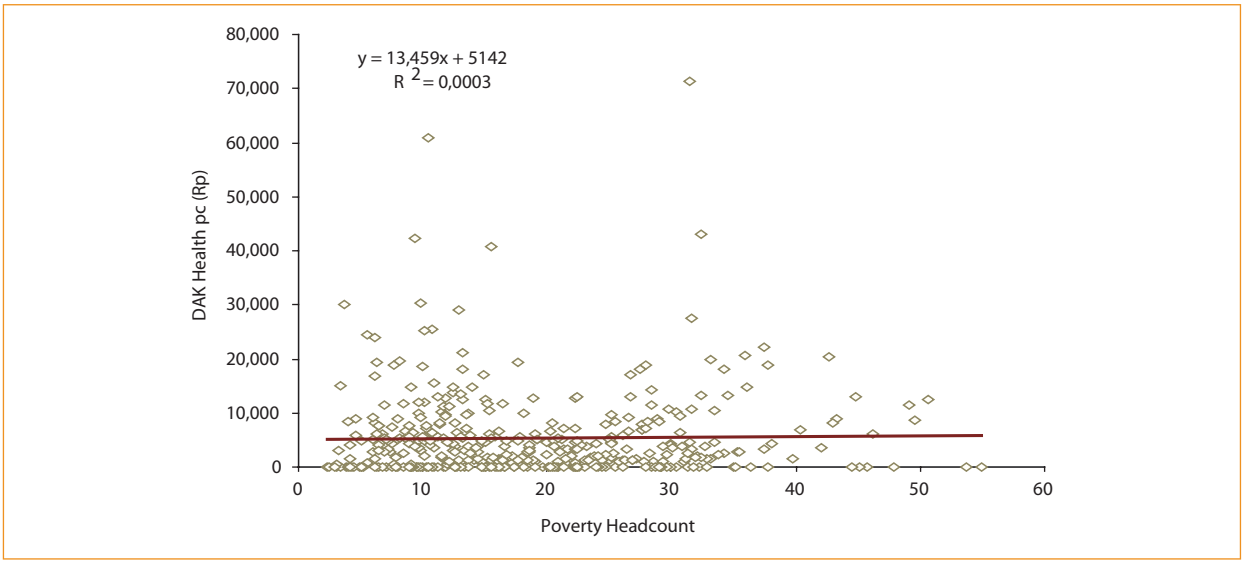


81 For a more detailed description of fund allocations before decentralization, the WB Indonesia PER 2007 provides an excellent overview

Annex L: DAK Allocations for the Health Sector and Equity Imbalances

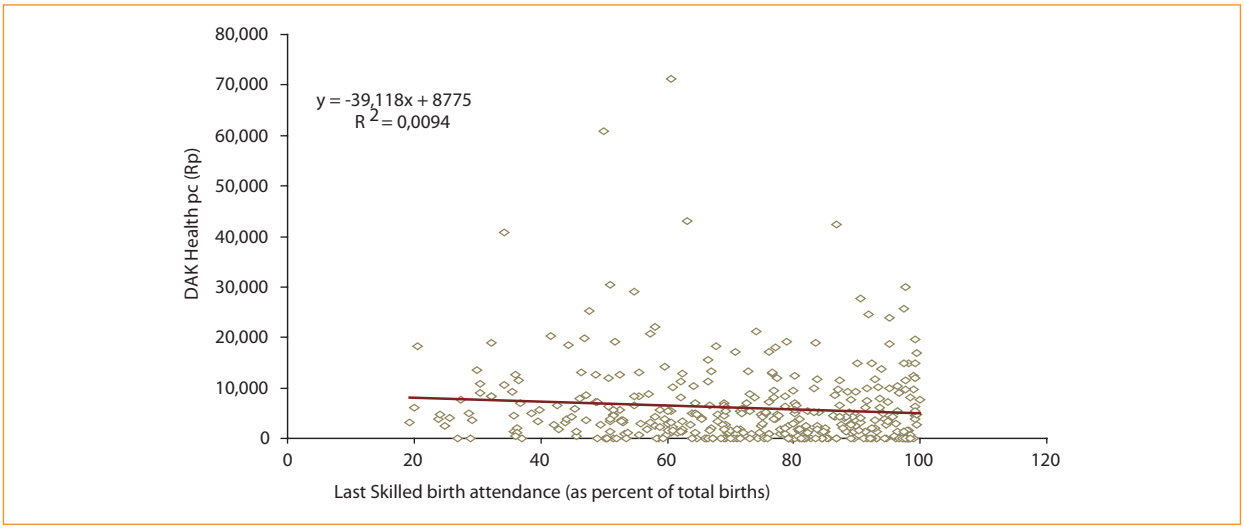
The following scatter plots (Figure K.1. and K.2.) illustrate the findings mentioned with regard to the equity aspects of DAK flow of funds. These charts show DAK health transfers only.

Figure L. 1 Health DAK allocations are not correlated with needs in terms of poverty headcount



Source: World Bank staff calculations based on data from SIKD, MoF.

Figure L. 2 Health DAK allocations are not correlated with needs in terms of outcomes



Source: World Bank staff calculations based on data from SIKD, MoF.

Annex M: Sub-national Revenues in Detail

Table M. 1 District/city and provincial revenues, 2004

District/city revenue	Rp bn	%	Provincial revenue	Rp bn	%
Local Taxes	**4,034**	**3**	**Local Taxes**	**20,084**	**43**
Electricity	2,037	50	Motor vehicle title transfer	9,058	45
Hotel and restaurant	1,009	25	Motor vehicle registration	6,608	33
Other	988	24	Other	4,419	22
User Charges	**3,423**	**3**	**User Charges**	**1,165**	**3**
Health	1,266	37	Health	523	45
Building permits	370	11	Building permits	157	14
Other	1,787	52	Other	485	42
Other own-source revenue	**2,702**	**2**	**Other own-source revenue**	**1,447**	**3**
Transfers	**112,080**	**92**	**Transfers**	**23,903**	**51**
Total	**122,239**	**100**	**Total**	**46,599**	**100**

Source: World Bank staff calculations based on SIKD and MoF data.

Annex N: Deconcentrated per Capita Expenditure for the Health Sector and Correlations with Outcome, Output and Poverty Indicators

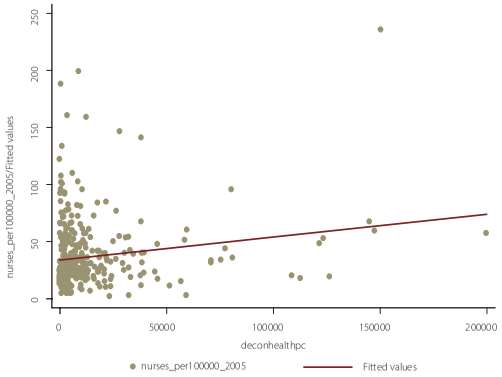
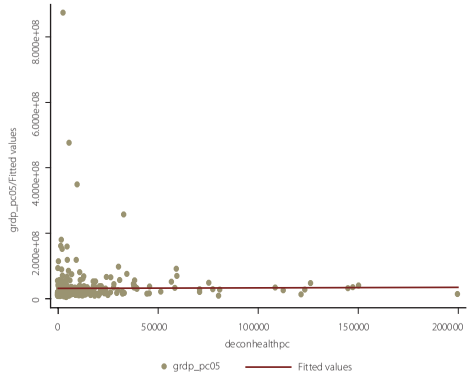
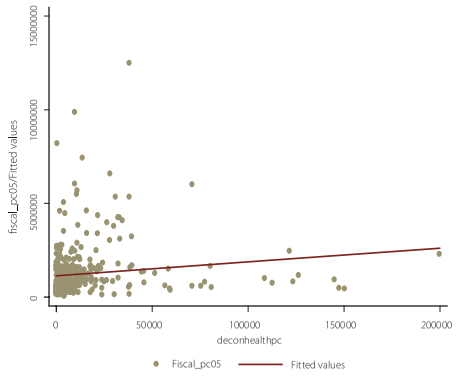
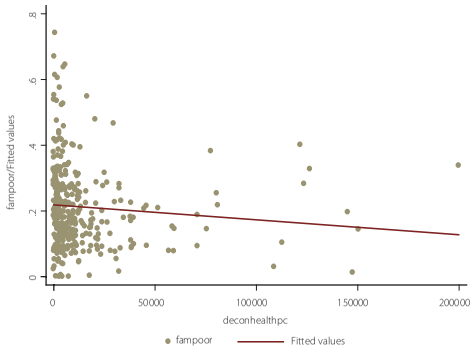
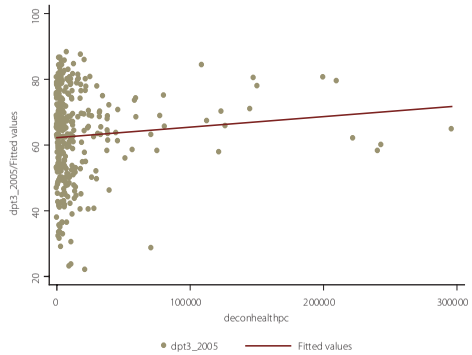
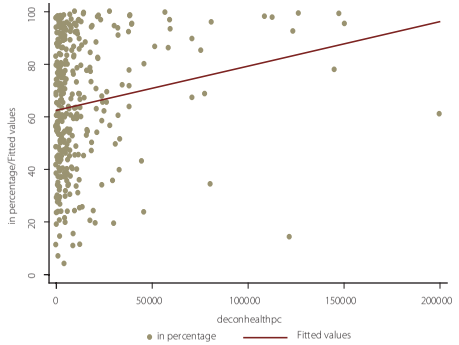
Table N.1 Pairwise correlations of deconcentration funds for the health sector per capita, and various indicators of importance for health policy-making

(Number of obs = 335)

	Decon health pc	Pop 05	GRDP pc 05	Fiscal capacity pc 05	DPT3 immun. Rate 05 DPT3 immun. Rate 05	No. Puskesmas per 100.000	No. hospitals per 100.000	No. doctors per 100.000	No. nurses per 100.000	First skilled birth attendance rate 05	% of rural population	% of families that have health card/ certificate of 'poor'
Decon health pc	1.000											
Pop 05	0.1395	1.000										
GRDP pc 05	0.0056	-0.0362	1.000									
Fiscal capacity pc 05	0.1301	-0.4190	0.1593	1.000								
DPT3 immun. Rate 05	0.1159	0.0543	0.0667	-0.0456	1.000							
No. puskesmas per 100.000	0.1347	-0.4173	-0.0411	0.2833	-0.0532	1.000						
No. hospitals per 100.000	-0.0287	-0.0087	0.0116	0.0328	0.1151	-0.1171	1.000					
No. doctors per 100.000	0.0100	-0.0124	0.0940	0.0434	0.1758	-0.2502	0.6094	1.000				
No. nurses per 100.000	0.1815	-0.3395	0.0061	0.2520	0.0113	0.5948	-0.0140	-0.1693	1.000			
First skilled birth attendance rate 05	0.1748	0.1023	0.1887	-0.0556	0.3231	-0.1817	0.2492	0.3057	-0.1604	1.000		
% of rural population	-0.3808	-0.2148	-0.2404	0.0646	-0.2807	0.2253	-0.1686	-0.2536	0.1449	-0.6544	1.000	
% of families that have health card/certificate of 'poor'	-0.0977	-0.0036	-0.1911	-0.1328	0.0429	-0.0963	-0.1289	-0.0953	-0.0370	-0.3253	0.2852	1.000

Source: World Bank staff calculations based on Podes 2005, Susenas (various years), SIKD database based on data from MoF.

Figure N.1 Scatter plots of deconcentration funds for health per capita and other outcome variables / poverty proxies

Decon health pc and nurses per 100,000 population	Decon health pc and GRDP pc 2005	Decon health pc and Fiscal capacity pc 2005
		
Decon health pc and % family receiving health card/ sktm	**Decon health pc and DPT3 immunization rate 2005**	**Decon health pc and rate skilled birth attendance 2005**
		

Source: World Bank staff calculations based on Susenas 2005 and SIKD.

Annex O: Hospital Service Indicators for Specialized Hospitals in Indonesia

Table O.1 Hospital indicators for specialized hospitals

Specialized hospitals	Public hospitals	Number of beds	Bed occupancy rate	Length of stay	Bed turn-over rate	Turn-over interval	Net death rate	Gross death rate	Average no of Visit outpatient unit per day
Psychiatric hospital	51	8,527	61.1	53.5	4.4	32.1	3.9	6.2	34
Pulmonary TB hospital	9	766	45.7	5.8	27.9	7.1	31.5	55.5	88
Leprosy infectious disease hospital	22	2,246	41.5	25.3	3.9	55.7	23.2	37.4	20
Infectious disease hospital	1	144	40	4.7	35.8	6.1	38.6	68.9	133
Orthopedic hospital	1	187	56.4	10.6	19	8.4	2	4	93
Eyes hospital	10	475	32.5	3	36	6.9	0	0	190
Maternity hospital	55	2,533	35.5	3	42.3	5.6	2.8	7.7	28
Cardiac hospital	2	234	69.5	6.8	35.8	3.1	22.8	47.4	268
Mouth and dental hospital	11	0							108
Other special hospital	111	5,368	42.2	4.2	41.5	5.1	8.4	15.2	61

Source: Based on data from MoH, 2007a.

Annex P: Public Spending, Utilization and Health Outcomes

I) Data-set / Variables:

1) Outcome (Dependent) Variables:

- **Skilled Birth Attendance (first delivery) 2005:**
  - Label: first_skilled_birth_attendance05
  - Source: Susenas Household Survey 05
  - Unit of measurement: District average rate.
- **DPT3 Immunization rate 2005:**
  - Label: dpt3_2005
  - Source: Susenas Household Survey 2005
  - Unit of measurement: Average district immunization rate

2) Other (Independent) Variables:

- Log Public Health Expenditures 2004:
  - Label: lnhealthpc04
  - Source: SIDK 2004
  - Unit of measurement: Log public health expenditures districts 2004
- Log GRDP per capita 2005
  - Label: lngrdppc05
  - Source: BPS
  - Unit of measurement: Log GRDP per capita measured
- Log Household Expenditures per capita 2005:
  - Label: lnhhexp
  - Source: Susenas 2005, BPS
  - Unit of measurement: per capita household expenditures (annual – based on 12 times monthly), in Indonesian Rupiah.
- Total utilization 2005/06
  - Label: totalut
  - Source: WB calculations based on Susenas 2005/2006
  - Unit of measurement: district average annual visit rate public and private providers, inpatient and outpatient combined
- Percent of Female Population
  - Label: percfemale
  - Source: BPS
  - Unit of measurement: percentage of female population at the district level
- Average years of female education 2005
  - Label: avg_fem_education_yrs05
  - Source: Susenas 2005, BPS
  - Unit of measurement: district average female years of education 2005
- Share rural population 2005
  - Label: poprural05
  - Source: Susenas 2005
  - Unit of measurement: district share of rural population 2005

II) Regression Outcomes:

Simple Regression Analysis: Regressing Public Spending on Outcomes

1. Log Health Spending on DPT3 Immunization Rates

```
      Source |       SS       df       MS              Number of obs =     247
-------------+------------------------------           F(  1,   245) =    1.52
       Model |  282.110646     1  282.110646           Prob > F      =  0.2181
    Residual |  45340.9653   245  185.065165           R-squared     =  0.0062
-------------+------------------------------           Adj R-squared =  0.0021
       Total |   45623.076   246  185.459658           Root MSE      =  13.604

------------------------------------------------------------------------------
   dpt3_2005 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
lnhealthpc04 |   1.676189   1.357612     1.23   0.218    -.9978906    4.350269
       _cons |    45.7016   14.73892     3.10   0.002     16.67044    74.73277
```

2. Log Health Spending on Skilled Birth Attendance

```
      Source |       SS       df       MS              Number of obs =     252
-------------+------------------------------           F(  1,   250) =    2.43
       Model |  1273.20888     1  1273.20888           Prob > F      =  0.1200
    Residual |  130811.671   250  523.246685           R-squared     =  0.0096
-------------+------------------------------           Adj R-squared =  0.0057
       Total |   132084.88   251  526.234582           Root MSE      =  22.875

------------------------------------------------------------------------------
first_ski~05 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
lnhealthpc04 |    3.50485   2.246843     1.56   0.120    -.9203049    7.930004
       _cons |   29.95752   24.42915     1.23   0.221    -18.15565     78.0707
------------------------------------------------------------------------------
```

Multiple Regression Analysis: Step 1. Adding Income, Education and Percent Female

1. DPT3 Immunization as an Outcome

```
      Source |       SS       df       MS              Number of obs =     247
-------------+------------------------------           F(  5,   241) =    0.84
       Model |  778.919432     5  155.783886           Prob > F      =  0.5244
    Residual |  44844.1566   241  186.075338           R-squared     =  0.0171
-------------+------------------------------           Adj R-squared = -0.0033
       Total |   45623.076   246  185.459658           Root MSE      =  13.641

------------------------------------------------------------------------------
   dpt3_2005 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
lnhealthpc04 |   .9366698   1.444997     0.65   0.517    -1.909766    3.783105
  lngrdppc05 |    .543605   1.713661     0.32   0.751    -2.832061    3.919271
     lnhhexp |   .0559915   2.328407     0.02   0.981    -4.530636    4.642619
avg_fem_e~05 |   .6044749   .4916408     1.23   0.220    -.3639867    1.572937
  percfemale |   39.55924   75.05244     0.53   0.599    -108.2833    187.4017
       _cons |   21.02399   55.25051     0.38   0.704    -87.81158    129.8596
------------------------------------------------------------------------------
```

2. Skilled Birth Attendance as an Outcome

Many variables yield significant results, but public spending remains insignificant

```
      Source |       SS       df       MS              Number of obs =     247
-------------+------------------------------           F(  5,   241) =   29.24
       Model |   48983.277     5  9796.65541           Prob > F      =  0.0000
    Residual |  80746.8783   241  335.049287           R-squared     =  0.3776
-------------+------------------------------           Adj R-squared =  0.3647
       Total |  129730.155   246  527.358355           Root MSE      =  18.304

------------------------------------------------------------------------------
first_ski~05 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
lnhealthpc04 |  -2.737374   1.938995    -1.41   0.159    -6.556915    1.082168
  lngrdppc05 |   11.73566   2.299508     5.10   0.000     7.205962    16.26536
     lnhhexp |   9.591716   3.124416     3.07   0.002     3.437066    15.74637
avg_fem_e~05 |   2.907497   .6597172     4.41   0.000     1.607949    4.207045
  percfemale |    499.975   100.7105     4.96   0.000     301.5898    698.3602
       _cons |  -483.4696   74.13892    -6.52   0.000    -629.5126   -337.4265
------------------------------------------------------------------------------
```

Multiple Regression Analysis: Step 2. Adding Demographics – Percent Rural Population

'Remoteness' appears to matter for outcomes

1. DPT3 Immunization as an Outcome

```
      Source |       SS       df       MS              Number of obs =     247
-------------+------------------------------           F(  6,   240) =    3.79
       Model |  3950.11306     6  658.352176           Prob > F      =  0.0013
    Residual |  41672.9629   240  173.637346           R-squared     =  0.0866
-------------+------------------------------           Adj R-squared =  0.0637
       Total |   45623.076   246  185.459658           Root MSE      =  13.177

------------------------------------------------------------------------------
   dpt3_2005 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
lnhealthpc04 |   1.817865   1.411014     1.29   0.199    -.9616888    4.597418
  lngrdppc05 |   -1.41508   1.717673    -0.82   0.411    -4.798721     1.96856
     lnhhexp |  -1.948479   2.297626    -0.85   0.397    -6.474567    2.577609
avg_fem_e~05 |  -.6955321   .5639947    -1.23   0.219    -1.806544    .4154797
  percfemale |   -4.36225   73.22549    -0.06   0.953     -148.609    139.8845
  poprural05 |  -16.23366   3.798627    -4.27   0.000    -23.71656   -8.750753
       _cons |   106.9974   57.03757     1.88   0.062    -5.360825    219.3555
------------------------------------------------------------------------------
```

2. Skilled Birth Attendance as an Outcome

```
      Source |       SS       df       MS              Number of obs =     247
-------------+------------------------------           F(  6,   240) =   33.88
       Model |  59495.9141     6  9915.98568           Prob > F      =  0.0000
    Residual |  70234.2412   240  292.642672           R-squared     =  0.4586
-------------+------------------------------           Adj R-squared =  0.4451
       Total |  129730.155   246  527.358355           Root MSE      =  17.107

------------------------------------------------------------------------------
first_ski~05 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
lnhealthpc04 |   -1.13296   1.831802    -0.62   0.537    -4.741423    2.475504
  lngrdppc05 |   8.169434   2.229913     3.66   0.000     3.776734    12.56213
     lnhhexp |   5.942125   2.982817     1.99   0.047     .0662811    11.81797
avg_fem_e~05 |   .5405413   .7321874     0.74   0.461     -.901793    1.982876
  percfemale |    420.006   95.06257     4.42   0.000     232.7425    607.2695
  poprural05 |  -29.55704   4.931441    -5.99   0.000    -39.27147   -19.8426
       _cons |  -326.9357   74.04714    -4.42   0.000     -472.801   -181.0704
------------------------------------------------------------------------------
```

Multiple Regression Analysis: Step 3. Adding Utilization

Utilization appears to matter for outcomes

1. DPT3 Immunization as an Outcome

```
      Source |       SS       df       MS              Number of obs =     247
-------------+------------------------------           F(  7,   239) =    6.17
       Model |  6980.14797     7  997.163996           Prob > F      =  0.0000
    Residual |  38642.928    239  161.685891           R-squared     =  0.1530
-------------+------------------------------           Adj R-squared =  0.1282
       Total |  45623.076    246  185.459658           Root MSE      =  12.716

------------------------------------------------------------------------------
   dpt3_2005 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
lnhealthpc04 |   1.835242   1.361594     1.35   0.179    -.8470168     4.5175
  lngrdppc05 |  -.4079133   1.673755    -0.24   0.808    -3.705109    2.889282
     lnhhexp |  -2.997748   2.230353    -1.34   0.180    -7.391409    1.395912
avg_fem_e~05 |   -.698937   .5442394    -1.28   0.200    -1.771056    .3731816
  percfemale |   -26.0902   70.83855    -0.37   0.713    -165.6378    113.4574
  poprural05 |  -11.90561   3.799465    -3.13   0.002    -19.39033   -4.420895
     totalut |   .3521381    .081344     4.33   0.000     .1918954    .5123808
       _cons |    103.034   55.04724     1.87   0.062    -5.405726    211.4737
------------------------------------------------------------------------------
```

2. Skilled Birth Attendance as an Outcome

```
      Source |       SS       df       MS              Number of obs =     247
-------------+------------------------------           F(  7,   239) =   33.12
       Model |  63878.1676     7  9125.45252           Prob > F      =  0.0000
    Residual |  65851.9877    239  275.531329           R-squared     =  0.4924
-------------+------------------------------           Adj R-squared =  0.4775
       Total |  129730.155    246  527.358355           Root MSE      =  16.599

------------------------------------------------------------------------------
first_ski~05 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
lnhealthpc04 |  -1.112062   1.777449    -0.63   0.532    -4.613529    2.389405
  lngrdppc05 |   9.380663   2.184949     4.29   0.000     5.076447    13.68488
     lnhhexp |   4.680264   2.911542     1.61   0.109    -1.055298    10.41583
avg_fem_e~05 |   .5364466   .7104596     0.76   0.451    -.8631158    1.936009
  percfemale |   393.8757   92.47388     4.26   0.000     211.7078    576.0437
  poprural05 |  -24.35208   4.959889    -4.91   0.000    -34.12276   -14.5814
     totalut |   .4234849   .1061878     3.99   0.000     .2143014    .6326685
       _cons |   -331.702   71.85964    -4.62   0.000    -473.2612   -190.1429
------------------------------------------------------------------------------
```

Multiple Regression Analysis: Step 4. Unveiling 'Percent Rural', adding Supply Side Indicators

Distance to midwives matters for skilled birth attendance, but distance to puskesmas does not appear to affect DPT3 immunization levels.

1. DPT3 Immunization as an Outcome

```
      Source |       SS       df       MS              Number of obs =     247
-------------+------------------------------           F(  8,   238) =    5.39
       Model |  6999.48981     8  874.936226            Prob > F      =  0.0000
    Residual |  38623.5862   238  162.283976            R-squared     =  0.1534
-------------+------------------------------           Adj R-squared =  0.1250
       Total |   45623.076   246  185.459658            Root MSE      =  12.739

------------------------------------------------------------------------------
   dpt3_2005 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
lnhealthpc04 |   1.983383    1.43001     1.39   0.167    -.8337111    4.800477
  lngrdppc05 |  -.3535302    1.68423    -0.21   0.834    -3.671433    2.964373
     lnhhexp |  -3.071432   2.244645    -1.37   0.172     -7.49334    1.350477
avg_fem_e~05 |  -.6573825   .5583729    -1.18   0.240    -1.757367    .4426018
  percfemale |  -34.00837    74.5836    -0.46   0.649    -180.9367    112.9199
  poprural05 |  -11.19183   4.331745    -2.58   0.010    -19.72529   -2.658377
    totalut  |   .3442258   .0846557     4.07   0.000     .1774557    .5109959
dist_pusk~05 |  -.0548878   .1589882    -0.35   0.730    -.3680917     .258316
       _cons |   105.3667   55.56137     1.90   0.059    -4.088114    214.8216
```

2. Skilled Birth Attendance as an Outcome

```
      Source |       SS       df       MS              Number of obs =     247
-------------+------------------------------           F(  8,   238) =   36.26
       Model |   71260.377     8  8907.54712            Prob > F      =  0.0000
    Residual |  58469.7783   238  245.671338            R-squared     =  0.5493
-------------+------------------------------           Adj R-squared =  0.5341
       Total |  129730.155   246  527.358355            Root MSE      =  15.674

------------------------------------------------------------------------------
first_ski~05 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
lnhealthpc04 |   2.343023   1.792822     1.31   0.193    -1.188804     5.87485
  lngrdppc05 |    8.65161   2.067443     4.18   0.000     4.578786    12.72443
     lnhhexp |   2.862303   2.769184     1.03   0.302    -2.592939    8.317545
avg_fem_e~05 |   1.777955   .7080577     2.51   0.013     .3830941    3.172815
  percfemale |   268.4203   90.26881     2.97   0.003     90.59242    446.2482
  poprural05 |  -10.66713   5.307247    -2.01   0.046    -21.12231   -.2119524
    totalut  |   .3620481   .1008934     3.59   0.000       .16329    .5608062
dist_midwf05 |  -.4446678   .0811185    -5.48   0.000    -.6044697   -.2848659
       _cons |   -278.327   68.54926    -4.06   0.000    -413.3678   -143.2863
------------------------------------------------------------------------------
```

Other Effects of Spending: Spending on Utilization

1. Spending on Utilization: No Significant Effect

```
      Source |       SS       df       MS              Number of obs =     247
-------------+------------------------------           F(  6,   240) =    7.06
       Model |  4310.97101     6  718.495169            Prob > F      =  0.0000
    Residual |  24435.5197   240  101.814665            R-squared     =  0.1500
-------------+------------------------------           Adj R-squared =  0.1287
       Total |  28746.4907   246  116.855653            Root MSE      =   10.09

------------------------------------------------------------------------------
     totalut |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
lnhealthpc04 |  -.0493469   1.080476    -0.05   0.964    -2.177773     2.07908
  lngrdppc05 |  -2.860148   1.315298    -2.17   0.031    -5.451151   -.2691454
     lnhhexp |   2.979709   1.759393     1.69   0.092     -.486116    6.445534
avg_fem_e~05 |    .009669   .4318755     0.02   0.982    -.8410816    .8604197
  percfemale |   61.70292   56.07198     1.10   0.272    -48.75314     172.159
  poprural05 |  -12.29077   2.908776    -4.23   0.000    -18.02076   -6.560778
       _cons |   11.25507   43.67618     0.26   0.797    -74.78253    97.29267
------------------------------------------------------------------------------
```

Annex Q: Efficiency Analysis at the Sub-national Level

In this Annex details are provided on the choice of indicators and the methodology regarding the construction of the constraints index. Further, results based on a dataset excluding public expenditure indicators as inputs are provided here, as these include more observations for Papua province, a province generally of interest to policy-makers given the regions relatively low performance on a number of human development and MDG indicators.

Output Indicators:

In terms of output indicators, we have included female life expectancy, DPT3 and measles vaccinations as well as skilled birth attendance (first). It was decided not to include male life expectancy since female and male life expectancy are highly correlated, and for the latter indicator data was missing for 67 districts, thereby limiting the number of districts that could be included in the exercise.

A correlation table for the outcome indicators is provided below. Note that while DPT3 and measles are correlated, the strength of the correlation is limited and hence both variables are included.

Table Q.1 Outcome indicator correlations

Correlations	DPT3 2005	Measles 2005	Skilled birth attendance (first)	Female Life Expectancy	Male Life Expectancy
DPT3 2005	*1.0000*				
Measles 2005	0.4754	*1.0000*			
Skilled birth attendance (first)	0.3153	0.1564	*1.0000*		
Female Life Expectancy	0.2014	0.1296	0.4338	*1.0000*	
Male Expectancy	0.2019	0.1304	0.4336	0.9998	*1.0000*

Source: World Bank staff calculations based on Susenas 2006 and the BPS census.

Input / Constraint Index Indicators:

With regard to input indicators to generate the constraints index and the input index, we chose to include the following:

- *Economic Indicators*: GRPD per capita 2005, as well as fiscal capacity 2005 as measured as fiscal revenues per capita. Both were included because correlation was limited.
- *Spending Indicator:* Public health spending per capita for 2004 (for later years the data are only available for about 60 percent of the districts).
- *Political commitment proxy:* Public health spending as a share of total.
- *Access:* Service area of hospitals and Puskesmas in km2.
- *Human Resource:* Number of doctors and nurses per 100,000 population
- *Infrastructure:* Number of Puskesmas per 100,000 population.

Table Q.2 Input indicators correlations: GRDP and fiscal capacity

Correlations	GRDP 2005	Fiscal Capacity 2005
GRDP 2005	*1.0000*	
Fiscal Capacity 2005	0.1410	*1.0000*

Table Q.3 Input indicators correlations: Health spending indicators

Correlations	Public health spending per capita 2004	Public health spending share of total district spending 2004
Public health spending per capita 2004	*1.0000*	
Public health spending share of total district spending 2004	0.423	*1.0000*

Methodology Regarding Generation of the Overall Constraints Index

In order to aggregate across the variables, which have different ranges, means and standard deviations, we have first 'normalized' each of the variables. This involves subtracting the mean and dividing by the standard deviation. The resulting distribution of values has a mean value of 0 and a standard deviation of 1. The index is formed by taking the simple sum of the normalized value for each of the variables. The result of the normalizing is that each of the variables is given equal weight (Ranson et al, 2003).

Excluding Public Expenditures from the Efficiency Index

In this analysis input variables related to public expenditures on health were included, particularly because they are often seen as one of the few inputs directly controllable by policy-makers. Due to limited data availability, these variables were not included in the research on health sector efficiency performed by Tandon (2004), and hence the results obtained here are slightly different. Also, by including these variables, the data-set decreased in size, as for about 100 out of Indonesia's 440 districts, data on public health expenditures were missing, and for those districts that had no data no index score was created.

The districts that were dropped from the dataset were not however a random selection of districts. There might be particular reasons for which some of these districts are missing data. For example, most districts in Papua province are excluded from the analysis due to a lack of data, partially resulting from limited local government capacity in terms of data collection and information management. By excluding these districts from the index, one might thus 'overestimate' the efficiency of Indonesian districts. At the same time, without looking into the dropped districts in more detail it would be difficult to understand the exact nature of the bias present in the current analysis.

Annex R: The Limitations of Efficiency Analysis

Efficiency analysis using frontier estimations has a number of shortcomings and one needs to be highly cautious attributing too much value to these analyses in terms of it yielding specific policy guidelines. In this Annex the most common critiques to the efficiency 'frontier' approach used in this report are outlined. In particular arguments posed by Ravallion (2005) are discussed.

Recently, Ravallion (2005) has written an incisive critique of the methods available for measuring efficiency in terms of service provision, and his recent critique focuses on the application of these methodologies to the education and health sectors.

First, Ravallion puts forward the valid point that it is rather difficult to perceive outcomes such as maternal mortality and immunization rates as the result of a production process using certain inputs. He argues that one needs to also account for differences in initial conditions, and it is important to recognize that health outcomes are a function of both supply and demand factors. For example, public spending on health in Indonesia may appear very efficient if the government does not spend a lot on the sector, and mortality rates are very low as a result of private sector healthcare provision. This would clearly not be the right way to interpret the estimated efficiency.

Another problem with efficiency analysis relates to the fact that there can be significant time lags between the inputs and any impact on the outputs. Unlike traditional production functions, changes in public expenditure in a single year may yield discernible changes in child mortality only after a gap of several years.

Overall, it appears that estimating efficiency using social production functions for cross-country comparisons is unlikely to be of much use in terms of providing specific policy guidelines. What efficiency analysis *can* do is help contextualize a country's, or district's performance, and it can be of use in helping to identify how far these units are from their potential.

Annex S: Characteristics of Indonesian Health Insurance Schemes

Characteristics	Askes – Social Health Insurance	Jamsostek	Private Health Insurance & Self Insured	Jpkm	Community Based	Askeskin
Scheme Nature						
1.1 Beneficiaries	Compulsory	Compulsory, opting out for employers that could provide better benefit plans	Fringe benefit	Voluntary	Voluntary	Social insurance
1.2 Model	Social health insurance	Social health insurance		Managed care model		Social health insurance
1.3 Covered Population	Active civil servants and their dependants (spouse and limited up to the third child), retirees of civil servant and military.	Private Formal Employees and their dependants	Private formal employees and their dependants	Informal sector, civil servants/military for their uncovered dependants	Informal sector	Identified poor, based on the individual/ household targeting
1.4 Coverage	15 million (Askes) (Susenas '06: 12 millions)	5.5 million (data Jamsostek)	6,600,000 (Susenas '06)	540,000	-	54 million (64%)
Benefit Package						
2.1 Ambulatory services	Public only	Public and private, or private only	Private. In some areas where private not available, public	Mostly public, in few cases private	Public only	Public
2.2 Inpatient services	Public only	Public and private contracted, or private only	Private. In some areas where private not available public	Mostly public	Usually not covered; Public only	Public, and also private facilities
2.3 Choice of provider	Limited to public provider, registration required	Registration required	Free, or registration required	Registration required	Registration required	Registration required
2.4 Conditions included	Comprehensive package	Comprehensive package	Comprehensive package	Comprehensive package	Limited package, inpatient not included in the benefit	Comprehensive package
2.5 Conditions excluded	Limitations,	5 conditions	Vary by plans	Exclusions vary by plans	Specialist ambulatory and Inpatient services	4 limitations (hearing aid, lenses, etc), 6)
2.6 Maternity benefits	Yes, packaged payment for normal delivery	Yes, packaged payment for normal delivery	Yes	Yes	Yes, for the Maternity scheme	Yes

2.7 Annual physical check-ups	Yes	Yes	Yes	No	No	Excluded
2.8 Prevention and health promotion	Yes	Yes	Yes	Yes	Yes	Yes
2.9 Services not covered	Exclusions: cosmetics, physical check-ups, alternative medicine, dental prostheses, fertility treatment	Exclusions: Cancer treatment, heart surgery, renal dialysis, and congenital diseases	Vary by plans	Exclusions: cosmetics, physical check-ups, alternative medicine, dental prostheses, fertility treatment	Specialist and inpatient services	Exclusions: cosmetics, physical check-ups, alternative medicine, dental prostheses, fertility treatment
3 Financing						
3.1 *Source* of funds	Member contribution 2% basic salary + Government 1 % basic salary (or 0.5%). No limit	Single 3% basic salary, members with dependants 6% salary. With limit to IDR 1 million (USD 110)	Payroll, vary by plans	Premium, vary by plans	Member contribution	Tax-based. 'Premium' IDDR 6,000/capita
3.2 Financing body	Ministry of Finance	Employers (100%)		Bapel (Executing Agencies - HMO type)		Ministry of Finance
3.3 Payment mechanism	Primary care : Capitation Secondary : Fee schedule	Primary care: Capitation, Secondary: Capitation & fee schedule	Vary by plans. Primary: Fee for service, capitation, Secondary: Fee for service,	Primary care : Capitation Secondary : Fee schedule	Primary care: reimbursement	Primary care : Capitation Secondary : Negotiated fee with limit
3.4 Cost sharing	Yes, if members want to upgrade class or branded drugs out of formulary	None	Vary by plans	Yes	None	None
4. Management						
4.1 Financial management/Carrier	P.T Askes, a state owned company	P.T Jamsostek, a state owned company	Various private health insurance companies	Badan Pelaksana (Bapel or Executing Agencies)	Cooperation, community organizations	Currently government
4.2 Status	For profit	For profit	For profit	Not for profit	Not for profit	Government

Annex T: Askeskin Expenditures by Province and Types of Care

(Rp million)

	Puskesmas			Pregnancy care	Hospital			Medicine			Grand Total
Province	**Inpatient**	**Outpatient**	**Total**		**Inpatient**	**Outpatient**	**Total**	**Outpatient**	**Inpatient**	**Total**	
NAD	1,685	40,581	42,267	4,134	48,206	9,370	57,576	3,502	9,545	13,047	**117,024**
North Sumatra	70	34,414	34,484	1,807	73,773	9,370	83,143	4,495	38,514	43,009	**162,443**
Riau	334	12,433	12,767	713	21,172	9,370	30,542	1,416	4,177	5,593	**49,615**
Riau Archipelago	261	2,074	2,335	57	8,540	9,370	17,910	488	1,427	1,916	**22,217**
West Sumatra	176	13,001	13,177	764	39,691	9,370	49,061	3,444	11,048	14,491	**77,493**
Jambi	83	5,837	5,920	524	7,950	9,370	17,320	648	3,185	3,834	**27,597**
South Sumatra	119	23,040	23,159	719	52,588	9,370	61,958	1,905	16,181	18,085	**103,922**
Bengkulu	111	6,031	6,142	1,176	15,094	9,370	24,464	544	4,137	4,682	**36,464**
Lampung	150	25,562	25,712	31	4,354	9,370	13,724	1,672	17,074	18,746	**58,213**
Bangka Belitung Archipelago	59	1,558	1,617	2,306	35,892	9,370	45,262	171	2,144	2,315	**51,500**
DKI Jakarta	0	10,575	10,575	624	32,864	9,370	42,234	9,115	9,115	18,230	**71,662**
West Kalimantan	344	15,861	16,205	0	39,424	9,370	48,794	1,432	7,000	8,433	**73,432**
Banten	126	21,773	21,899	2,010	0	9,370	9,370	5,135	12,142	17,278	**50,556**
West Java	6,352	90,606	96,958	1,249	166,396	9,370	175,766	14,551	48,337	62,888	**336,862**
Central Java	5,387	124,406	129,794	6,595	263,869	9,370	273,239	18,587	122,021	140,608	**550,236**
DI Yogyakarta	422	9,229	9,651	78	52,984	9,370	62,354	4,187	20,377	24,564	**96,647**
East Java	4,864	110,177	115,041	4,997	218,225	9,370	227,595	24,277	103,926	128,204	**475,837**
East Kalimantan	141	5,786	5,928	119	24,020	9,370	33,390	1,097	6,148	7,245	**46,682**
South Kalimantan	74	8,048	8,123	680	16,655	9,370	26,025	720	3,989	4,709	**39,537**
Central Kalimantan	196	5,826	6,022	459	7,568	9,370	16,938	304	3,530	3,835	**27,254**
South Sulawesi	613	24,020	24,633	2,081	61,063	9,370	70,433	3,155	26,530	29,685	**126,832**
West Sulawesi	75	4,346	4,421	6,977	3,396	9,370	12,766	40	341	381	**24,545**
Southeast Sulawesi	546	10,676	11,222	5,081	12,463	9,370	21,833	870	4,152	5,023	**43,159**
North Sulawesi	810	8,366	9,177	511	40,943	9,370	50,313	4,841	14,875	19,716	**79,716**
Central Sulawesi	184	8,767	8,951	472	6,355	9,370	15,725	765	4,075	4,840	**29,988**
Gorontalo	53	4,642	4,695	4,571	14,211	9,370	23,581	154	1,613	1,767	**34,614**
North Maluku	98	5,060	5,158	431	2,537	9,370	11,906	65	705	770	**18,266**
Bali	5	6,580	6,585	0	46,114	9,370	55,484	2,829	24,083	26,912	**88,981**
West Nusa Tenggara	2,691	23,394	26,085	5,506	23,081	9,370	32,451	1,046	5,101	6,146	**70,189**
East Nusa Tenggara	2,496	31,828	34,324	2,933	51,105	9,370	60,475	688	7,050	7,738	**105,470**
Papua	420	13,063	13,483	465	12,359	9,370	21,729	1,434	2,426	3,860	**39,537**
West Papua	307	4,801	5,109	1,326	14,487	9,370	23,857	1,275	1,007	2,282	**32,574**
Maluku	314	7,636	7,949	1,062	6,546	9,370	15,916	174	1,577	1,751	**26,678**
Total	**29,567**	**720,000**	**749,567**	**60,461**	**1,423,924**	**9,370**	**1,433,294**	**115,029**	**537,554**	**652,583**	**2,895,904**

Annex U: Beneficiary Data for Askeskin by Province until and including December 2006

PT Askes - Number of people targeted, cards published and distributed for Askeskin program Until and inluding December 2006

			Beneficiaries identified		Cards published		Cards distributed	
Regional Code	**Province**	**Number of people targeted to receive card (based on poverty calculations)**	**Total**	**%**	**Total**	**%**	**Total**	**%**
Region I	NAD	3,381,791	2,229,094	65.91	2,036,984	60.23	1,871,543	55.34
	Sumatra Utara	2,867,820	2,361,261	82.34	2,361,261	82.34	2,191,066	76.40
	Sub Total	**6,249,611**	**4,590,355**	**73.45**	**4,398,245**	**70.38**	**4,062,609**	**65.01**
Region II	Riau	1,036,115	1,215,362	117.30	783,726	75.64	748,968	72.29
	Kepri	172,816	141,497	81.88	141,497	81.88	141,497	81.88
	Sumatera Barat	1,083,424	634,605	58.57	509,186	47.00	472,386	43.60
	Jambi	486,409	436,938	89.83	388,301	79.83	324,222	66.66
	Sub Total	**2,778,764**	**2,428,402**	**87.39**	**1,822,710**	**65.59**	**1,687,073**	**60.71**
Region III	Sumatera Selatan	1,920,001	1,886,634	98.26	1,697,681	88.42	1,697,681	88.42
	Bengkulu	502,613	351,372	69.91	347,813	69.20	345,813	68.80
	Lampung	2,130,200	2,160,479	101.42	1,613,698	75.75	1,608,296	75.50
	Bangkablitung	129,801	168,333	129.69	119,384	91.97	119,384	91.97
	Sub Total	**4,682,615**	**4,566,818**	**97.53**	**3,778,576**	**80.69**	**3,771,174**	**80.54**
Region IV	DKI Jakarta	881,216	408,191	46.32	277,134	31.45	277,134	31.45
	Kalbar	1,321,714	1,002,460	75.85	855,560	64.73	872,572	66.02
	Banten	1,814,399	1,265,239	69.73	1,265,239	69.73	1,169,387	64.45
	Sub Total	**4,017,329**	**2,675,890**	**66.61**	**2,397,933**	**59.69**	**2,319,093**	**57.73**
Region V	**Jawa Barat**	**7,550,535**	**7,146,051**	**94.64**	**4,850,726**	**64.24**	**4,686,065**	**62.06**
Region VI	Jawa Tengah	10,367,184	10,900,050	105.14	7,394,778	71.33	7,198,811	69.44
	DI Yogyakarta	769,091	912,173	118.60	643,008	83.61	616,208	80.12
	Sub Total	**11,136,275**	**11,812,223**	**106.07**	**8,037,786**	**72.18**	**7,815,019**	**70.18**
Region VII	**Jawa Timur**	**9,181,419**	**7,608,630**	**82.87**	**7,339,275**	**79.94**	**6,900,314**	**75.16**
Region VIII	Kalimantan Timur	482,183	460,776	95.56	446,749	92.65	444,526	92.19
	Kalimantan Selatan	670,674	477,548	71.20	477,548	71.20	311,459	46.44
	Kalimantan Tengah	485,483	386,406	79.59	386,406	79.59	386,406	79.59
	Sub Total	**1,638,340**	**1,324,730**	**80.86**	**1,310,703**	**80.00**	**1,142,391**	**69.73**
Region IX	Sulaweis Selatan	2,001,658	1,735,433	86.70	1,241,546	62.03	1,241,546	62.03
	Sulawesi Barat	362,197	240,852	66.50	236,371	65.26	229,486	63.36
	Sulawesi Tenggara	889,657	679,164	76.34	491,577	55.25	412,618	46.38
	Sub Total	**3,253,512**	**2,655,449**	**81.62**	**1,969,494**	**60.53**	**1,883,650**	**57.90**
Region X	Sulawesi Utara	697,203	273,357	39.21	273,357	39.21	220,387	31.61
	Sulawesi Tengah	730,596	628,757	86.06	522,012	71.45	486,627	66.61
	Gorontalo	386,836	379,485	98.10	351,833	90.95	294,469	76.12
	Maluku Utara	421,703	195,095	46.26	137,495	32.60	137,183	32.53
	Sub Total	**2,236,338**	**1,476,694**	**66.03**	**1,284,697**	**57.45**	**1,138,666**	**50.92**
Region XI	Bali	548,357	327,655	59.75	258,735	47.18	248,683	45.35
	NTB	1,949,507	1,573,507	80.71	1,031,605	52.92	1,031,605	52.92
	NTT	2,652,342	2,265,309	85.41	1,378,274	51.96	1,218,499	45.94
	Sub Total	**5,150,206**	**4,166,471**	**80.90**	**2,668,614**	**51.82**	**2,498,787**	**48.52**
Region XII	Papua	1,088,618	966,800	88.81	963,767	88.53	909,680	83.56
	Irjabar	400,120	272,675	68.15	272,675	68.15	271,564	67.87
	Maluku	636,318	404,286	63.54	402,478	63.25	402,478	63.25
	Sub Total	**2,125,056**	**1,643,761**	**77.35**	**1,638,920**	**77.12**	**1,583,722**	**74.53**
	TOTAL	**60,000,000**	**52,095,474**	**86.83**	**41,497,679**	**69.16**	**39,488,563**	**65.81**

Annex V: Scenarios to Estimate Hospital Capacity in Light of Increased Demand for Hospital Beds through Askeskin

Notes on Data Used:

The hospital inpatient utilization rate is obtained from Susenas 2006, which shows the average of public hospital inpatient utilization rate from the whole population. The Directorate General of Medical Service Ministry of Health report for 2005/06 provides data on the number of hospital beds, both public and private. The number of public beds includes only beds in the national, provincial and district general hospitals, and excludes military/ police and state-owned company hospitals. Although private hospitals are also listed as possible providers, it is most likely that for the time being services provided through the scheme will only be available at public hospitals. The number of private hospitals is an estimate based on the assumption that all private hospitals comply with the regulation to allocate 25% of their beds for the poor, in a third-class section. The limitations of the calculation mostly arise from the quality of available hospital data, especially for the private sector.

Table V.1 Original target population and care at public hospitals – Scenario A

Scenario A Original target population and care at public hospitals	
Assuming that the use of the 3rd class inpatient is limited only to the target population as defined by BPS. The calculation uses the average utilization rate for public hospitals only	
Targeted Population *	54,000,000
Utilization Rate for public hospitals (Susenas 2006) **	0.0569
Bed days public and private (all hospital)	49,919,590
Bed days public	24,715,975
Bed days private + Military and State owned	22,266,825
Number of Third class Bed public and private	50,561
Number of Third class Beds public	33,858
Third Class Public Hospital bed days (3rd Class Capacity)+	**12,357,988**
Estimated current Bed days used ++	**14,072,508**
Average length of stay (MOH 2005, in days)	4.58

*) GoI figure of the number of poor officially used for the ASKESKIN
**) Average inpatient utilization for public hospital only, across income groups.
Number of admission per 10,000 population in one year
+) The existing capacity of the third class bed in public hospital (including the unclassified beds)
number of third class bed public hospital x 365 days
++) Current bed days used (the required bed days)
(inpatient utilization rate x population)x average length of stay

Table V.2 Projected bed days used – Scenario A

Projected bed days used			
Increased LOS	+ 0	+ 1	+ 2
Increased Utilization			
0%	**14,072,508**	**15,363,000**	**18,435,600**
5%	**14,776,133**	**16,131,150**	**19,357,380**
10%	**15,479,759**	**16,899,300**	**20,279,160**
25%	**17,590,635**	**19,203,750**	**23,044,500**
50%	**21,108,762**	**23,044,500**	**27,653,400**
100%	**28,145,016**	**30,726,000**	**36,871,200**

Table V.3 The use of third class inpatient public and private by the poor and the near poor – Scenario B

Scenario B The use of third class inpatient by the poor and the near poor, only in public hospital	
Assuming that in addition to the poor, the population who live with under $2 a day will also use the service by their access to the SKTM – Using average utilization rate	
Population that lives under $2 a day (52.4%) *	115,280,000
Utilization Rate for public hospital (Susenas 2004) **	0.0569
Bed days public and private (all hospital)	49,919,590
Bed days public	24,715,975
Bed days private + Military and State owned	22,266,825
Number of Third class Beds public and private	50,561
Number of Third class Beds public	33,858
Third Class Public Hospital bed days (3rd Class Capacity)+	**12,357,988**
Estimated current Bed days used ++	**30,042,199**
Average length of stay (MOH 2005, in days)	4.58

*) World Bank 2005 World Development Indicators, % of Population living under $2 in Indonesia 52.4 %
**) Average inpatient utilization for public hospital only, across income groups
Number of admission per 10,000 population in one year
+) The existing capacity of the third class beds in public hospitals (including the unclassified beds)
number of third class beds public hospitals x 365 days
++) Current bed days used (the required bed days) (inpatient utilization rate x population)x average length of stay

Table V.4 Projected bed days used – Scenario B

Projected Bed Days Used			
Increased LOS	+ 0	+ 1	+ 2
Increased Utilization			
0%	**30,042,199**	**32,797,160**	**39,356,592**
5%	**31,544,308**	**34,437,018**	**41,324,422**
10%	**33,046,418**	**36,076,876**	**43,292,251**
25%	**37,552,748**	**40,996,450**	**49,195,740**
50%	**45,063,298**	**49,195,740**	**59,034,888**
100%	**60,084,397**	**65,594,320**	**78,713,184**

Table V.5 The use of third class inpatient public and private by the poor and the near poor – Scenario C

Scenario C The use of third class inpatient public and private by the poor and the near poor	
Assuming that in addition to the poor, the population who live with under $2 will also use the service with SKTM, allocated beds for the poor in Private sector is used - Using average utilization rate	
Population that lives under $2 a day (52.4%) *	115,280,000
Utilization Rate for public hospital (Susenas 2004) **	0.0569
Bed days public and private (all hospital)	49,919,590
Bed days public	24,715,975
Bed days private + Military and State owned	22,266,825
Number of Third class Bed public and private	50,561
Number of Third class Bed public	33,858
Public & Private Hospital bed days for the poor+	**30,812,756**
Estimated current Bed days used ++	**30,042,199**
Average length of stay (MOH 2005, in days)	4.58

*) World Bank 2005 World Development Indicators, % of Population living under $2 in Indonesia 52.4 %
**) Average inpatient utilization for public hospitals only, across income groups
Number of admission per 10,000 population in one year
+) The existing capacity of beds allocated for the poor in public and private hospitals
number of beds allocated for the poor in both public and private hospitals x 365 days
++) Current bed days used (the required bed days) (inpatient utilization rate x population)x average length of stay

Table V.6 Table T.1 Projected bed days used - Scenario C

Projected bed days used			
Increased LOS	+ 0	+ 1	+ 2
Increased Utilization			
0%	**30,042,199**	**32,797,160**	**39,356,592**
5%	**31,544,308**	**34,437,018**	**41,324,422**
10%	**33,046,418**	**36,076,876**	**43,292,251**
25%	**37,552,748**	**40,996,450**	**49,195,740**
50%	**45,063,298**	**49,195,740**	**59,034,888**
100%	**60,084,397**	**65,594,320**	**78,713,184**

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