Health at a Glance Asia/Pacific 2016

MEASURING PROGRESS TOWARDS UNIVERSAL HEALTH COVERAGE

OECD

World Health Organization

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OECD
BETTER POLICIES FOR BETTER LIVES

World Health Organization

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Foreword

More than ever, effective and well-targeted data and indicators of health and health care are essential to help policy makers assessing the quality of care and strengthen efforts to improve the performance of health systems across the Asia-Pacific region.

Health at a Glance: Asia-Pacific 2016 *presents the latest comparable data and trends on key aspects of health outcomes and health systems in selected Asia-Pacific countries. The indicators provide an overview of health status, determinants of health, health care resources and utilisation, health expenditure and financing, and quality of care in the region. As countries strive to achieve universal health coverage, these indicators help measure their progress.*

Comparing health system performance across countries is important to identify and share good practices, foster innovation, and inspire policy makers to consider new approaches and strategies to advance the 2030 agenda for sustainable development.

We hope that the data reported in this publication will help policy makers make further progress towards universal health coverage, improving and promoting the health status and well-being of population across the Asia-Pacific region.

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Executive summary

Health at a Glance: Asia-Pacific 2016 presents key indicators on health status, determinants of health, health care resources and utilisation, health expenditure and financing, and quality of care for 27 Asia-Pacific countries and economies. Countries in the Asia-Pacific region are diverse, and their health issues and health systems often differ. However, these indicators provide a concise overview of the progress of countries towards achieving universal health coverage for their population.

Life expectancy has continued to increase, while maternal mortality is still very high

- Life expectancy at birth across Asian countries reached 73.7 years in 2015, a gain of about 4.6 years since 2000. OECD countries gained, on average, 3.4 years over the same period.
- The infant mortality rate has fallen dramatically across the region since 2000, with many countries experiencing declines of greater than 50%. At an average of 21.5 deaths per 1 000 live births in 2015, infant mortality is still five times the OECD rate.
- Maternal mortality averages around seven deaths per 100 000 live births in OECD countries, while in Asian countries it is almost 13 times greater. Between 2000 and 2015, the average maternal mortality rate across Asian countries was cut by more than half.
- The share of the population aged over 65 years in Asia is expected to nearly quadruple in the next four decades to reach 26% in 2050, surpassing the projected OECD average.

Improving sanitation in rural areas is still problematic

- In the Asian countries, although safe water access for rural dwellers has improved steadily since 1990 and reached 80% of rural populations in 2015 compared to 93.3% in urban dwellings, improving sanitation in rural areas is more problematic. In the region, on average, only less than two third of rural dwellers had access to adequate sanitation in 2015 compared to 81.1% in urban dwellings, and the coverage was very low at less than one third in Cambodia and India.

Low supply of doctors and nurses persists

- The supply of doctors and nurses in the region, at around 1.3 and 3.2 per 1 000 population respectively, is well below the OECD average of 3.3 and 9.1.
- The number of hospital beds per capita is 3.3 per 1 000 population on average across Asia, lower than the OECD average of 4.7, but varies considerably. It is highest in Japan with over 13 beds per 1 000 population, and lowest in the Philippines with 0.5 per 1 000 population.
- Around 85% of pregnant women in the Asia-Pacific region receive at least one antenatal visit, and the proportion of births assisted by medical professionals increased in the last decade, reaching 80% in 2012.

Less financial burden on households out-of-pocket spending, but only half of the health spending is from public sources

- Asian economies spend just over USD 930 per person per year on health, against USD 3 618 in OECD countries. This amounts to over 4.7% of gross domestic product, on average, in the Asian region, compared to over 9.3% in OECD countries in 2014.
- The share of public spending in total health spending is much lower in Asia compared to OECD countries: 50.5% vs 72.7% respectively.
- On average, between 2010 and 2014, the growth rate in per capita health spending in real terms was 4.4% per year in Asia, higher than the 4.0% observed for gross domestic product.
- Spending on pharmaceuticals accounted for almost one third of all health expenditure on average across Asian countries in 2014.

Despite the scarcity of national statistics on quality of care, numerous policy initiatives to evaluate and improve quality of care have been undertaken

- In most Asia-Pacific countries, more than 90% of children aged around one year receive measles, diphtheria, tetanus and pertussis childhood vaccination – on a par with global best practice. Myanmar, Pakistan and Papua New Guinea still fall short of this figure.
- Japan has the lowest case-fatality rates for stroke, with 3% of patients dying within 30 days after ischemic stroke. However, 12.2% of Japanese patients die within 30 days of having a heart attack, compared to 6.6% in New Zealand and 4.5% in Australia.
- Although death rates from cancer are decreased, little is known about the quality of cancer care in the Asia-Pacific region. Cervical cancer mortality varies from 1.4 per 100 000 females in New Zealand to 21.7 in Papua New Guinea, suggesting scope to improve prevention, early detection through screening and fast access to effective treatment.
- The results of a survey carried out in 2013 (WHO and OECD, 2015) show increasing commitment to quality of care in the region.

Introduction

Health at a Glance: Asia-Pacific presents a set of key indicators on health and health systems for 27 Asia-Pacific countries and economies. It builds on the format used in previous editions of *Health at a Glance* to present comparable data on health status and its determinants, health care resources and utilisation, health expenditure and financing and health care quality.

This publication was prepared jointly by the WHO Western Pacific Regional Office, the WHO Regional Office for South-East Asia, the OECD Health Division and the OECD/Korea Policy Centre, under the co-ordination of Luca Lorenzoni from the OECD Health Division.

Chapter 1, Chapter 2 and Chapter 3 were prepared by Frederic Daniel and Luca Lorenzoni from the OECD Health Division, with support from Jun Gao and Therese Maria Reginaldo (WHO/WPRO) and Mark Landry and Rakesh Mani Rastogi (WHO/SEARO). Chapter 4 was written by Luca Lorenzoni, with support from Chandika Indikadahena (WHO Geneva), Annie Chu and Maria Teresa Pena (WHO/WPRO) and Lluis Vinals Torres (WHO/SEARO). Chapter 5 was prepared by Frederic Daniel, Nicolaas Sieds Klazinga and Luca Lorenzoni, with support from Ali Nurgozhayev (OECD Health Division).

Valuable input was received from Anjana Bhushan, Bai-Fang Xiao Sobel, Britta Monika Baer, Glenda Gonzales, Hai-Rim Shin, Howard Sobel, Indrajit Hazarika, James Kelley, Jason Ligot, Jonathon Passmore, Katrin Engelhardt, Khonkar Rifat Hossain, Linh-Vi Le, Mari Nagai, Marie Clem Carlos, Mina Kashiwabara, Mohd Nasir Hassan, Nobuyuki Nishikiori, Priya Mannava, Rabindra Abeyasinghe, Rasul Baghirov, Saki Narita, Sergey Diorditsa, Tara Mona Kessaram, Thomas Dale Hiatt, Warrick Junsuk Kim, Whitney Skowronski, and Ying-Ru Jacqueline Lo (WHO/WPRO), and Gaetan Lafortune (OECD Health Division).

This publication benefited from the comments and suggestions of Vivian Lin (Director, Health Systems, WHO/WPRO), Phyllida Travis (Director, Health Systems Development, WHO/SEARO), Sung-wong Ra (Director General of the OECD/Korea Policy Centre) and Francesca Colombo (Head of OECD Health Division).

Structure of the publication

Health at a Glance: Asia-Pacific 2016 is divided into five chapters:

- Chapter 1 on *Health status* highlights the variations across countries in life expectancy, infant and childhood mortality and major causes of mortality and morbidity, including both communicable and non-communicable diseases.
- Chapter 2 on *Determinants of health* focuses on non-medical determinants of health. It features the health of mothers and babies, through family planning issues, low birthweight and breastfeeding. It also includes lifestyle and behavioural indicators such as smoking and alcohol drinking, unhealthy diets, and underweight and overweight, as well as water and sanitation. It also includes a new indicator on road safety.
- Chapter 3 on *Health care resources, utilisation and access* reviews some of the inputs, outputs and outcomes of health care systems. This includes the supply of doctors and nurses and hospital beds, as well as the provision of primary and secondary health care services, such as doctor

consultations and hospital discharges, as well as a range of services surrounding pregnancy, childbirth and infancy.

- Chapter 4 on *Health expenditure and financing* examines trends in health spending across Asia-Pacific countries and economies. It looks at how health services and goods are paid for, and the different mix between public funding, private health insurance, direct out-of-pocket payments by households and external resources. It also looks at pharmaceutical expenditure trends.
- Chapter 5 on *Quality of care* builds on the indicators used in the OECD's Health Care Quality Indicator programme to examine trends in health care quality improvement across Asia-Pacific countries and economies.

Annex B provides some additional tables on the demographic and economic context within which different health systems operate.

Asia-Pacific countries and economies

For this fourth edition of *Health at a Glance: Asia-Pacific*, 27 regional countries and economies were compared: 22 in Asia (Bangladesh; Brunei Darussalam; Cambodia; China; Democratic People's Republic of Korea; Hong Kong, China; India; Indonesia; Japan; Lao People's Democratic Republic; Macao, China; Malaysia; Mongolia; Myanmar; Nepal; Pakistan; Philippines; Republic of Korea; Singapore; Sri Lanka; Thailand and Viet Nam) and five in the Pacific region (Australia, Fiji, New Zealand, Papua New Guinea and Solomon Islands).

Selection and presentation of indicators

The indicators have been selected on the basis of being relevant to the health needs of people in the Asia-Pacific region, taking into account the availability and comparability of existing data. The publication takes advantage of the routine administrative and programme data collected by the World Health Organization, especially the Regional Offices for the Western Pacific and South-East Asia, as well as special country surveys collecting demographic and health information.

The indicators are presented in the form of easy-to-read figures and explanatory text. Each of the topics covered in this publication is presented over two pages. The first page defines the indicator and notes any significant variations which might affect data comparability. It also provides brief commentary highlighting the key findings conveyed by the data. On the facing page is a set of figures. These typically show current levels of the indicator and, where possible, trends over time. In some cases, an additional figure relating the indicator to another variable is included.

The cut date for all the data reported in this publication is Friday 9 September 2016.

Averages

In text and figures, "Asia-xx" refers to the unweighted average for Asian countries and economies, where "xx" is the number of countries for which data are available. It excludes the five Pacific countries (Australia, Fiji, New Zealand, Papua New Guinea and Solomon Islands) and the OECD average.

"OECD" refers to the unweighted average for the 35 OECD member countries. It includes Australia, Japan, New Zealand and the Republic of Korea, but excludes the Asia average. Data for OECD countries are generally extracted from OECD sources, unless stated otherwise.

Country ISO codes

Australia	AUS	Mongolia	MNG
Bangladesh	BGD	Myanmar	MMR
Brunei Darussalem	BRN	Nepal	NPL
Cambodia	KHM	New Zealand	NZL
China	CHN	Pakistan	PAK
Democratic People's Republic of Korea	PRK	Papua New Guinea	PNG
Fiji	FJI	Philippines	PHL
Hong Kong, China	HKG	Republic of Korea	KOR
India	IND	Singapore	SGP
Indonesia	IDN	Solomon Islands	SLB
Japan	JPN	Sri Lanka	LKA
Lao People's Democratic Republic	LAO	Thailand	THA
Macao, China	MAC	Viet Nam	VNM
Malaysia	MYS		

Acronyms and abbreviations

AIDS	Acquired immunodeficiency syndrome
ALOS	Average length of stay
ART	Antiretroviral treatment
BMI	Body mass index
DHS	Demographic and Health Surveys
DTP	Diphtheria-tetanus-pertussis
FAO	Food and Agriculture Organization of the United Nations
GBD	Global burden of disease
GDP	Gross domestic product
HIV	Human immunodeficiency virus
IARC	International Agency for Research on Cancer
IDF	International Diabetes Federation
IHD	Ischemic heart disease
MDG	Millennium Development Goals
MMR	Maternal mortality ratio
OECD	Organisation for Economic Co-operation and Development
PPP	Purchasing power parities
SDG	Sustainable Development Goals
SEARO	WHO Regional Office for South-East Asia
SHA	System of Health Accounts
TB	Tuberculosis
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDESA	United Nations, Department of Economic and Social Affairs, Population Division
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNICEF	United Nations Children's Fund
WHO	World Health Organization
WPRO	WHO Regional Office for the Western Pacific

Chapter 1

Health status

Life expectancy at birth continues to increase remarkably in Asia-Pacific countries, reflecting sharp reductions in mortality rates at all ages, particularly among infants and children (UNESCAP, 2014; see indicators "Infant mortality" and "Under age 5 mortality" in Chapter 1). These gains in longevity can be attributed to a number of factors, including rising living standards, better nutrition and improved drinking water and sanitation facilities (see indicator "Water and sanitation" in Chapter 2). Improved lifestyles, increased education and greater access to quality health services also play an important role (National Institute on Ageing, National Institute of Health and the World Health Organization, 2011).

Life expectancy at birth for the whole population across 22 Asian countries reached 73.7 years on average in 2015, a gain of about 4.6 years since 2000. In comparison, OECD countries gained 3.4 years during the same period (Figure 1.1, left panel).

However, a large regional divide persists in life expectancy at birth. The country with the longest life expectancy in 2015 was Hong Kong, China with 84 years. Japan, Singapore, Australia, New Zealand, the Republic of Korea and Macao, China also exceeded 80 years for total life expectancy. In contrast, twelve countries in the Asia-Pacific region had total life expectancies of less than 70 years, and in Papua New Guinea, a child born in 2015 can expect to live an average of less than 63 years.

Women live longer than men (Figure 1.1, right panel), but the degree of disparities varies across countries. The gender gap in life expectancy stood at 5.0 years on average across Asian countries in 2015, less than the OECD country average of 5.4 years. The gender difference was particularly large in Viet Nam and Mongolia with eight years or longer. Women also have greater rates of survival to age 65 (Figure 1.2), regardless of the economic status of the country. On average across Asian countries, 82.9% of a cohort of newborn infant women would survive to age 65, while only 73.7% of males will survive to age 65. In Japan, the Republic of Korea and Hong Kong, China 95% of newborn infant women will survive to age 65. Many reasons contribute to this gender difference, such as biological differences resulting in slower ageing of immune systems and the later onset of cardiovascular diseases such as heart attacks and strokes among women (UNESCAP, 2014).

Higher national income – as measured by GDP per capita – is generally associated with higher life expectancy at birth (Figure 1.3). There were, however, some notable differences in life expectancy between countries with similar income per capita. Nepal and Bangladesh had higher, and Mongolia, and Indonesia had lower life expectancies than predicted by their GDP per capita alone. Socioeconomic status and education play an important role in life expectancy as seen in the case of Japan, where the higher educational background of mothers and household wealth are associated with better infant and child survival (see indicators "Infant mortality" and "Under age 5 mortality" in Chapter 1).

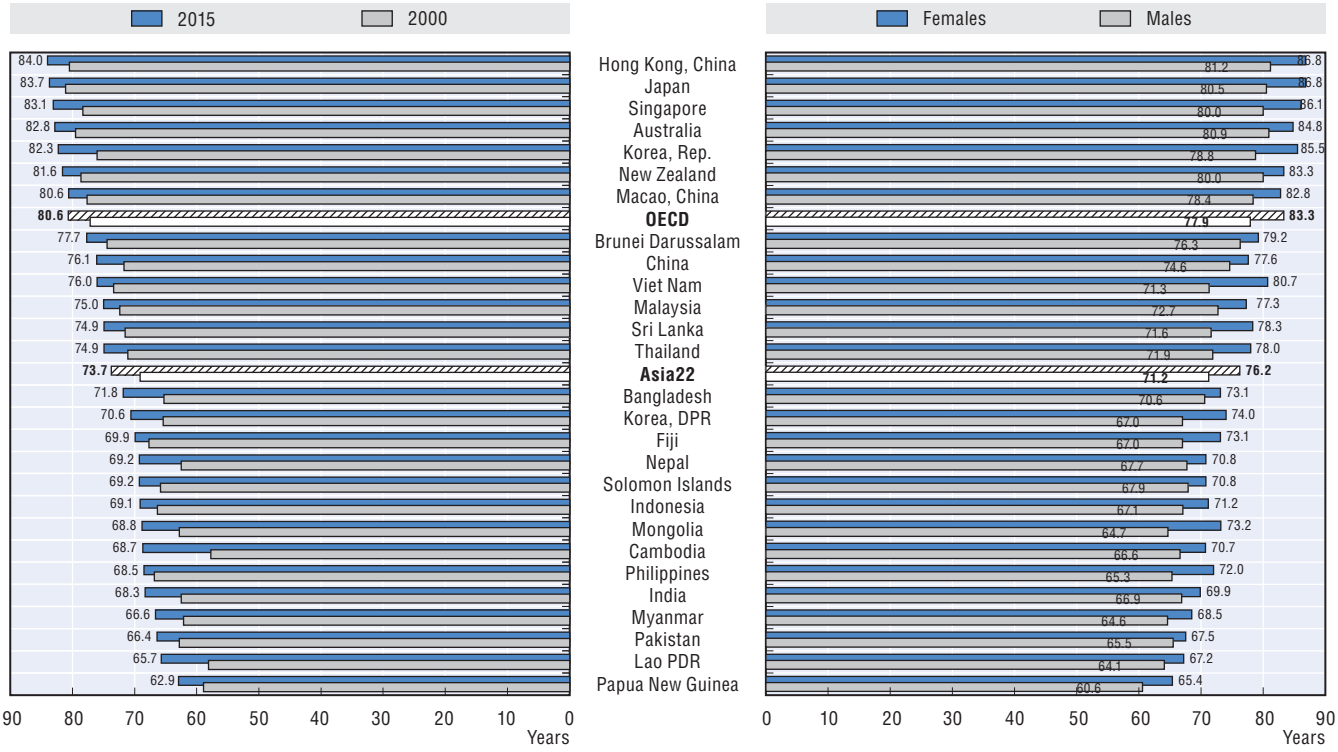
Definition and comparability

Life expectancy at birth is the best known measure of population health status, and is often used to gauge a country's health development. It measures how long, on average, a newborn infant can expect to live if current death rates do not change. Since the factors affecting life expectancy often change slowly, variations are best assessed over long periods of time.

Age-specific mortality rates are used to construct life tables from which life expectancies are derived. The methodologies that countries use to calculate life expectancy can vary somewhat, and these can lead to differences of fractions of a year. Some countries base their life expectancies on estimates derived from censuses and surveys, and not on accurate registration of deaths.

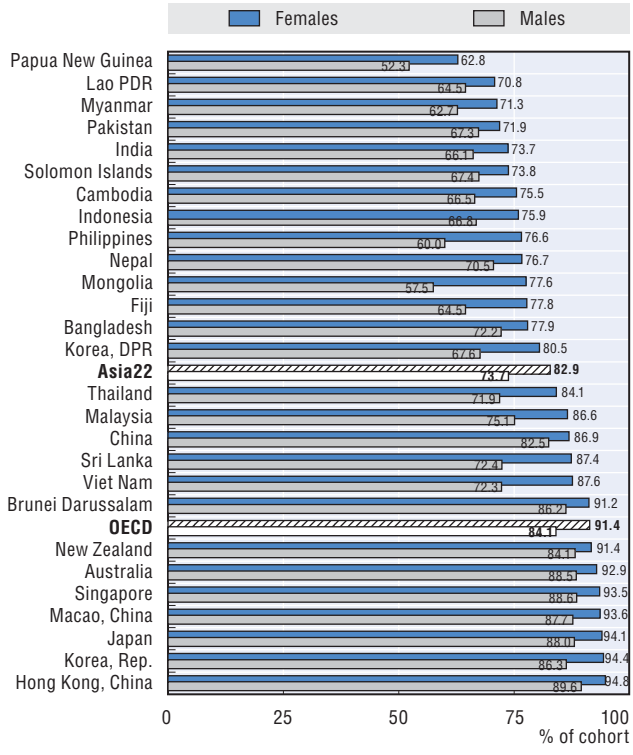
Survival to age 65 refers to the percentage of a cohort of newborn infants that would survive to age 65, if subject to current age-specific mortality rates.

1.1. Life expectancy at birth, 2000 and 2015, and by sex, 2015

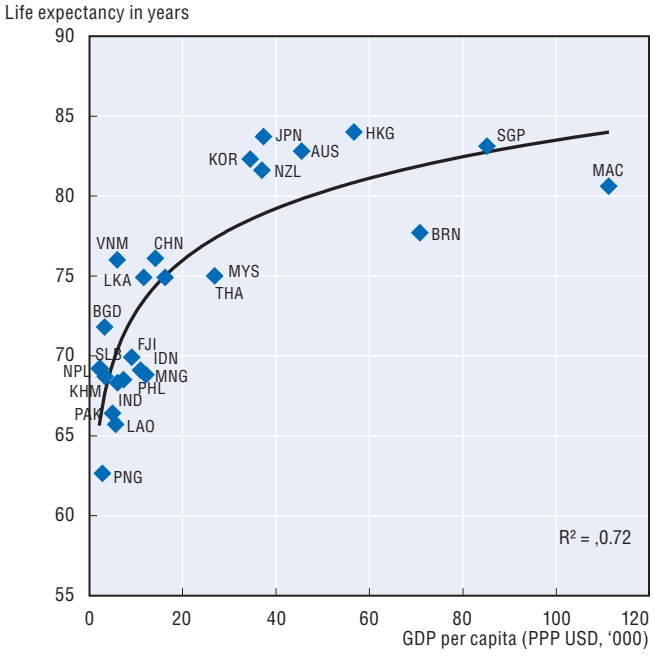


Source: *OECD Health Statistics 2016*; WHO; the World Bank World Development Indicators Online.

1.2. Survival rate to age 65, 2014



1.3. Life expectancy at birth and GDP per capita, 2015



Source: The World Bank World Development Indicators Online.

StatLink http://dx.doi.org/10.1787/888933413216

Infant mortality, deaths in children aged less than one year, reflects the effect of economic, social and environmental conditions on the health of mothers and infants, as well as the effectiveness of health systems.

Factors such as the health of the mother, quality of antenatal and childbirth care, preterm birth and birth weight, immediate newborn care and infant feeding practices are important determinants of infant mortality (see indicators "Preterm birth and low birthweight" and "Pregnancy and birth" in Chapter 2). Diarrhoea, pneumonia, infection and undernutrition continue to be among the leading causes of death in both mothers and infants [see indicators "Child malnutrition (including undernutrition and overweight)" and "Overweight or obese adults" in Chapter 2]. In the Asia-Pacific region, around two-thirds of the deaths in the first year of life occur during the neonatal period (i.e. during the first four weeks of life or days 0-27).

Infant mortality can be reduced through cost-effective and appropriate interventions. These include immediate skin-to-skin contact between mothers and newborns after delivery, early and exclusive breastfeeding for the first six months of life, and kangaroo mother care for babies weighing 2 000g or less. Postnatal care for mothers and newborns within 48 hours of birth, delayed bathing until after 24 hours of childbirth and dry cord care are important to reducing infant deaths, Management and treatment of neonatal infections, pneumonia, diarrhoea and malaria is also critical (UNICEF, 2013). Oral rehydration therapy is a cheap and effective means to offset the debilitating effects of diarrhoea (WHO, 2006) and countries could also implement relatively inexpensive public health interventions including immunisation, and provide clean water and sanitation (see indicator "Water and sanitation" in Chapter 2 and "Childhood vaccination programmes" in Chapter 5).

In 2015, among 20 Asian countries, the average was 21.5 deaths, half the rate observed in 2000 (Figure 1.4). Geographically, infant mortality was lower in eastern Asian countries, and higher in South and Southeast Asia. Hong Kong, China; Japan; Singapore; Macao, China and the Republic of Korea had rates of 3 deaths or lower per 1 000 live births in 2015, whereas Pakistan, the Lao PDR and Papua New Guinea had rates greater than 40.

Infant mortality rates have fallen dramatically in the Asia-Pacific region since 2000, with many countries experiencing declines of greater than 50% (Figure 1.4). In China and Cambodia rates have declined by 70%.

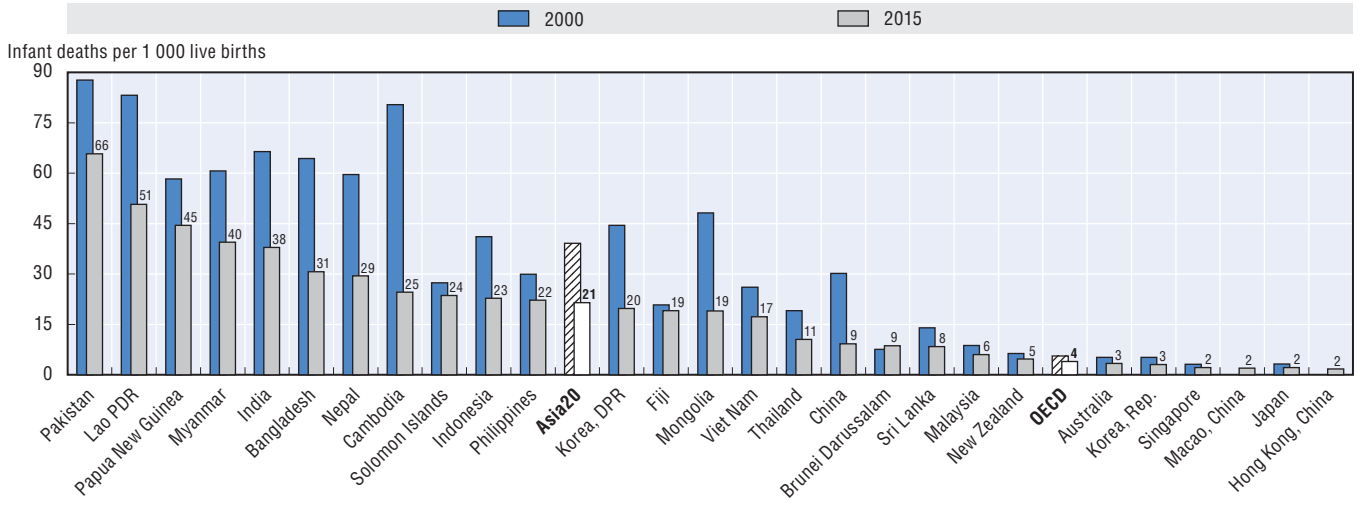
Across countries, important determinants of infant mortality rates are income status and mother education (Figure 1.5). In Myanmar and Cambodia, infant mortality rates are almost four times higher in the poorest quintile compared to the richest quintile. Similarly, in Viet Nam infant born to mothers with no education had a six-fold higher risk of dying compared to infants whose mothers had achieved secondary or higher education. Geographical location (urban or rural) is another determinant of infant mortality in the region, though relatively less important in comparison to income or mother's education (Figure 1.5). Reductions in infant mortality will require not only improving quality of care, but also ensuring that all segments of the population benefit from improvements in care.

Definition and comparability

The infant mortality rate is defined as the number of children who die before reaching their first birthday in a given year, expressed per 1 000 live births.

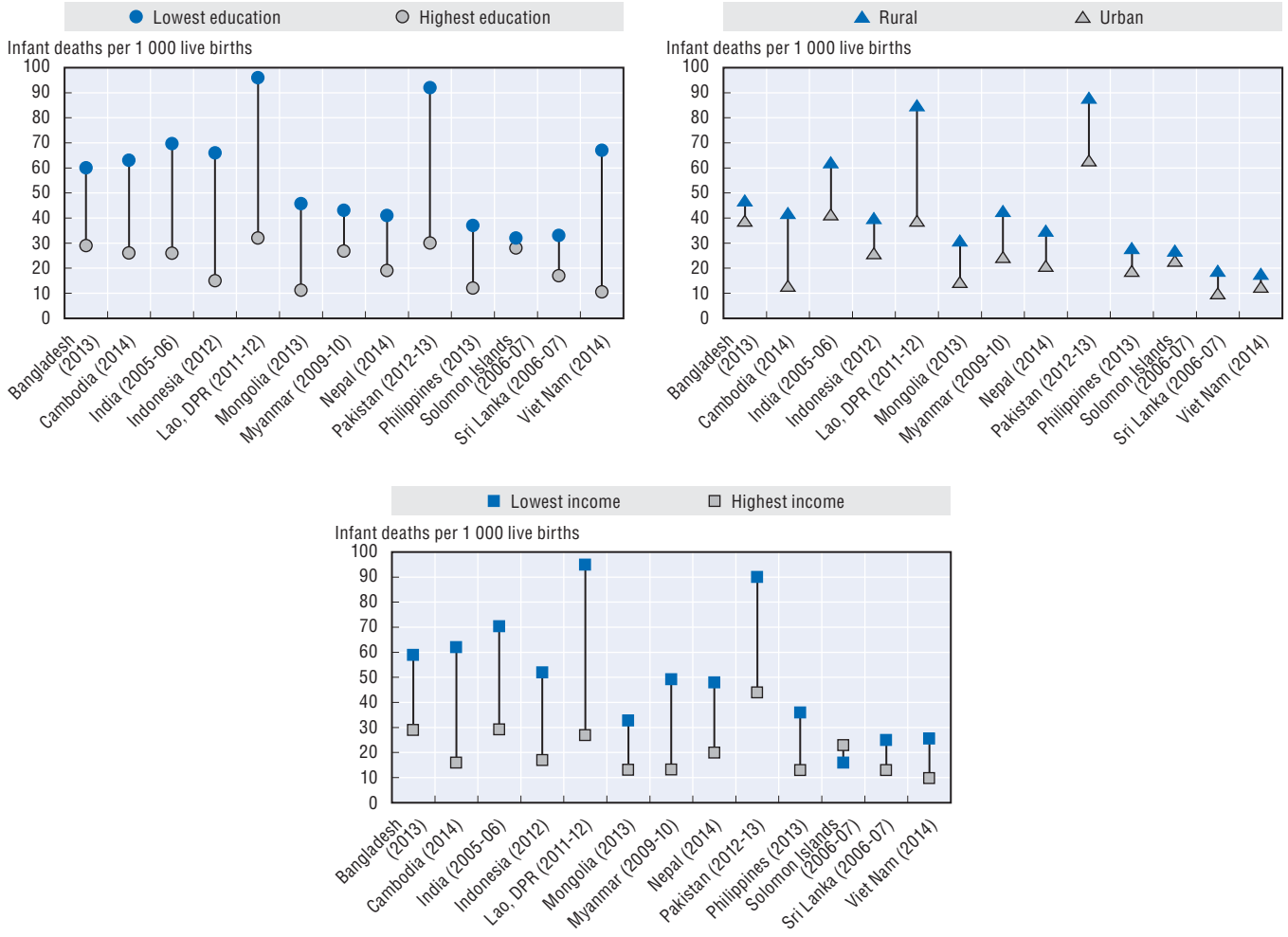
Some countries base their infant mortality rates on estimates derived from censuses, surveys and sample registration systems, and not on accurate and complete registration of births and deaths. Differences among countries in registering practices for premature infants may also add slightly to international variations in rates. Infant mortality rates are generated by either applying a statistical model or transforming under age 5 mortality rates based on model life tables.

1.4. Infant mortality rates, 2000 and 2015 (or nearest year)



Source: *OECD Health Statistics 2016*; UN Inter-agency Group for Child Mortality Estimation (IGME); Health facts of Hong Kong 2015; Statistics and Census Service, Macao, China, 2015.

1.5. Infant mortality rates by socio-economic and geographic factor, selected countries and years



Source: Demographic and Health Survey (DHS) and Multiple Indicator Cluster Survey (MICS) 2005-14.

StatLink http://dx.doi.org/10.1787/888933413223

The under age 5 mortality rate is an indicator of child health as well as the overall development and well-being of a population. As part of their Sustainable Development Goals, the United Nations has set a target of reducing under age 5 mortality to at least as low as 25 per 1 000 live births by 2030 (United Nations, 2015).

In 2015, 5.9 million children died worldwide before their fifth birthday and slightly less than 40% of these deaths (2.1 million) occurred in the Eastern and Southern Asia regions (UNICEF, 2016). The average under age 5 mortality rate across 20 Asian countries was 24.5 deaths per 1 000 live births (Figure 1.6). Hong Kong, China; Singapore; Japan; the Republic of Korea and Australia achieved very low rates of four or less deaths per 1 000 live births, below the average across OECD countries. Mortality rates in Pakistan, the Lao PDR and Papua New Guinea were high, in excess of 50 deaths per 1 000 live births. These countries also had the highest infant mortality in the region. Due to their population, India alone accounted for 21% of total under age 5 deaths in the world.

Whilst under age 5 mortality has declined by an average of 63% in Asian countries since 2000, progress varies significantly among countries. Countries such as Myanmar, China, Cambodia and Nepal reported a drop of 70% or more. Evidence (WHO, 2014d) suggests that reductions in Cambodia are associated with better coverage of effective preventive and curative interventions such as essential immunisations, malaria prevention and treatment, vitamin A supplementation, birth spacing, early and exclusive breastfeeding and improvements in socio-economic conditions. These efforts also resulted in a 67% decline in maternal mortality between 1990 and 2015 (see indicator "Maternal mortality" in Chapter 1). In order to achieve the SDG target, countries need to accelerate their efforts, for example by scaling effective preventive and curative interventions including early essential newborn care, targeting the main causes of post-neonatal deaths, namely pneumonia, diarrhoea, malaria and undernutrition, and reaching the most vulnerable newborn babies and children (UNICEF, 2013).

The main causes of death among children under five include pneumonia (16%), preterm birth complications (16%), intrapartum-related complications (10%), diarrhoea (9%) and malaria (7%). Undernutrition, suboptimal breastfeeding and zinc deficiency are overlapping risk factors of childhood diarrhoea and pneumonia – the leading infectious causes of childhood morbidity and mortality (Fischer Walker et al., 2013; WHO and UNICEF, 2013). More than three-fourth of under age 5 deaths occur in the neonatal period.

Childhood malnutrition is the underlying cause of death in an estimated 35% of all deaths among children under the age of five. Malnutrition is an impediment to the progress towards achieving the SDGs. In view of the importance of improving nutrition to promote heath and development, in 2012 the World Health Assembly endorsed a "Comprehensive implementation plan on maternal, infant and young child nutrition", which specified a set of six global nutrition targets. The UN General Assembly has also proclaimed the UN Decade of Action on Nutrition (2016-25).

As is the case for infant mortality (see indicator "Infant mortality" in Chapter 1), inequalities in under age 5 mortality rates also exist within countries (Figure 1.7). Across countries, under age 5 mortality rates consistently vary based on household income and mother's education, and to a certain extent by geographical location. For example, in Indonesia under age 5 mortality was almost five times higher among children whose mother had no education compared to those whose mother had more than secondary education. Inequality by education was also large in Indonesia. In Cambodia, Lao PDR and Myanmar disparities in under age 5 mortality according to income were also large with children in the poorest 20% of the population four times more likely to die before their fifth birthday than those in the richest 20%. Inequalities in mortality rates based on geographic locations were relatively small (Figure 1.7). To accelerate reductions in under age 5 mortality, populations in need should be identified in each national context and health interventions need targeted to them effectively.

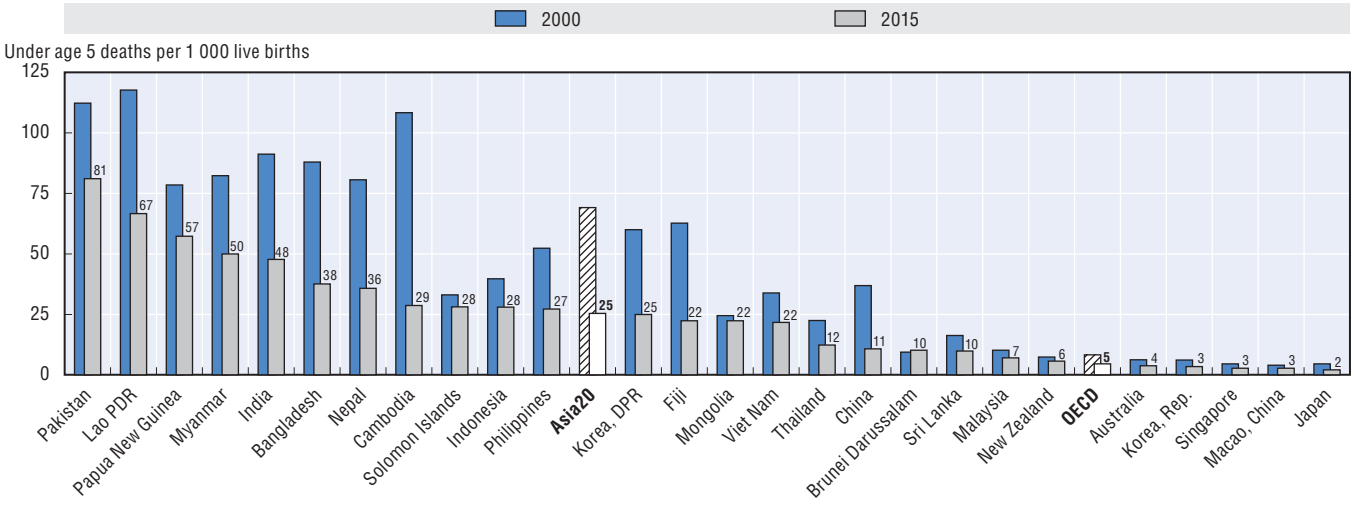
Definition and comparability

Under age 5 mortality is defined as the probability of a child born in a given year dying before reaching their fifth birthday, and is expressed per 1 000 live births. Since under age 5 mortality is derived from a life table, it is, strictly speaking, not a rate but a probability of death.

Age-specific mortality rates are used to construct life tables from which under age 5 mortality is derived. Some countries base their estimates on censuses, surveys and sample registration systems, and not on accurate and complete registration of deaths.

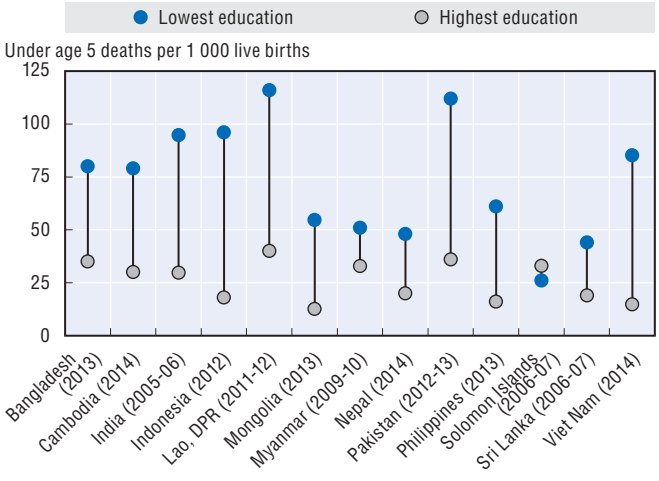
See indicator "Infant mortality" in Chapter 1 for definition of rate ratios.

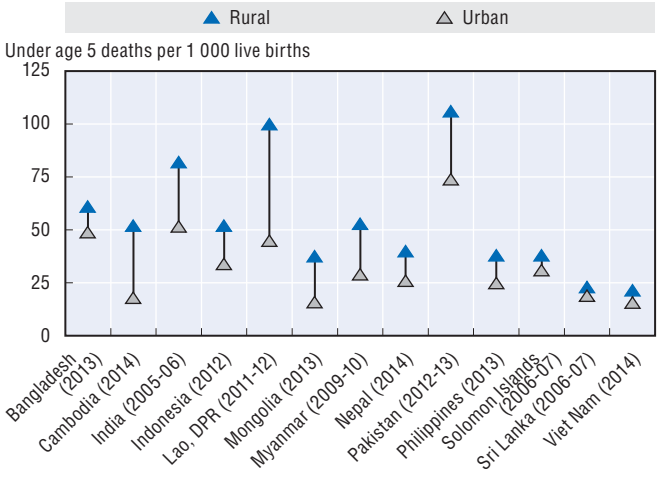
1.6. Under age 5 mortality rates, 2015 and decline, 2000-15 (or nearest year)

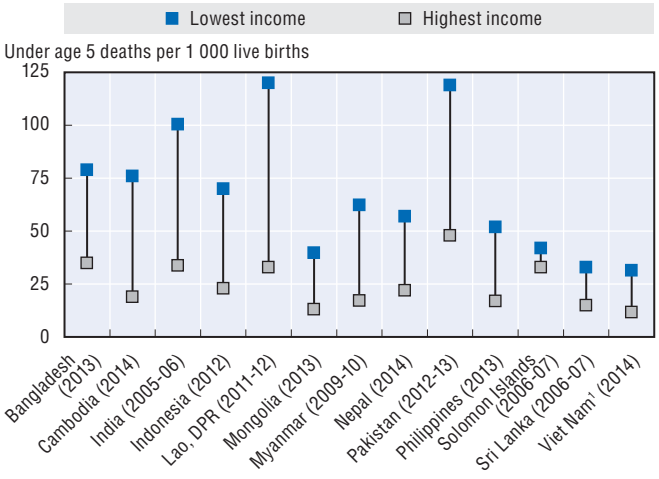


Source: UN IGME Child report 2015.

1.7. Under age 5 mortality rate by socio-economic and geographic factor, selected countries and years







Source: Demographic and Health Survey (DHS) and Multiple Indicator Cluster Survey (MICS) 2005-14.

1. 40% poorest; 60% richest.

StatLink http://dx.doi.org/10.1787/888933413237

The burden from non-communicable diseases among adults – the most economically productive age group – is rapidly increasing in the Asia-Pacific region. Increasing development in countries is bringing an "epidemiological transition", whereby early deaths are replaced by late deaths, and communicable diseases by non-communicable diseases (WHO, 2014h). The level of adult mortality, all-cause mortality for the population and cause of death are important for identifying the country's public health priorities and assessing the effectiveness of a country's health system.

There are wide disparities in adult mortality in the region. For males in 2013, the probability of dying between ages 15 and 60 ranged from a low of 69 per 1 000 population in Singapore to 319 per 1 000 in Papua New Guinea (Figure 1.8). It also exceeded 300 per 1 000 population in Mongolia, and was less than 100 also in Australia, New Zealand, Japan and the Republic of Korea. Among females, the probability ranged from 40 per 1 000 population in the Republic of Korea and Singapore to a high of 243 in Papua New Guinea. Probabilities were also less than 50 in Japan and Australia. Mortality was higher among men than women across countries and in Viet Nam, Sri Lanka, the Republic of Korea and Mongolia, rates for men were more than twice as high as those for females. Across 20 Asian countries, the average probability of dying was 176 per 1 000 population for adult men and 110 per 1 000 population for adult women, still much higher than the average adult mortality in OECD countries (105 per 1 000 population for men and 54 per 1 000 population for women).

All-case mortality for the entire population ranged from less than 400 per 100 000 population in Macao, China; Hong Kong, China; Japan; Singapore; the Republic of Korea and Australia, to over 1 000 in Papua New Guinea, Myanmar, Mongolia and the Lao PDR (Figure 1.9). The average rate in 20 Asian countries was 745, 50% higher than that of the OECD. Nonetheless, mortality for the entire population had declined in the Asia-Pacific region between 2000 and 2012, with a notable exception of the Philippines, Brunei Darussalam and Viet Nam, and the gap with OECD countries had narrowed.

Overall mortality for all populations is highly related with adult mortality across countries in the region. Singapore, Australia, New Zealand, Japan and the Republic of Korea, with the lowest adult mortality, also had the lowest all-cause mortality, while Papua New Guinea and Mongolia had the highest mortality for both adults and the entire population.

The share of deaths due to non-communicable diseases is increasing in the Asia-Pacific region. Non-communicable diseases such as cardiovascular diseases and cancers were the most common causes of death, being responsible for over 70% of all deaths, on average, across 20 Asian countries (Figure 1.10; see also indicator "Mortality from cardiovascular diseases" and indicator "Mortality from cancer" in Chapter 1). In OECD countries, the average was higher at 87% and the share was also increasing. But communicable diseases such as respiratory infections, diarrhoeal diseases and tuberculosis, along with maternal and perinatal conditions, also remained major causes of death among many countries in the Asia-Pacific region. In WPRO, violence and injuries are the leading cause of death for those aged 5-49, and the first five leading causes of deaths in the 15-29 age group are all violence and injury subtypes (see indicator "Mortality from injuries" in Chapter 1).

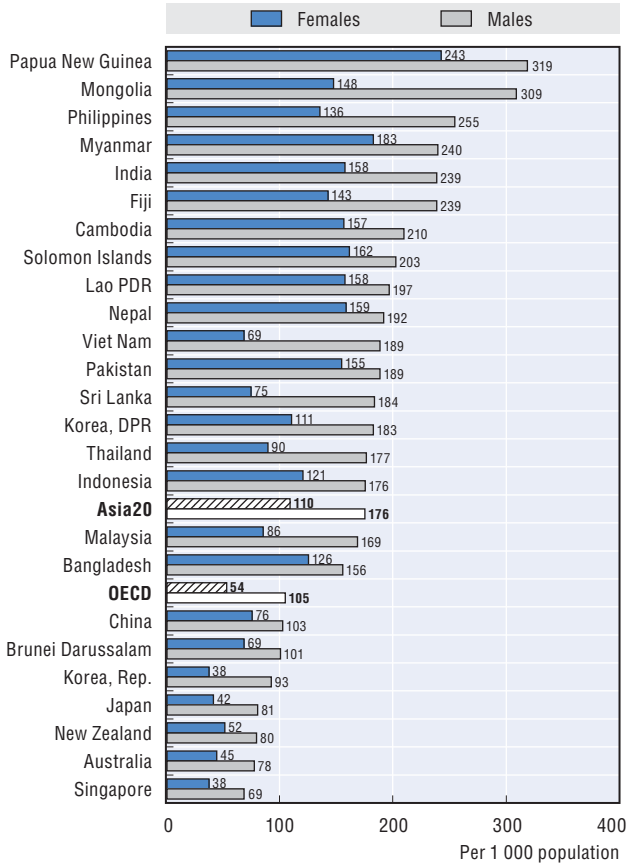
Definition and comparability

Mortality rates are calculated by dividing annual numbers of deaths by mid-year population estimates. Rates have been age-standardised to the UN World Population Prospects to remove variations arising from differences in age structures across countries.

Complete vital registration systems do not exist in many developing countries, and about one-third of countries in the region do not have recent data (WHO, 2014h). Misclassification of causes of death is also an issue. A general assessment of the coverage, completeness and reliability of causes of death data has been published by WHO (Mathers et al., 2005).

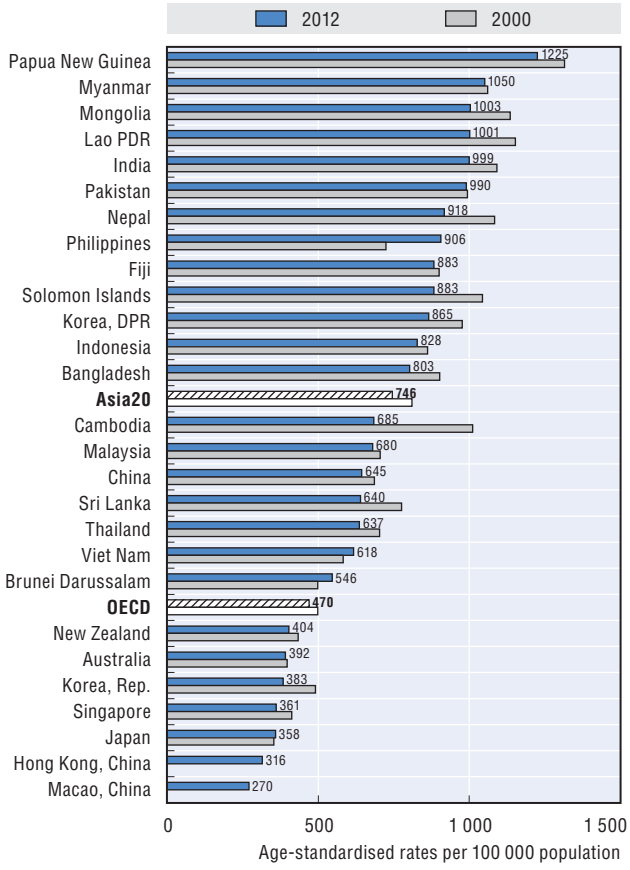
The WHO Global Health Estimates (GHE) project draws on a wide range of data sources to quantify global and regional effects of diseases, injuries and risk factors on population health. WHO has also developed life tables for all member states, based on a systematic review of all available evidence on mortality levels and trends. The probability of dying between 15 and 60 years of age (adult mortality rate) derive from these life tables.

1.8. Adult mortality rate, 2013 (probability of dying between 15 and 60 years per 1 000 population)



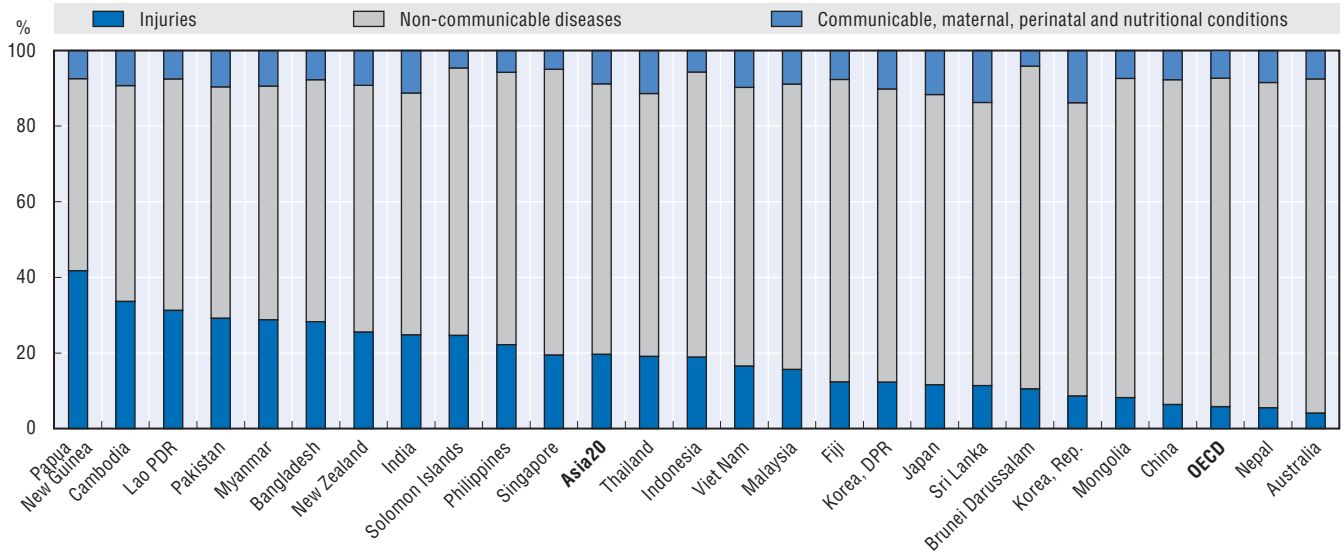
Source: WHO (2016), "Global Health Observatory Data Repository".

1.9. All cause-mortality rates for all populations, 2000 and 2012



Source: WHO Global Burden of Disease (2014); Department of Health, Hong Kong, China, 2014; Statistics and Census Service, Macao, China, 2014

1.10. Proportions of all cause deaths, 2012



Source: WHO Global Health Estimates (2014h).

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Cardiovascular disease (CVD) is the leading cause of death in the Asia-Pacific region, although highly preventable. CVD was the cause of an estimated 9.1 million deaths in SEARO and WPRO and accounted for about one-third of all deaths in 2012 (WHO, 2014h).

CVD covers a range of diseases related to the circulatory system, including ischaemic heart disease (IHD) and cerebrovascular disease (or stroke). Ischemic heart disease is caused by the accumulation of an atherosclerotic plaque in the inner wall of a coronary artery, restricting blood flow to the heart. Cerebrovascular diseases refer to a group of diseases that relate to problems with the blood vessels that supply the brain. Common types of cerebrovascular disease include ischemic stroke, which develops when the brain's blood supply is blocked or interrupted, and haemorrhagic stroke which occurs when blood leaks from blood vessels onto the subarachnoid space (subarachnoid haemorrhage) or within the brain (intracerebral haemorrhage). Together, IHD and stroke comprise 83.4% of all cardiovascular deaths in WPRO and SEARO countries combined (WHO, 2014h).

The majority of CVD is caused by risk factors that can be controlled, treated or modified, such as high blood pressure, high blood glucose, high blood cholesterol, obesity (see indicator "Overweight or obese adults" in Chapter 2), lack of physical activity, tobacco use (see indicator "Tobacco" in Chapter 2) and excessive alcohol consumption.

Mortality from cardiovascular disease varied across countries with a notably high level, exceeding 500 deaths per 100 000 population in Mongolia in 2012 (Figure 1.11). This was in contrast to a group of developed countries (Republic of Korea, Japan, Singapore, Australia, and New Zealand) and Macao, China and Hong Kong, China where death rates were below 120 per 100 000 population. The large variation in mortality may be due to differences in the prevalence of risk factors for CVD and also access to high quality acute care (see indicator "In-hospital mortality following acute myocardial infarction and stroke" in Chapter 5) across countries. The average mortality rates from CVD were 50% higher in Asian countries than in OECD countries (242 versus 161 deaths per 100 000 population). While OECD countries had decreased mortality from CVD, the rate increased in Asian countries.

Success of reducing the mortality rates from CVD in OECD countries owes to a decline in smoking rates, expanded health system's capacity to control high cholesterol and blood pressure, and greater access to effective care in the event of an acute episode such as a stroke or heart attack (OECD, 2015a). As an example, in Japan population-based interventions such as salt reduction campaigns and an increased use of antihypertensive drugs covered by the health insurance system were successful in controlling blood pressure, resulting in the reduction of CVD mortality (Ikeda et al., 2011).

The types of CVD that are fatal differ across countries in the region. In China, Indonesia, DPR Korea, Japan, the Republic of Korea, Myanmar, Solomon Islands and Viet Nam, morbidity and mortality from stroke was greater than IHD (Figure 1.12). In Brunei Darussalam, Fiji, Singapore and Sri Lanka in particular, and many other countries in the region, the trend was similar to European and North American countries and mortality and morbidity from IHD was greater than for stroke (Ueshima et al., 2008).

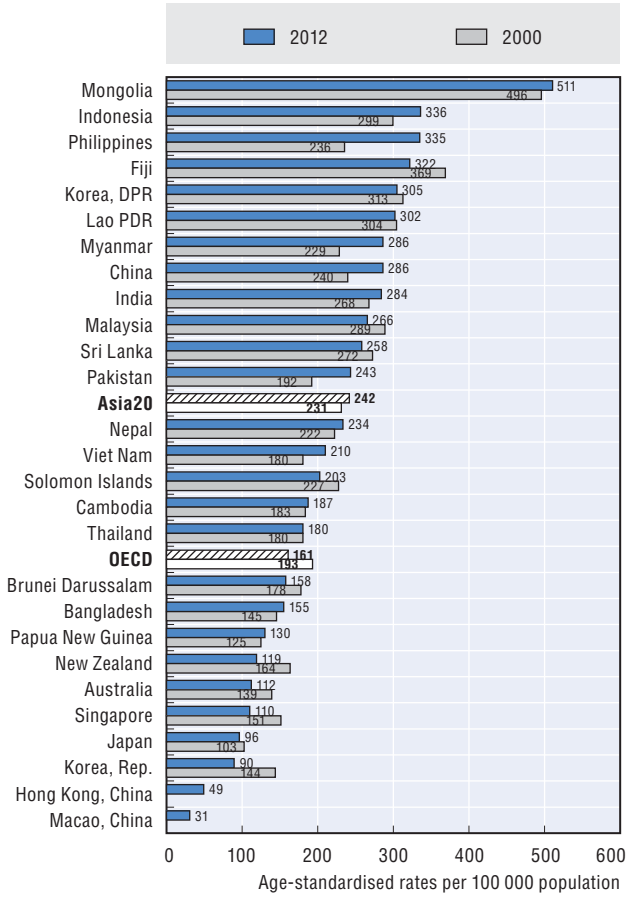
Mortality rates for CVD increase with age, and in China, India and Indonesia they are higher than OECD countries across all age groups (Figure 1.13).

As the proportion of older people increases in the Asia-Pacific region (see indicator "Ageing" in Chapter 1), demand for health care will increase and the complexity and type of care that CVD patients require will change. Increases in total cholesterol and blood pressure, along with smoking, overweight/obesity and high blood glucose (see indicator "Diabetes" in Chapter 1) highlight the need for management of risk factors to prevent an epidemic of CVD. In addition to efforts to improve lifestyles, primary care needs to be strengthened and quality of acute care also needs to improve through better emergency care and improved professional skills and training capacity (OECD, 2015a).

Definition and comparability

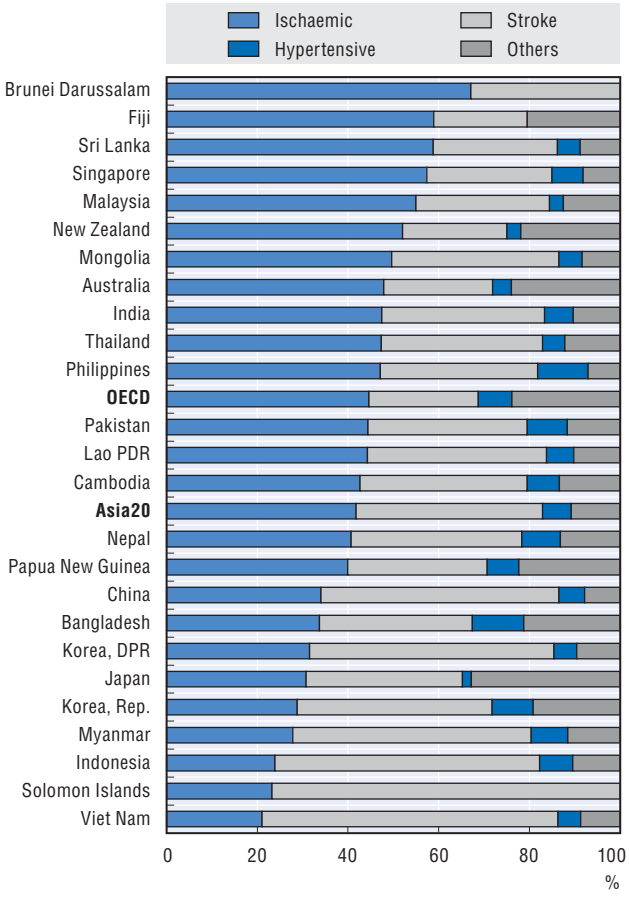
See indicator "Mortality from all causes" in Chapter 1 for definition, source and methodology underlying mortality rates.

1.11. Cardiovascular disease, estimated mortality rates, 2000 and 2012



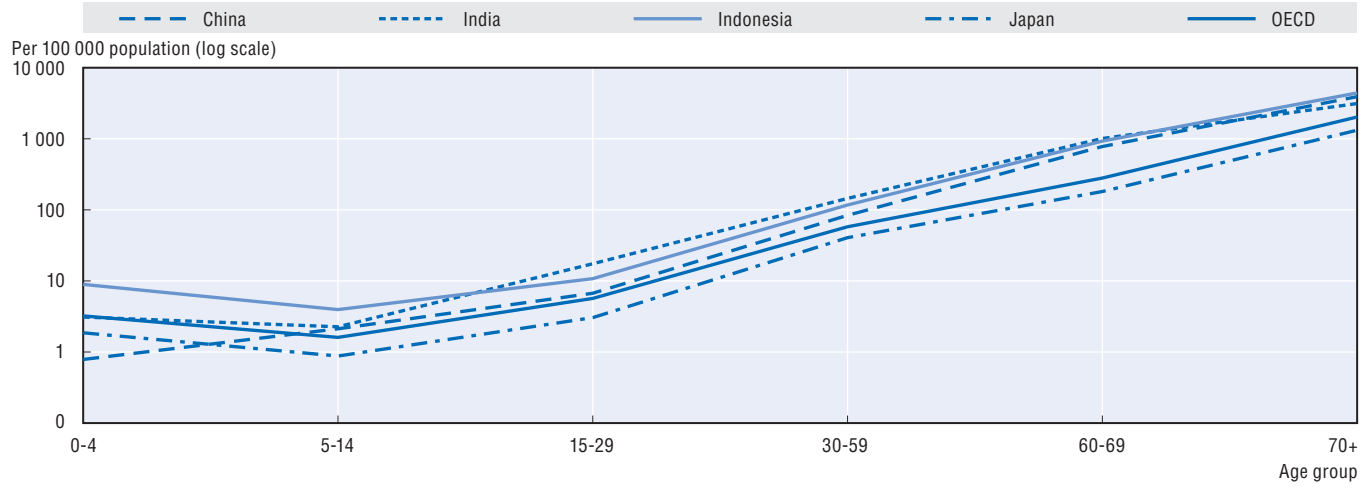
Source: WHO (2014), "Global Health Estimates"; Department of Health, Hong Kong, China, 2014; Disease Registry, Macao, China, 2014.

1.12. Proportions of cardiovascular disease deaths, 2012



Source: WHO (2014), "Global Health Estimates".

1.13. Cardiovascular disease, age-specific mortality rates, selected countries and OECD, 2012



Source: WHO (2014) "Global Health Estimates".

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Cancer is the second leading cause of death after CVD in the Asia-Pacific region. Cancer was the cause of an estimated 4.1 million deaths (or 14% of total deaths) in Asia-Pacific countries in 2012 (WHO, 2014h).

There are more than 100 different types of cancers, with most named after the organ in which they start. Cancer occurs when abnormal cells divide without control and are able to invade other tissues. While genetics are a risk factor, only about 5% to 10% of all cancers are inherited. Modifiable risk factors such as smoking, obesity, exercise, and excess sun exposure, as well as environmental exposures, explain as much as 90-95% of all cancer cases (Anand et al., 2008). Prevention, early detection and treatment remain at the forefront in the battle to reduce the burden of cancer, and progress towards fighting cancer needs to be monitored not only by mortality rates but also by survival estimates, taking account of early detection of the disease and the effectiveness of treatment (OECD, 2013).

Mongolia; DPR Korea; China; Hong Kong, China; Papua New Guinea and the Lao PDR had higher cancer mortality rates, all with over 125 deaths per 100 000 population in 2012 (Figure 1.14). Cancer deaths were less common in Sri Lanka, India, Nepal, Bangladesh, Fiji and Pakistan, and they had less than 90 deaths per 100 000 population.

The average rate of death in 20 Asian countries was lower than that of OECD countries (106 versus 129 deaths per 100 000 population in 2012). But cancer mortality had increased faster in the Asia-Pacific region than OECD countries since 2000, narrowing the gap with OECD countries. There was a substantial increase of 33% for prostate cancer deaths, 26% increase for pancreas cancer deaths, 23% increase for colorectal cancer deaths, 22% increase for lung cancer deaths and 21% increase for breast cancer deaths between 2000 and 2012. During the same period, there was a decline of 11% for stomach cancer deaths and 3% for oesophagus cancer deaths (WHO, 2014h).

Lung and liver cancer were two leading types of cancer in the region (Figure 1.15). Lung cancer accounted for 17% of all cancer deaths on average in 20 Asian countries in 2012. Rates were high in DPR Korea with 46 deaths per 100 000 population, followed by China with 38 deaths per 100 000 population, while the average was 17 deaths per 100 000 population in Asian countries. Liver cancer accounted for 16% of cancer deaths in Asian countries in 2012. In Mongolia, with the highest cancer mortality, the large proportion of deaths was due to liver cancer, precipitated by hepatitis B infection. Besides Mongolia, liver cancer deaths occurred frequently in the Lao PDR, Viet Nam, China and Thailand. Incidence is expected to fall in coming decades, with increased immunisation for hepatitis B (see indicator "Child vaccination programmes" in Chapter 5).

Other main causes of cancer deaths were stomach, colorectal and breast cancer. Mortality from stomach cancer accounted for 8% of all cancer deaths, linked to *Helicobacter pylori* infection, with deaths more prevalent in Mongolia, China, the Republic of Korea and Viet Nam. Colorectal cancer deaths were higher in New Zealand, Singapore, Japan, DPR Korea and the Republic of Korea. Breast cancer deaths, the most common cause among women, were responsible for over 15% of all cancer deaths in Pakistan and the mortality rate was also high in Papua New Guinea, Fiji, the Philippines and New Zealand.

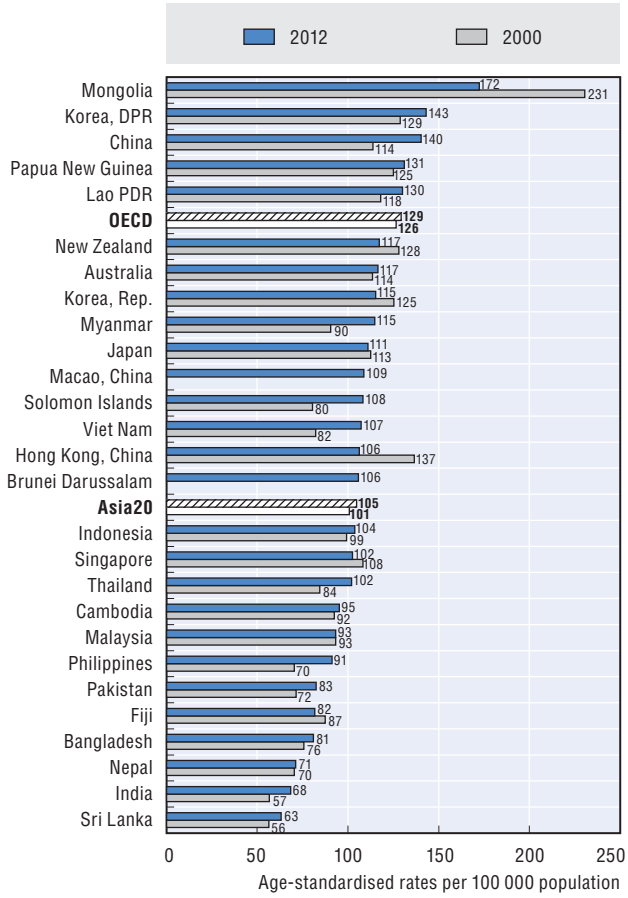
Cancer causes the highest economic loss among top causes of death worldwide as a large proportion of cancer deaths occur in the economically productive age group, and for a group aged 30-59, the age-specific mortality rate in Japan was lower than China, India and Indonesia (Figure 1.16). China had high mortality rates among the older people while the rate was less than one-third of the Chinese level for the older people in India. For a large number of cancers, the risk of developing the disease rises with age but in India, life expectancy is considerably lower than other countries, so the older people die of other diseases.

As with cardiovascular disease, the ageing of the population will lead to many more cases of cancer in coming decades, taxing underprepared health systems. Since the drugs and technologies for treating patients are expensive, cancer control planning in the Asia-Pacific region might more effectively target smoking, physical activity and overweight/obesity. Early diagnosis is also a key to reducing mortality, so access to cancer diagnosis and care needs to be promoted through public health interventions or wider health coverage (OECD, 2013).

Definition and comparability

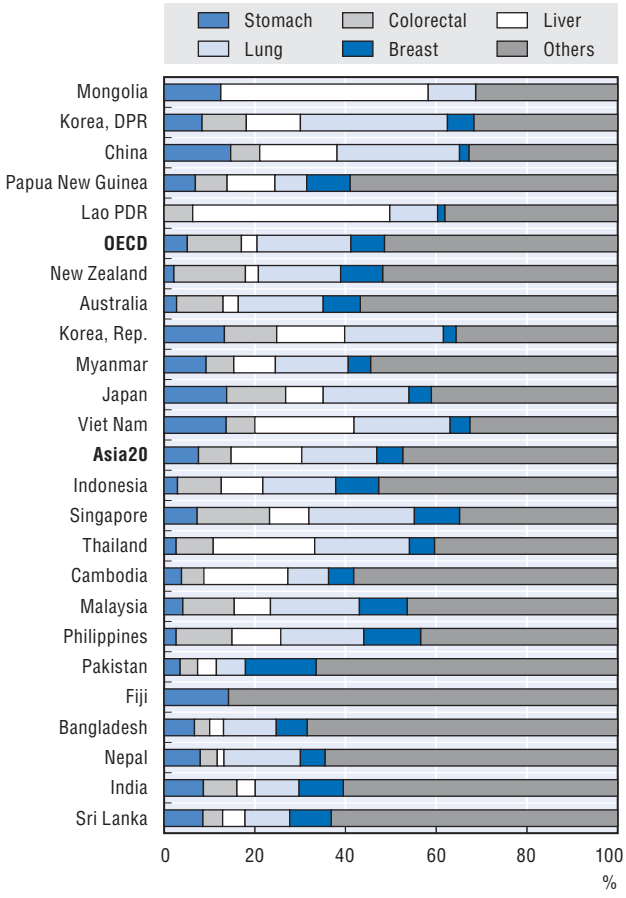
See indicator "Mortality from all causes" in Chapter 1 for definition, source and methodology underlying mortality rates. For Bangladesh, Cambodia, Indonesia, Lao PDR, Myanmar, Nepal, Pakistan, Papua New Guinea, Solomon Islands and Sri Lanka mortality rates are estimated from national incidence estimates using modelled survival. For Korea, DPR rates are those of neighbouring countries or registries in the same area.

1.14. All cancers, estimated mortality rates, 2000 and 2012



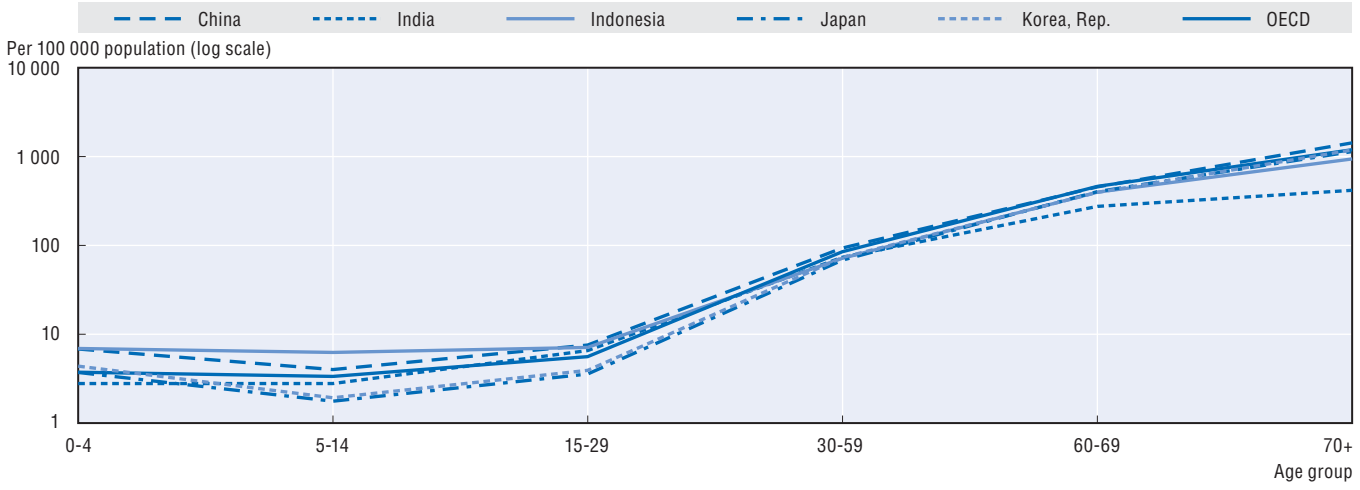
Source: WHO Global Burden of Disease (2014); Department of Health, Hong Kong, China, 2014; Disease Registry, Macao, China, 2014.

1.15. Proportions of cancer deaths, 2012



Source: WHO Global Burden of Disease (2014).

1.16. All cancers, age-specific mortality rates, selected countries and OECD, 2012



Source: WHO Global Burden of Disease (2014).

StatLink http://dx.doi.org/10.1787/888933413269

Injuries are a leading cause of death and disability for all age groups and took 2.6 million lives in 2012 in the Asia-Pacific region, accounting for 9.6% of all deaths. Injuries can result from traffic collisions, drowning, poisoning, falls or burns, and violence from assault, self-inflicted or acts or war. Injuries are the leading cause of death for those aged 5-49 in SEARO (29% of deaths from all causes) and WPRO (30.9% of deaths from all causes) (WHO, 2014h). The magnitude of the problem varies considerably across countries by cause, age, sex, and income group. But injury deaths, both intentional and unintentional, are largely preventable events.

Mortality from injuries was highest in India, Myanmar, Pakistan and Papua New Guinea with greater than 90 deaths per 100 000 populations, while the rate was lowest in Hong Kong, China; Singapore; Brunei Darussalam; Australia and New Zealand with 40 deaths per 100 000 population or less in 2012 (Figure 1.17). Asian countries had higher rates with 64 deaths per 100 000 population than OECD countries with 35 deaths per 100 000 population.

Injury deaths have declined in Asian countries since 2000. Between 2000 and 2012, there was a 30% reduction in deaths due to poisoning and a 24% reduction in deaths from both drowning and violence in the region. The large decrease in injury deaths in Sri Lanka was due to the end of armed conflict in 2009.

Deaths due to road traffic crashes have slightly increased in Asian countries from 2000 to 2012 (+1.7%), while a large decreased was observed in OECD countries during the same period (-45.4%). However, the figure for Asian countries should be considered in the context of a corresponding global increase in the number of registered vehicles, suggesting that interventions to improve global road safety have mitigated the expected rise in the number of deaths (WHO, 2015c). OECD countries improved a safe systems approach to road safety, which includes education and prevention campaigns as well as vehicle design and safety, and also adopted new laws and regulations and the enforcement of these laws to improve compliance with speed limits, seatbelt use and drink-driving rules (OECD/ITF, 2013). With the support of Bloomberg Philanthropies, the WHO, the Global Road Safety Partnership and Johns Hopkins University have been implementing the Bloomberg Philanthropies Global Road Safety Programme (BP-GRSP) in ten countries including China, Cambodia, India, and Viet Nam. Those four countries combined represent 50% of the total global burden of fatal road traffic injuries. Commencing in 2010, this five-year programme focuses on saving lives and preventing injuries by scaling up enhanced enforcement of major risk factors like motorcycle helmet wearing, speed, alcohol or seatbelts, pertinent to each country (Peden, 2010). On 11 May 2011, the first ever Decade of Action for Road Safety 2011-20 was launched with great enthusiasm and optimism across the world. Mandated by the United Nations General Assembly, the Decade is a historic opportunity for countries to stop and reverse the trend which – without action – would lead to the loss of around 1.9 million lives on the roads each year by 2020 (*www.who.int/roadsafety/decade_of_action/en/*).

The main causes of injury deaths are different across countries in the region (Figure 1.18). In Thailand, Malaysia and Indonesia, 40% or more of all injury deaths were due to road traffic crashes, while in the Republic of Korea mortality rates for road traffic injuries are one of the highest in high income countries. In the Republic of Korea, Singapore, Japan and DPR Korea, self-inflicted injuries were the leading cause of injury mortality, accounting for over 40% of all injury deaths. Over 90% of people who had attempted or committed suicide were diagnosed with psychiatric disorders such as severe depression, bipolar disorder and schizophrenia (Nock et al., 2008) but mental disorders are still under-treated or ineffectively treated (OECD, 2014). Interpersonal violence is the main cause of injury deaths for men in the Philippines. Apart from road traffic injuries, drowning and fire-related burns are also leading causes of injury-related deaths among children in the region (Peden et al., 2008).

Age-specific mortality was consistently higher in India than China, Indonesia, Japan and the OECD average across all age groups (Figure 1.19). In India, suicide and road traffic crashes were the main causes of injury deaths among the population aged 15-59, and falls were the leading cause for older populations aged 60 and over.

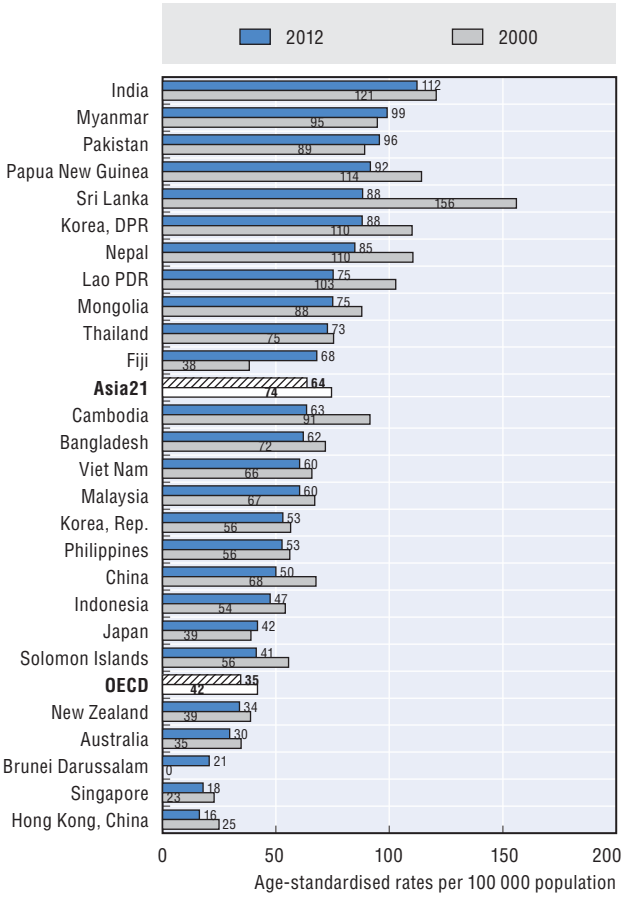
Definition and comparability

See indicator "Mortality from all causes" in Chapter 1 for definition, source and methodology underlying mortality rates.

Injury deaths where the intent is not determined are distributed proportionately to all causes below the group level for injuries.

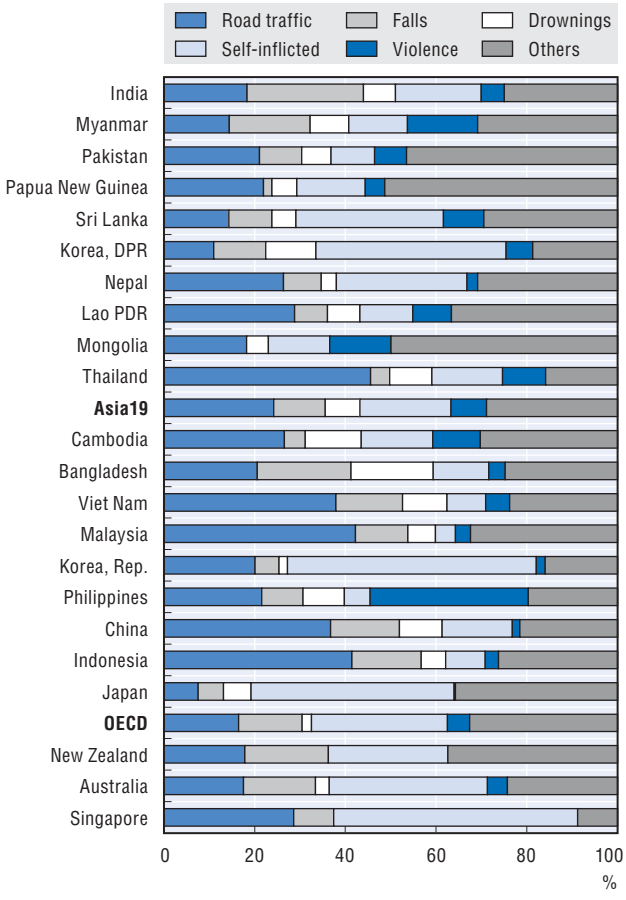
Estimates for road injury deaths drew on death registration data, reported road traffic deaths from official road traffic surveillance systems and revised regression model for countries without usable death registration data (WHO, 2014h).

1.17. Injuries, estimated mortality rates, 2000 and 2012



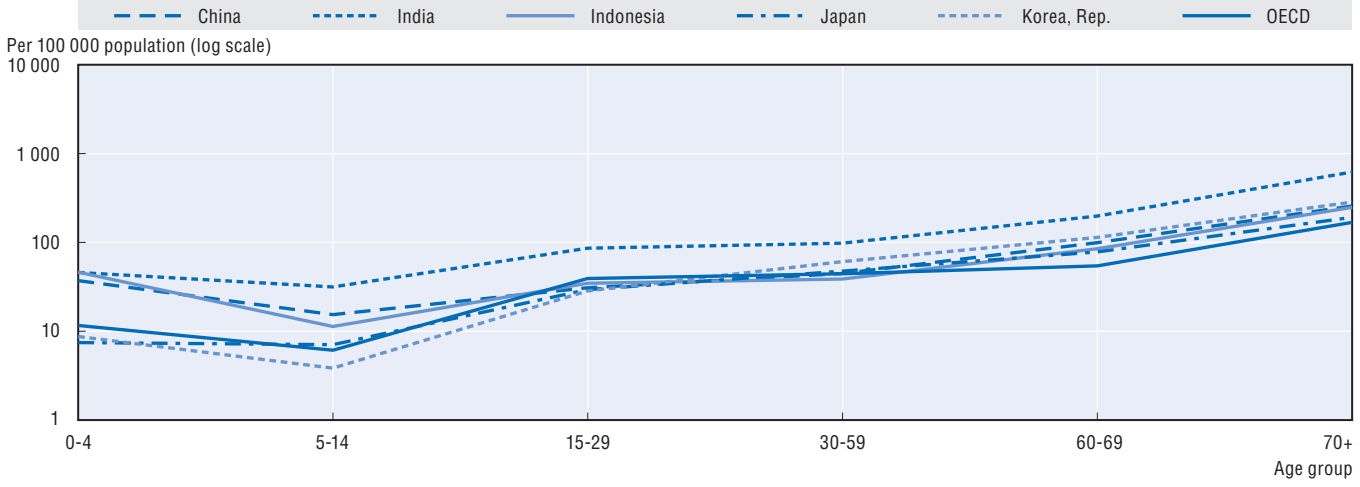
Source: WHO Global Burden of Disease (2014); Department of Health, Hong Kong, China, 2014.

1.18. Proportions of injury deaths, 2012



Source: WHO Global Burden of Disease (2012).

1.19. Injuries, age-specific mortality rates, selected countries and OECD, 2012



Source: WHO Global Burden of Disease (2014).

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Pregnancy and childbearing, whilst offering women opportunities for personal development and fulfilment, also present inherent risks. Maternal mortality – the death of a woman during pregnancy, childbirth, or within 42 days of the termination of pregnancy – is an important indicator of a woman's health status. The Sustainable Development Goals set a target of reducing the global maternal mortality ratio to less than 70 per 100 000 live births by 2030.

Almost 303 000 maternal deaths were estimated to have occurred worldwide in 2015 and a woman's lifetime risk of maternal death – the probability that a 15-year-old woman will eventually die from a maternal cause – is 1 in 180 (WHO, 2015a).

The leading causes of deaths are severe bleeding after childbirth, infections, high blood pressure during pregnancy and unsafe abortion. The majority of these deaths are preventable, and occur in resource-poor settings (WHO, 2015a). Fertility and maternal mortality have strong associations with economic development and GDP. Risk of maternal death can be reduced through family planning, better access to high-quality antenatal, delivery and postnatal care by skilled health professionals.

In Asian countries, maternal mortality ratio (MMR) averaged around 91 deaths per 100 000 live births in 2015 (Figure 1.20, left panel). Estimates for 2015 show a small group of countries – Hong Kong, China; Australia; Japan; Singapore; New Zealand and the Republic of Korea – with very low MMRs of less than 12, but a group of countries including Lao PDR, Papua New Guinea and Nepal had high MMRs at 195 or more deaths per 100 000 live births. About one-fifth of the world's maternal mortality burden occurred in India and Pakistan alone.

Despite high rates in certain countries, significant reductions in maternal mortality have been achieved in the Asia-Pacific region over the last 15 years (Figure 1.20, right panel). Globally, the MMR declined by 55% between 2000 and 2015 across 20 Asian countries. Cambodia, the Lao PDR and Bangladesh showed the largest reductions among countries reporting high ratios in 2000. According to a study (WHO, 2014d), Cambodia's success is related to reduced fertility through wider use of contraceptives and increased coverage of antenatal care and skilled birth attendance – achieved through increasing the number of midwives and facilities providing Emergency Obstetric and Newborn Care.

Across countries, maternal mortality is inversely related to the coverage of skilled births attendance (Figure 1.21). Although ten countries have more than 90% of births attended by skilled health professionals, several countries including Bangladesh, Nepal, the Lao PDR and Papua New Guinea less than 50% of births are attended by skilled health professionals (see indicator "Pregnancy and birth" in Chapter 3). These countries have relatively high MMRs above 176 deaths per 100 000 live births.

Higher coverage of antenatal care (at least four times) is associated with lower maternal mortality, indicating the effectiveness of antenatal care across countries (Figure 1.22). Addressing disparities in the unmet need of family planning and providing essential reproductive health services to underserved populations may also substantially reduce maternal deaths in the region (UNESCAP, 2013).

To improve quality of care, maternal death surveillance and response (MDSR) has been implemented in countries. MDSR is a continuous cycle of identification, notification and review of maternal deaths followed by actions to prevent future death. Global survey of national MDSR system instigated in 2015 provides baseline data on status of implementation. The implementation status of countries in WPRO (Cambodia, China, Fiji, Lao PDR, Malaysia, Mongolia and Papua New Guinea) can be seen at: *www.who.int/maternal_child_adolescent/epidemiology/maternal-death-surveillance/en/*.

Definition and comparability

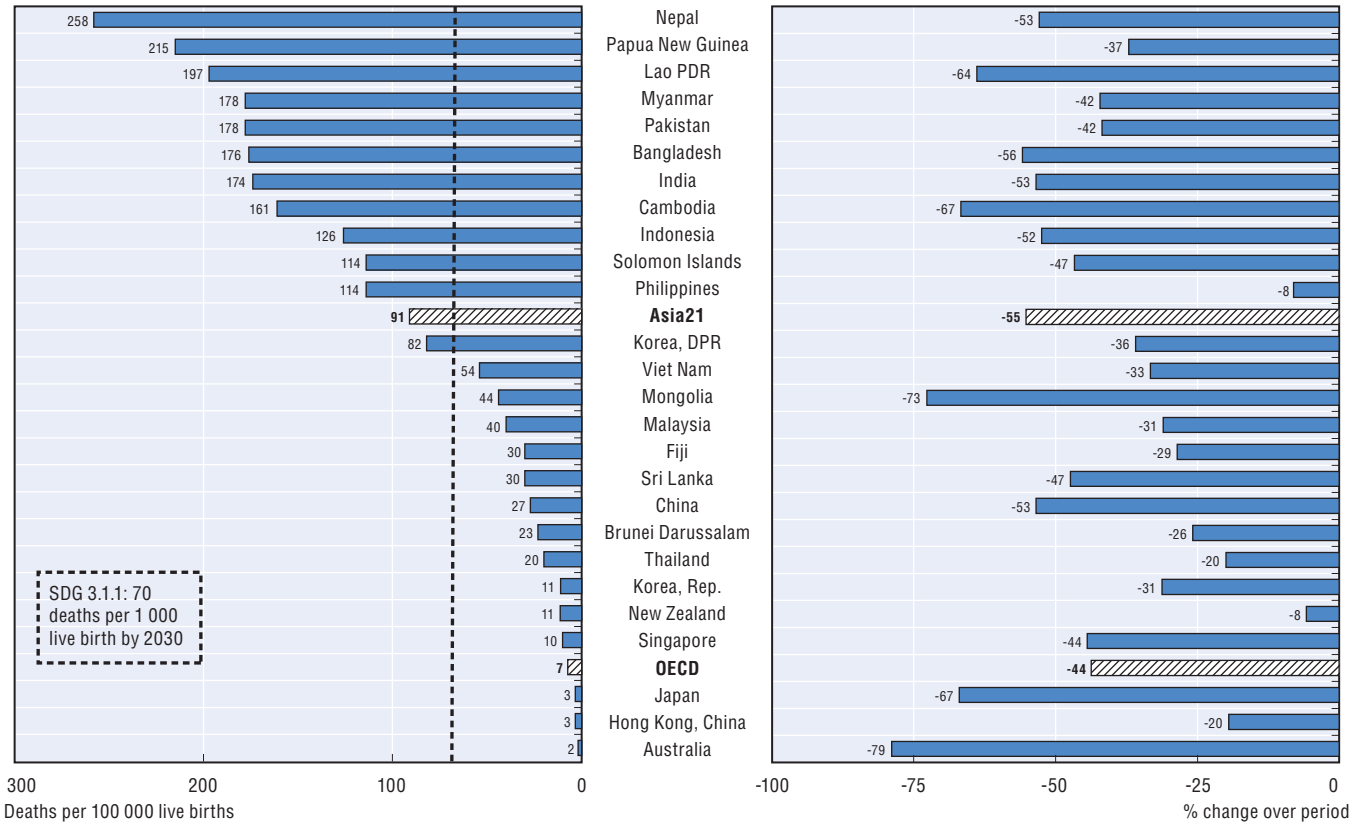
Maternal mortality is defined as the death of a woman while pregnant or during childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from unintentional or incidental causes (WHO, 2014e).

This includes direct deaths from obstetric complications of pregnancy, interventions, omissions or incorrect treatment. It also includes indirect deaths due to previously existing diseases, or diseases that developed during pregnancy, where these were aggravated by the effects of pregnancy.

Maternal mortality is here measured using the maternal mortality ratio (MMR). It is the number of maternal deaths during a given time period per 100 000 live births during the same time period.

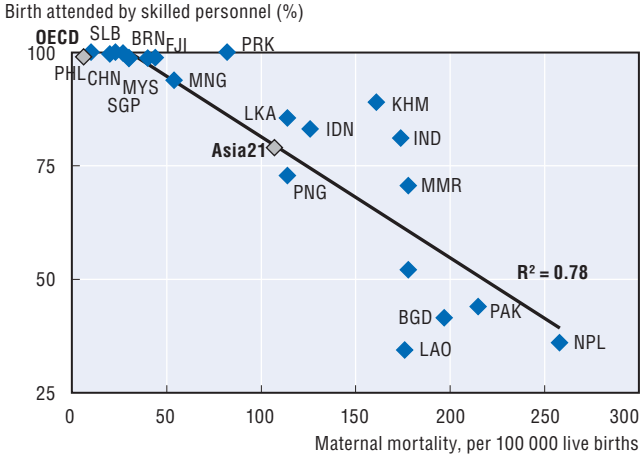
There are difficulties in identifying maternal deaths precisely. Many countries in the region do not have accurate or complete vital registration systems, and so the MMR is derived from other sources including censuses, household surveys, sibling histories, verbal autopsies and statistical studies. Because of this, estimates should be treated cautiously.

1.20. Estimated maternal mortality ratio, 2015 (or latest year available), and percentage change since 2000



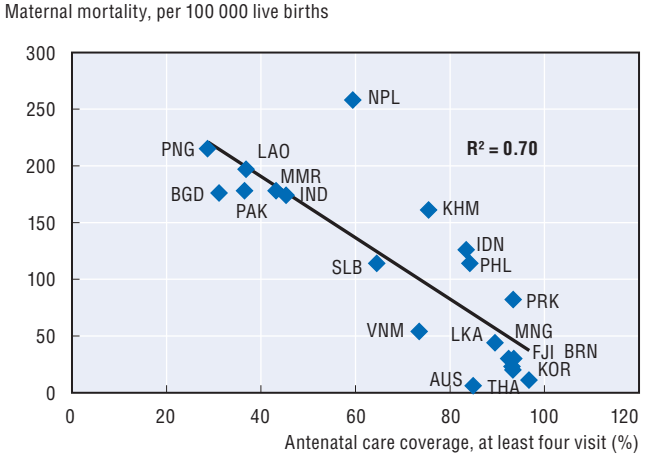
SDG: Sustainable Development Goal.
Source: *OECD Health Statistics 2016*; WHO (2016e); Health facts of Hong Kong 2015.

1.21. Skilled birth attendant coverage and estimated maternal mortality ratios, latest year available



SDG: Sustainable Development Goal.
Source: *OECD Health Statistics 2016*; WHO (2016e).

1.22. Antenatal care coverage and maternal mortality, latest year available



Source: WHO (2016e); National survey on children for India for 2013-14.

StatLink http://dx.doi.org/10.1787/888933413283

Tuberculosis (TB) is the leading cause of death from an infectious disease in the Asia-Pacific region. In 2014, there were 9.7 million new TB cases worldwide, 1.5 million including people with HIV died of TB globally. One third of new cases and one fourth of deaths were estimated in India and Indonesia alone. Most of these TB cases and deaths occur disproportionately among men, but the burden of disease among women is also high as it remains among the top three killers for them in the world. Most cases of TB are preventable if diagnosed and the right treatment is provided.

TB was declared a global health emergency by WHO in 1993 and the WHO-coordinated Stop TB Partnership set targets of halving TB prevalence and deaths by 2015, compared with a baseline of 1990. The Sustainable Development Goals foresee the end of the epidemic of tuberculosis by 2030.

Four of the five countries in the world with the largest number of incident cases in 2014 were in the Asia-Pacific region: India (2.2 million), Indonesia (1.0 million), China (0.9 million) and Pakistan (0.5 million). DPR Korea and Papua New Guinea reported an incidence rate higher than 400 cases per 100 000 population, while Australia and New Zealand reported lee than one case (Figure 1.23, left panel).

Prevalence rates were highest in Cambodia, Papua New Guinea, Indonesia and DPR Korea, with over 500 cases per 100 000 population in 2014 (Figure 1.23, right panel). The unweighted average prevalence rate across 22 Asian countries in 2014 was 264, more than 15 times the OECD average. In Australia and New Zealand, TB prevalence rates were lowest at less than ten.

Tuberculosis claims the lives of 1 120 000 people without HIV every year (WHO, 2015e). In the Asia-Pacific region, mortality rates were high in Cambodia, Myanmar, Lao PDR and Bangladesh with over 50 deaths per 100 000 populations (Figure 1.23, right panel). In the Asia-Pacific region, high-quality TB services have expanded and many cases are treated, reaching the treatment success rate of 85% in 2013 (Figure 1.24). Although the average detection rate in the region is generally high, there were a large number of undetected cases in some countries such as Lao PDR and Indonesia in 2014. The detection rate was as low as one in three cases, suggesting that they are lagging behind in achieving effective coverage.

The Asia-Pacific region is rising to the challenges presented by TB, with incidence, prevalence and mortality declining steadily since 1990. In about half of the countries, incidence and prevalence rates have been halved since 1990 (Figure 1.25). However, these indicators suggest that DPR Korea, Papua New Guinea, Cambodia and Indonesia need to make more progress in stopping TB as the prevalence rates are still over 600 per 100 000 population.

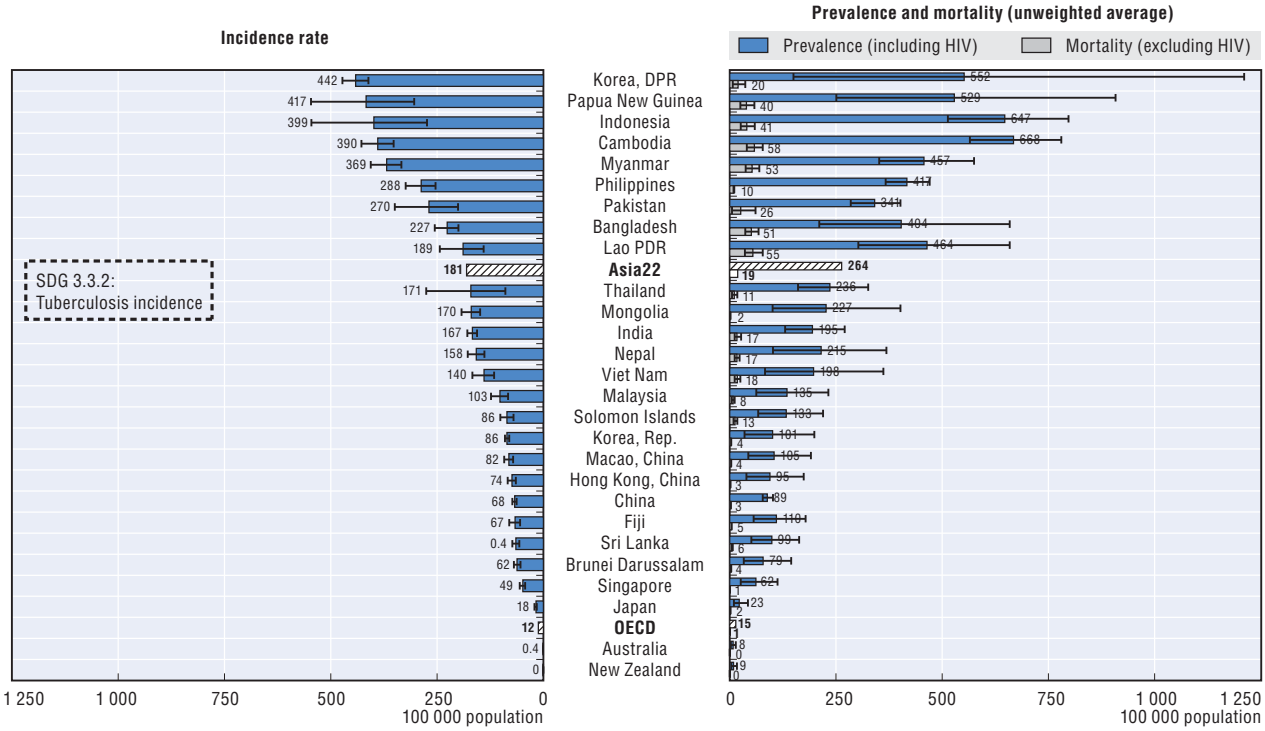
The region still faces important challenges in TB control, including providing services to those in greatest need, especially the poor and vulnerable. HIV-TB co-infection, the emergence of drug-resistant strains, funding gaps and the need for greater technical expertise all remain threats to progress (WHO, 2015e, 2012a). With regards to multidrug-resistant TB (MDR-TB), the burden is high in China with 5.7% of new cases with MDR-TB. This proportion is also high in Myanmar, Lao PDR and Viet Nam, at above 4%. Treatment of MDR-TB can take up to two years and is far more costly than drug susceptible strains.

Definition and comparability

Tuberculosis (TB) is a contagious disease, caused by the *Mycobacterium tuberculosis* bacteria. Tuberculosis usually attacks the lungs but can also affect other parts of the body. It is spread through the air, when people who have the disease cough, sneeze, talk or spit. Most infections in humans are latent and without symptoms, with about one in ten latent infections eventually progressing to active disease. If left untreated, active TB kills between 20% and 70% of its victims within ten years depending on severity.

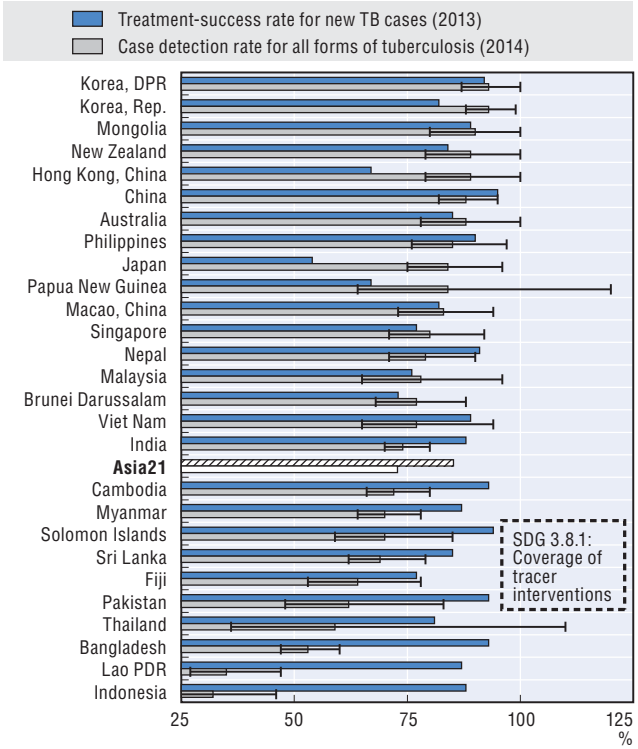
The TB incidence rate is the number of new cases of the disease estimated to occur in a year, per 100 000 population. The TB prevalence rate is the total number of persons with the disease at a particular time, per 100 000 population. TB mortality does not include TB/HIV as per ICD-10.

1.23. Estimate of the burden of disease caused by tuberculosis, 2014



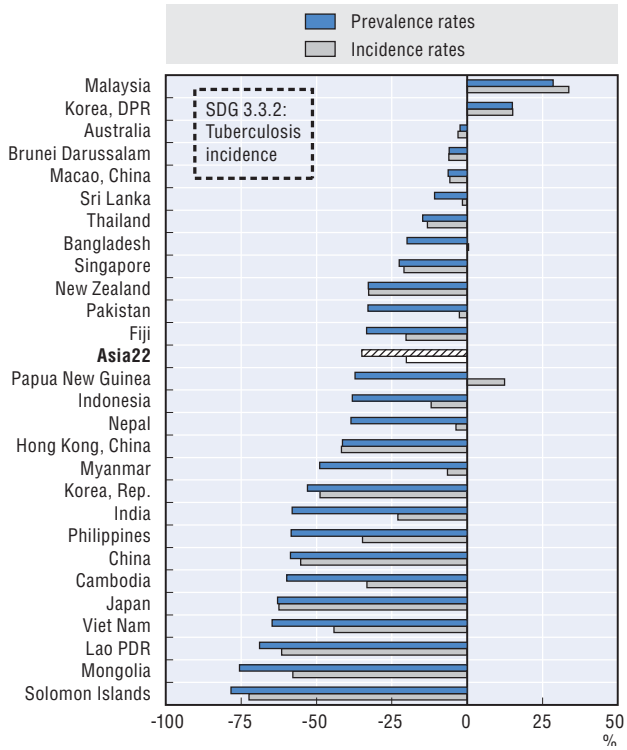
SDG: Sustainable Development Goal.
H represents upper and lower values.
Source: WHO (2015e), *World Tuberculosis Report*.

1.24. Tuberculosis treatment success for new TB cases and case detection, 2013-14



SDG: Sustainable Development Goal.
H represents upper and lower values.
Source: WHO (2015e), *World Tuberculosis Report*.

1.25. Change in tuberculosis incidence and prevalence rate, 1990-2014



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Although the first cases of AIDS in Asia were reported mid-1980s, the more extensive spread of HIV began late compared with the rest of the world, occurring in Cambodia, India, Myanmar and Thailand in the early 1990s (Ruxrungtham et al., 2004). Asia is second only to sub-Saharan Africa as the region with the greatest number of people living with HIV. The UN set a SDG target to end the epidemic of AIDS as a public threat by 2030.

In the Asia-Pacific region, the prevalence of HIV infection varied from 0.1 per 100 population in the Philippines to 1.1 per 100 population in Thailand (Figure 1.26, left panel). Myanmar and Papua New Guinea also had a comparatively high prevalence of 0.8 per 100 population.

Although HIV prevalence is low, the absolute number of people living with HIV was high at 4.1 million in 2015, because of Asia's large population (Figure 1.26, right panel). More than 50% of people living with HIV were in India. In 2015, there were about 300 000 adults and children newly infected with HIV in the region, and a high number of new cases were observed in China, India and Indonesia (UNAIDS, 2016).

Expanded access to antiretroviral therapy (ART) has increased the survival rates of people living with HIV, but about half of the people eligible for HIV treatment do not receive it worldwide (UNAIDS, 2016). The proportions of people with advanced HIV infection who received ART in 2015 were less than one-fifth in Bangladesh, Indonesia, Pakistan and Sri Lanka (Figure 1.27). UNAIDS modelled estimates conducted in 2016 for 2015 show that ART coverage for people living with HIV were 39% and 47% in SEARO and WPRO respectively.

Over past years, many countries in the Asia-Pacific region responded to HIV/AIDS successfully and incidence rates have declined. Between 2010 and 2015, the number of people new infected with HIV was reduced by around 40 % in Malaysia, Nepal, Cambodia and Thailand (UNAIDS, 2016; Figure 1.28). However, new HIV infections and the number of people living with HIV had increased rapidly in Pakistan and the Philippines during the same period.

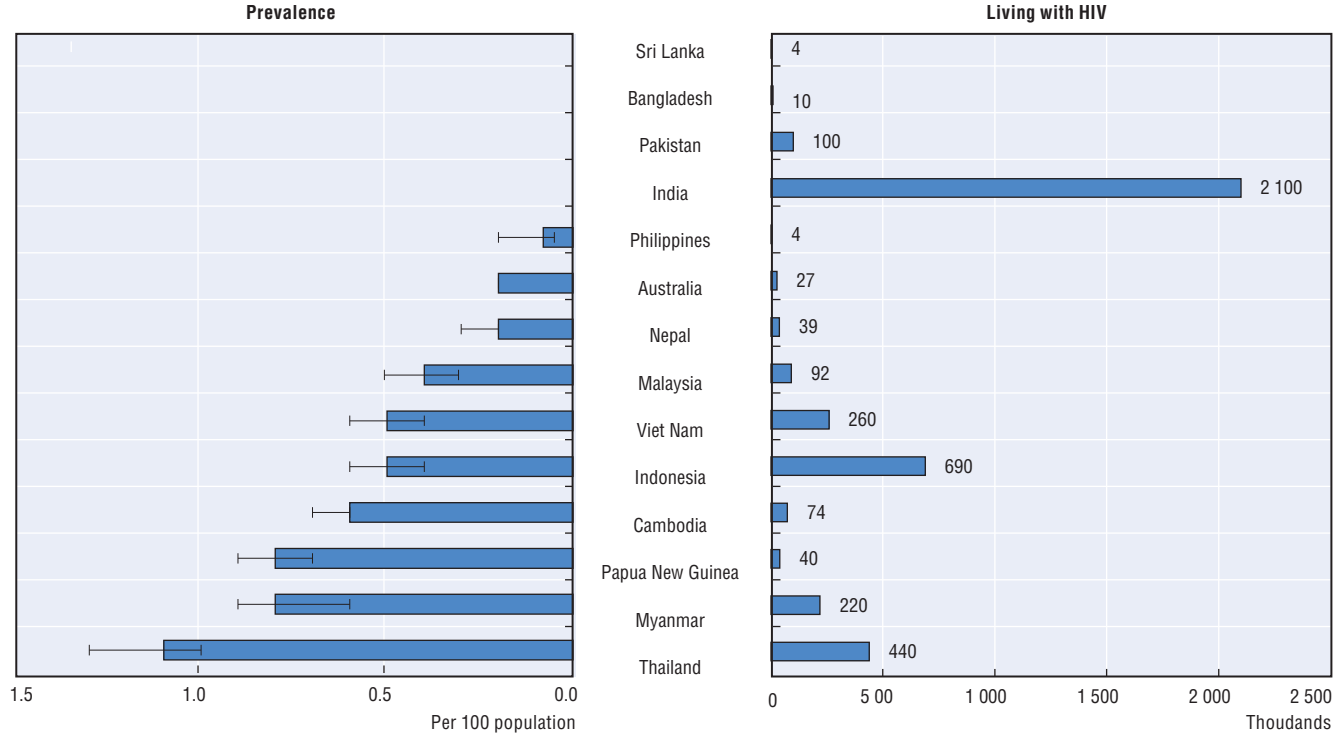
Advances in HIV prevention and treatment could end AIDS as a public health threat in the region. Recent evidence has emerged showing that antiretroviral drugs not only improves the health and prolong the lives of people living with HIV, but also prevents HIV transmission. The rapid scale-up ART in recent years in Asia and the Pacific provides unprecedented opportunity to successfully implement antiretroviral-based interventions for prevention. The benefits of ART can be fully realized only if people living with HIV are diagnosed early and successfully linked to care. This will require targeted efforts and removing barriers especially among key affected populations, as most of Asia's epidemics occur among sex workers and their clients, men who have sex with men, transgender persons and injection drug users.

Definition and comparability

Human immunodeficiency virus (HIV) is a retrovirus that destroys or impairs the cells of the immune system. As HIV infection progresses, a person becomes more susceptible to infections. The most advanced stage of HIV infection is acquired immunodeficiency syndrome (AIDS). It can take 10-15 years for an HIV-infected person to develop AIDS, although antiretroviral drugs can slow down the process.

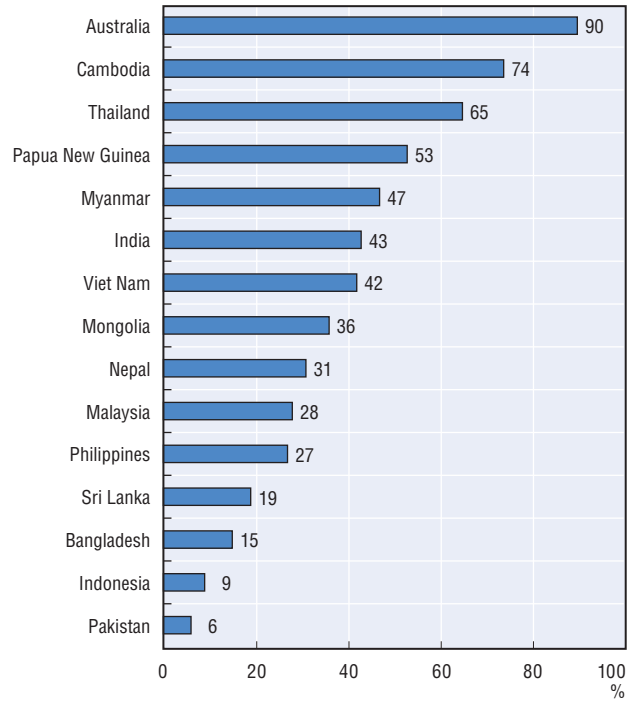
HIV prevalence is the total number of persons estimated to be living with the disease at a particular time, per 100 population.

1.26. Estimated persons living with HIV, 2015



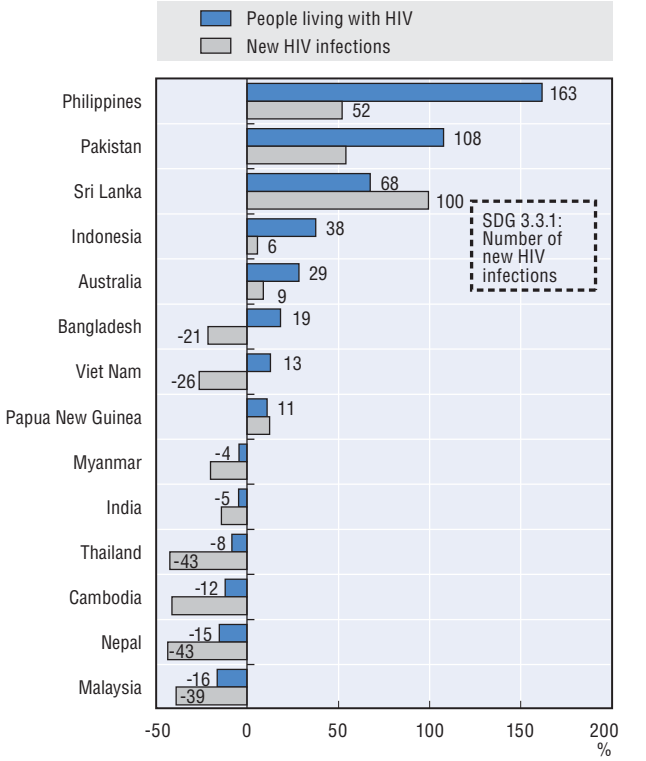
H represents upper and lower values.
Source: UNAIDS (2016).

1.27. Estimated antiretroviral therapy coverage among people living with HIV, 2015



Source: UNAIDS (2016)

1.28. Changes in estimated number of people newly infected with HIV and people living with HIV, 2010-15



SDG: Sustainable Development Goal.
Source: UNAIDS (2016)

StatLink http://dx.doi.org/10.1787/888933413306

Malaria is a tropical disease caused by a parasite transmitted by the bites of infected female *Anopheles* mosquitoes. After a period spent in the liver, malaria parasites multiply within red blood cells, causing symptoms such as fever, headache and vomiting. Malaria is preventable and curable, although no vaccine currently exists (a vaccine against falciparum is currently being trialed in Africa though). But if left untreated, malaria can become life-threatening by disrupting the blood supply to vital organs.

As part of the SDG targets, the UN set a goal to end the epidemic of malaria by 2030. China, Malaysia, Nepal and the Republic of Korea have set an even closer target date of 2020 for elimination.

About 2.3 billion people live at some risk of malaria and 1 billion people are at high risk in the Asia-Pacific region. Malaria-endemic countries in the region are Papua New Guinea, Solomon Islands, Pakistan, India, Nepal, the Philippines, Indonesia, Myanmar, the Lao PDR, Cambodia, Thailand, DPR Korea, China, Viet Nam, Bangladesh, the Republic of Korea and Malaysia. Malaria transmission is intense in some areas of Papua New Guinea and the Solomon Islands, and it is also intense in focal areas in the Greater Mekong Sub-region, including in parts of Cambodia, the Lao PDR and Viet Nam. In several countries such as Cambodia, Viet Nam and Lao PDR, malaria is mainly found in remote forest areas, where it disproportionately affects ethnic minorities and migrant workers. Malaria is also restricted in its distribution in Malaysia and the Philippines. Mobile and indigenous populations as well as infants, young children and pregnant women are especially vulnerable.

In 2014, there were 163 million suspected cases and 6.2 million probable or confirmed cases in Asian countries (WHO, 2015d), and probable or confirmed cases were concentrated in Pakistan and India (Figure 1.29, left panel). Death rates are estimated to be highest in Papua New Guinea, the Solomon Islands and Myanmar (Figure 1.29, right panel).

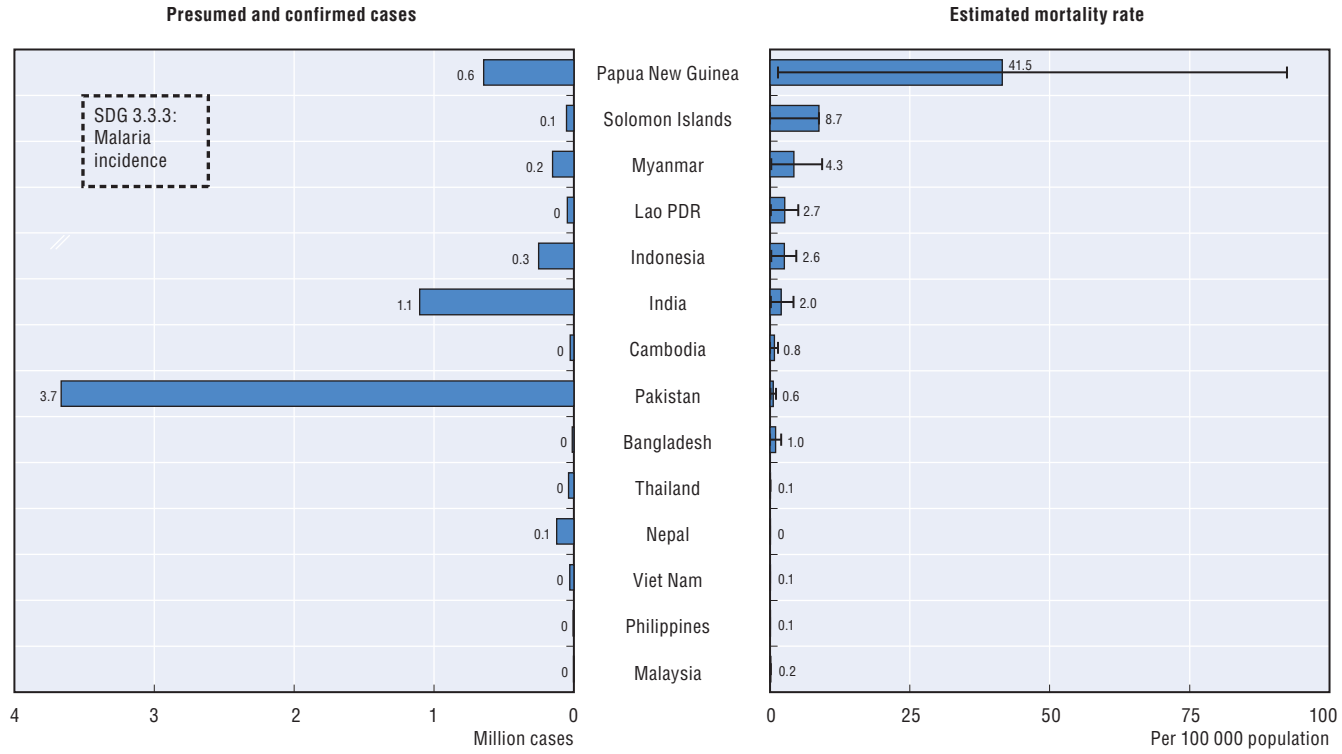
The use of insecticide-treated nets (ITN) and indoor residual spraying (IRS) with insecticides are important preventive measures for at-risk populations to avoid mosquito bites, but the coverage is still low in a few countries (Figure 1.30). Despite the high prevalence of malaria, Pakistan, India and Indonesia had low ITN and IRS coverage, and the Republic of Korea and Viet Nam had not distributed sufficient ITNs or IRS to cover half of the population at high risk in 2012 (WHO, 2015d).

Prompt treatment with artemisinin-based combination therapies could save people infected with malaria. But Indonesia, India and Nepal reported delivering insufficient quantities of antimalarial medicines in 2014 (WHO, 2015d) (Figure 1.31).

Definition and comparability

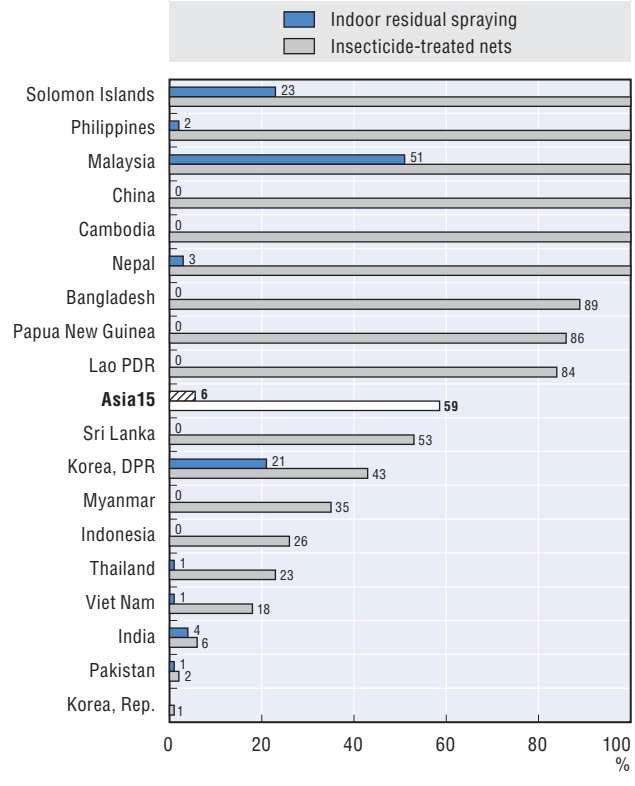
Underreporting of malaria cases and deaths remain a major challenge in countries with inadequate and limited access to health services and weak surveillance systems (WHO, 2014h). The number of deaths were estimated by adjusting the number of reported malaria cases for completeness of reporting, the likelihood that cases are parasite positive, and the extent of health service use.

1.29. Malaria cases and deaths, 2014

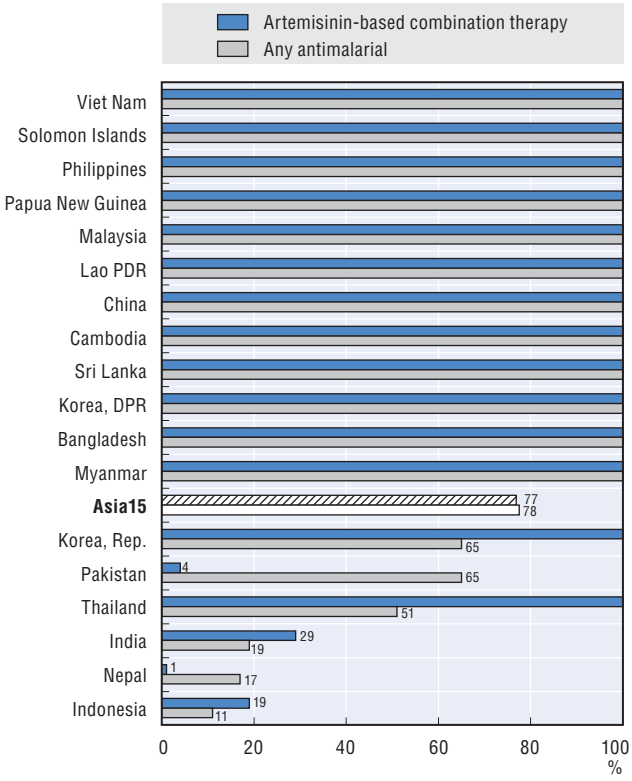


SDG: Sustainable Development Goal.
Source: WHO (2015d).

1.30. Malaria prevention, estimated coverage, 2014



1.31. Estimated coverage of at-risk persons with malaria control interventions, 2014



Source: WHO (2015d).

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Diabetes is a chronic metabolic disease, characterised by high levels of glucose in the blood. It occurs either because the pancreas does not produce sufficient amounts of the hormone insulin, which regulates blood glucose, or through reduced ability to respond to insulin (i.e. insulin resistance). People with diabetes are at a greater risk of developing cardiovascular diseases such as heart attack and stroke. They also have elevated risks for vision loss, foot and leg amputation due to damage to nerves and blood vessels, and renal failure requiring dialysis or transplantation.

Diabetes is one of the most common non-communicable diseases globally, affecting 422 million people in 2014, a prevalence of 8.5% among the adult population (18 years or older) (WHO, 2016e). In the Asia-Pacific region, about 227 million people live with type 2 diabetes and about half of them are undiagnosed and unaware of developing long-term complications. In 2012, diabetes caused 1.5 million deaths worldwide and an additional 2.2 million deaths were related to higher-than-optimal blood glucose (WHO, 2016e).

Type 2 diabetes comprises 90% of people with diabetes around the world, and until recently, this type of diabetes was seen only in adults, but it is now also occurring in children. For many people, the onset of type 2 diabetes can be prevented or delayed through regular physical exercise and maintaining a healthy weight (see indicators "Child malnutrition (including undernutrition and overweight)" and "Overweight or obese adults" in Chapter 2) and a healthy diet. The cause of type 1 diabetes is not fully understood yet – but we know there is a genetic predisposition and environmental factors play a role as well.

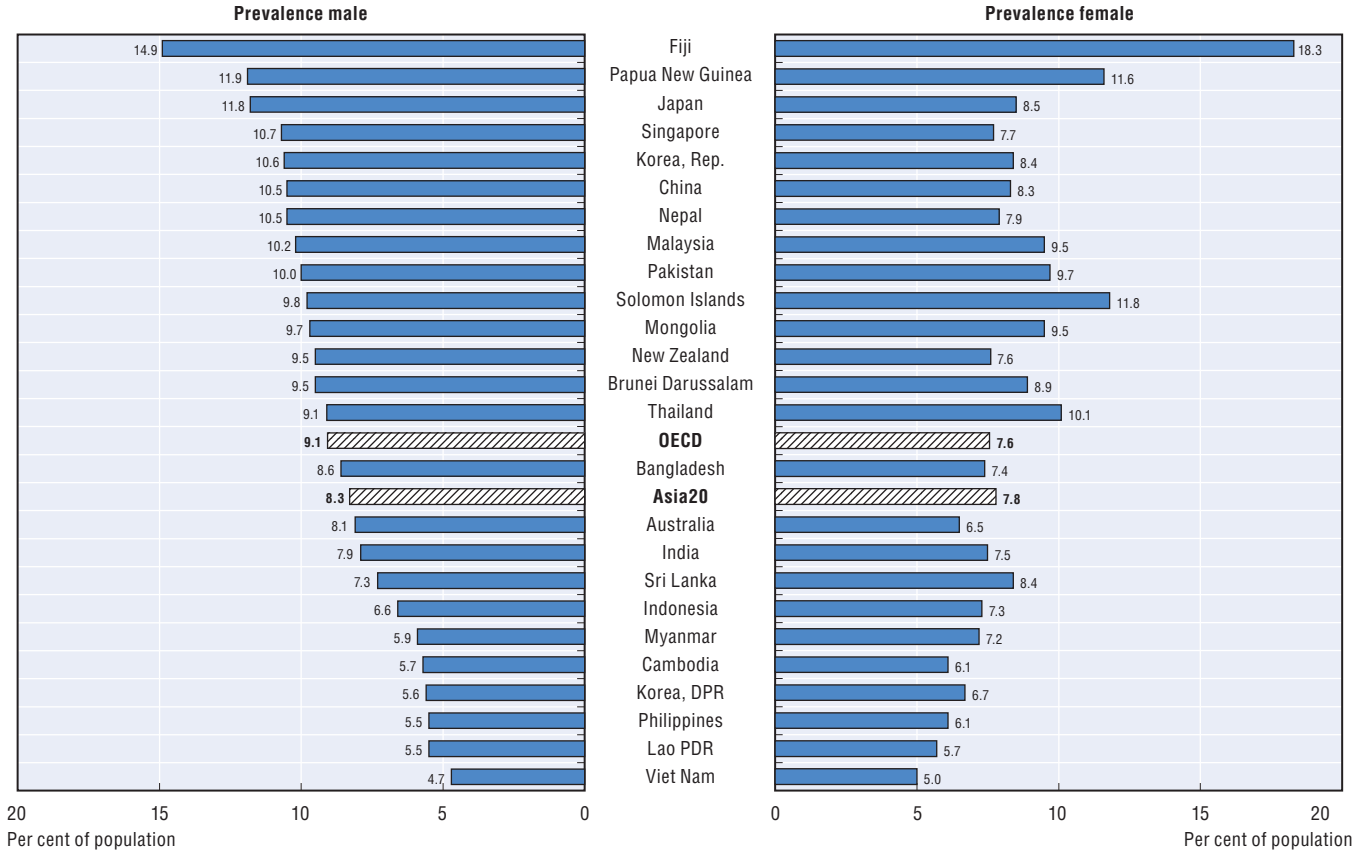
Among the 20 Asian countries in this report, the prevalence of diabetes for women was 7.8% of the adult population (Figure 1.32, right panel), while the prevalence for males was higher at 8.3% (Figure 1.32, left panel). Fiji and Papua New Guinea had the highest adult type 2 diabetes prevalence among women and men, while type 2 prevalence among men was also high in Japan, Singapore, the Republic of Korea and China. Conversely, Viet Nam had the lowest adult prevalence of diabetes (5%).

Among 20 Asian countries, deaths attributable to high blood glucose increased by 1 percentage point between 2000 and 2012 (Figure 1.33). More than 100 deaths per 100 000 population were caused by high blood glucose in adults in Fiji, Papua New Guinea and Solomon Islands in 2012. This mortality rate more than doubled in the Philippines between 2000 and 2012.

Definition and comparability

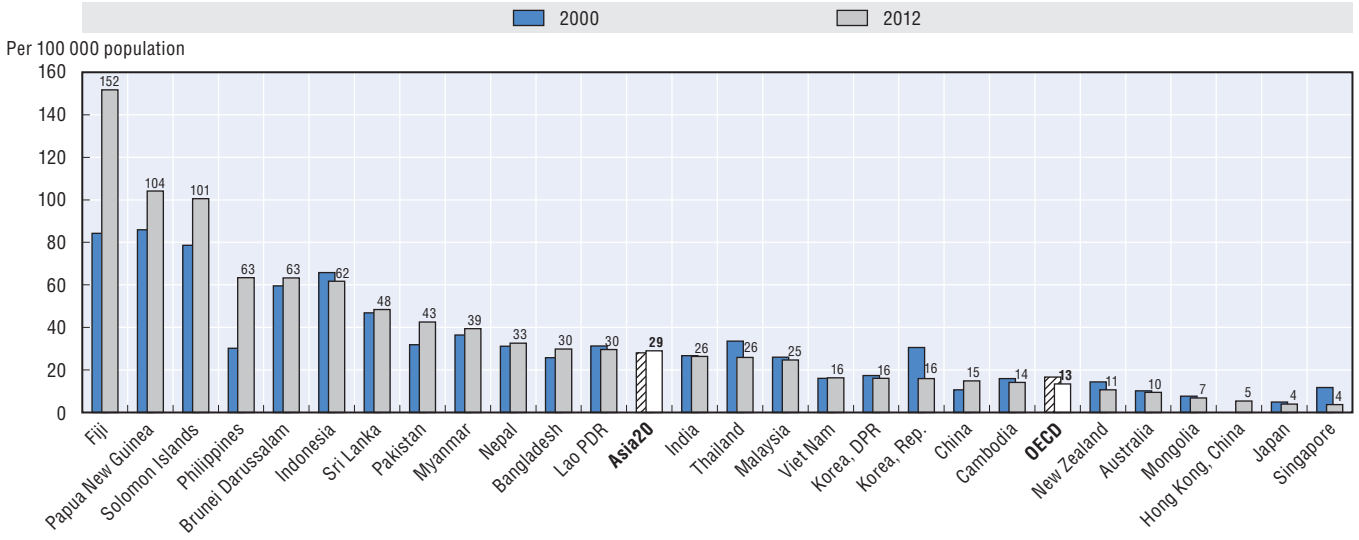
Rates were adjusted to the WHO Standard Population to facilitate cross-national comparisons.

1.32. Diabetes among adults aged 20-79 years, crude estimates, 2014



Source: WHO (2016), "Global Health Observatory Data Repository".

1.33. Age-standardised mortality rate for diabetes (per 100 000 population), 2000 and 2012



Source: WHO (2016), "Global Health Observatory Data Repository"; Health facts of Hong Kong 2015.

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Population ageing is characterised by a rise in the share of the older people resulting from longer life expectancy (see indicator "Life expectancy at birth" in Chapter 1) and declining fertility rates (OECD, 2011; UNESCAP, 2013). In Asian countries, since 2000, life expectancy has increased by about 4.5 years and fertility has decreased from 2.6 children per woman of reproductive age, to the population replacement level of 2.1. This has been mainly due to better access to reproductive health care, primarily a wider use of contraceptives (see indicator "Reproductive health" in Chapter 2). Population ageing reflects the success of health and development policies over the last few decades.

The share of the population aged 65 years and over in Asian countries was 8.1%, less than half the level in OECD countries in 2015. But it is expected to increase by nearly two and half times in the next decades to reach 20.5% in 2050, still lower than the OECD average of 27.6% (Figure 1.34, left panel). The share of older people will be particularly large in Hong Kong, China; Japan; the Republic of Korea and Singapore where more than one third of the population will be aged 65 and over in 2050. Ageing wears a largely woman's face as women tend to outlive men.

Globally, the speed of ageing in the region is unprecedented. It is particularly fast in Brunei Darussalam and Mongolia, where the share of the population over 65 is expected to increase by five- and four-fold respectively between 2015 and 2050. Many low- and middle-income countries are faced with much shorter timeframes to prepare for the challenges posed by the ageing of their populations.

The growth in the share of the population aged 80 years and over will be even more dramatic (Figure 1.34, right panel). On average across Asian countries, 1.6% of the population were aged 80 years and over in 2015 but in 2050, the percentage is expected to increase to 6.2%. In Japan, the proportion is expected to almost double from 7.8% to 15.1% between 2015 and 2050, but several other countries are likely to experience faster growth. The proportion is expected to grow by over nine times in Brunei Darussalam, over six times in Mongolia, and five times or more in Singapore, Cambodia, Fiji, China, the Republic of Korea and Macao, China over the next decades.

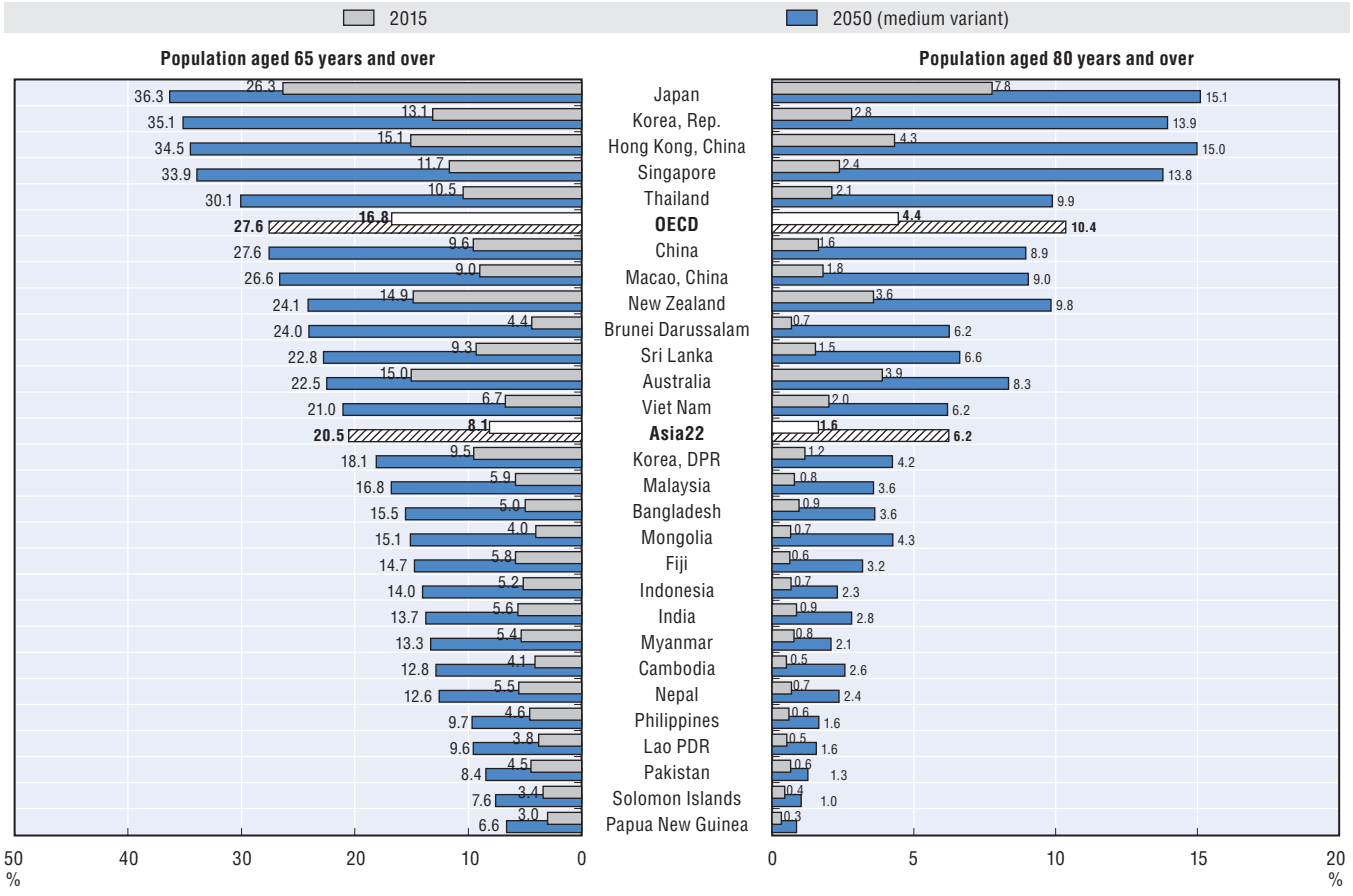
The pressure of population ageing will depend on the health status of people as they become older, highlighting that the health and well-being of older people are strongly related to circumstances across their life course. Given overall numbers of older people in the population, there is likely to be a greater demand for health care that meets the need of older people in the Asia-Pacific region in coming decades. All countries in the region will urgently need to address drastic changes in demographic structures and subsequent changes in health care needs. Health promotion and disease prevention activities will increasingly need to address cognitive and functional decline, including frailty and falls. Health systems will need to be reoriented to become more responsive to older people's needs, including by investing in integrated and person-centred service delivery, supported by appropriate health financing arrangements and a health workforce with the right skills and ways of working. The development of long-term care systems as seen in OECD countries may also be worth noting. Increasingly, there is a need to foster innovative home- and community-based long-term care pathways tailored to older people's specific and diverse needs.

Over the next few decades, the share of the economically active population is expected to decline across countries in the Asia-Pacific region (Figure 1.35). In 2050, the ratio of people aged 15-64 to people aged over 65 years will be one third of the 2015 value. In Thailand; Singapore; the Republic of Korea; Hong Kong, China; and Japan there will be less than two persons aged 15-64 for each person aged over 65 years. These dramatic demographic changes will affect the financing of not only health systems but also social protection systems as a whole, and also the economy. Moreover, older age often exacerbates pre-existing inequities based on income, education, gender and urban/rural residence, highlighting the importance of equity-focused policy-making in future. Successfully responding to population ageing does not only call for equity-focused, gender-responsive and human rights-based action within the health sector but also require collaboration across sectors to address the underlying determinants of health of older people, including housing, transport and the built environment.

Definition and comparability

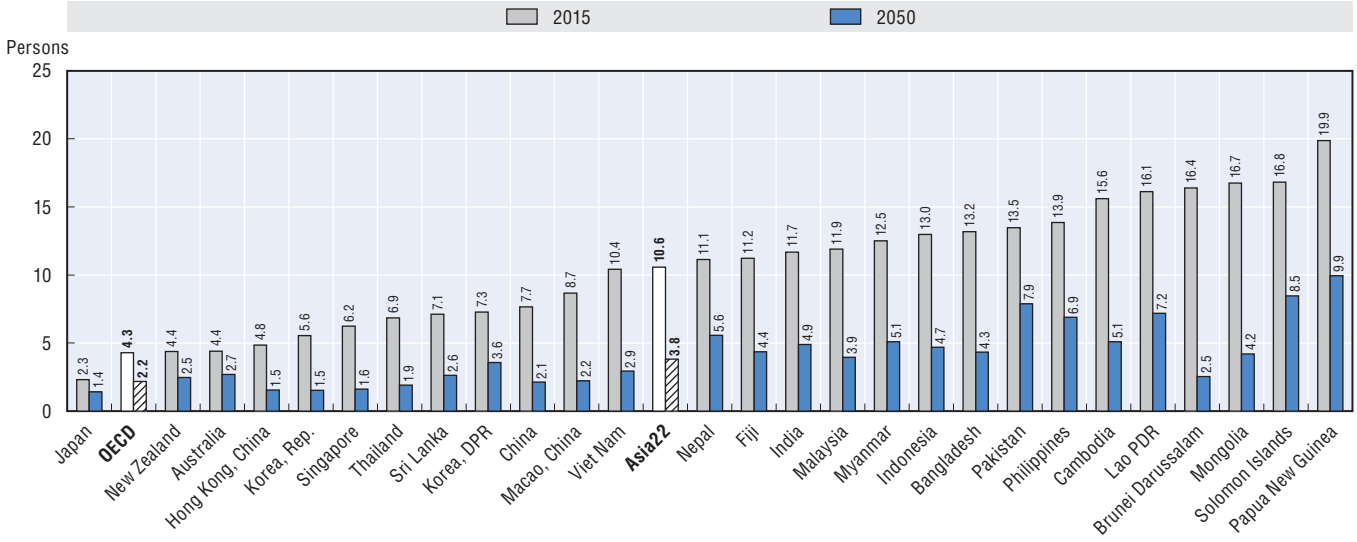
Data on the population structure have been extracted from the OECD historical population data and projections (1950-2050). The projections are based on the most recent "medium-variant" population projections from the United Nations, World Population Prospects – 2015 Revision.

1.34. Share of the population aged over 65 and 80 years, 2015 and 2050



Source: UN World Population Prospects, 2015.

1.35. Ratio of people aged 15-64 to people aged over 65 years, 2015 and 2050



Source: UN World Population Prospects, 2015.

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Chapter 2

Determinants of health

The UN Sustainable Development Goals set a target of ensuring universal access to reproductive health care services by 2030, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes.

Reproductive health involves having a responsible, satisfying and safe sexual life, along with the freedom to make decisions about reproduction. This includes accessing methods of fertility regulation and appropriate health care through pregnancy and childbirth, so as to provide parents with the best chance of having a healthy baby.

Women who have access to contraception can protect themselves from unwanted pregnancy. Spacing births can also have positive benefits on both the reproductive health of the mother and the overall health and well-being of the child.

The provision of medical care and counselling during antenatal care visits with trained health professionals are also key determinants of maternal and child health. WHO recommends a minimum of four antenatal visits, comprising pregnancy monitoring, managing problems such as anaemia, counselling and advice on preventive care, diet, and delivery by or under the supervision of skilled health personnel.

The prevalence of contraceptive use varies across countries in the Asia-Pacific region. In China; the Republic of Korea; Thailand; Hong Kong, China; Macao, China and Viet Nam, more than three-quarters of married women of reproductive age report using contraceptive methods (Figure 2.1). This proportion is higher than the OECD average of 73.8%. But across all Asian countries, only less than two thirds of married women with reproductive age report using contraceptives, and this includes around 9% who use traditional methods such as rhythm, withdrawal and folk methods. The failure rate of traditional methods is between 22-24 per 100 women per year (WHO, 2011). In Pakistan, Papua New Guinea, the Solomon Islands, the Lao PDR, Myanmar, Malaysia and Nepal, half or less of married women report using any method of contraception.

Countries with lower contraceptive prevalence report higher rates of unmet need for family planning, suggesting further progress is needed to increase access to reproductive care in these countries. In the Asia-Pacific region, unmet need for family planning is generally higher among women of lower income and education levels (Figure 2.2). In the Solomon Islands, where disparities in unmet need by wealth and education level are highest, unmet need in women from households in the poorest income quintile is twice as high as that among women in the richest quintile. Differences in unmet need by income status are also large in Cambodia and India. Unmet need is also high among adolescents and youth in Asia-Pacific countries with a young age of marriage and high gender inequality (UNESCAP, 2013).

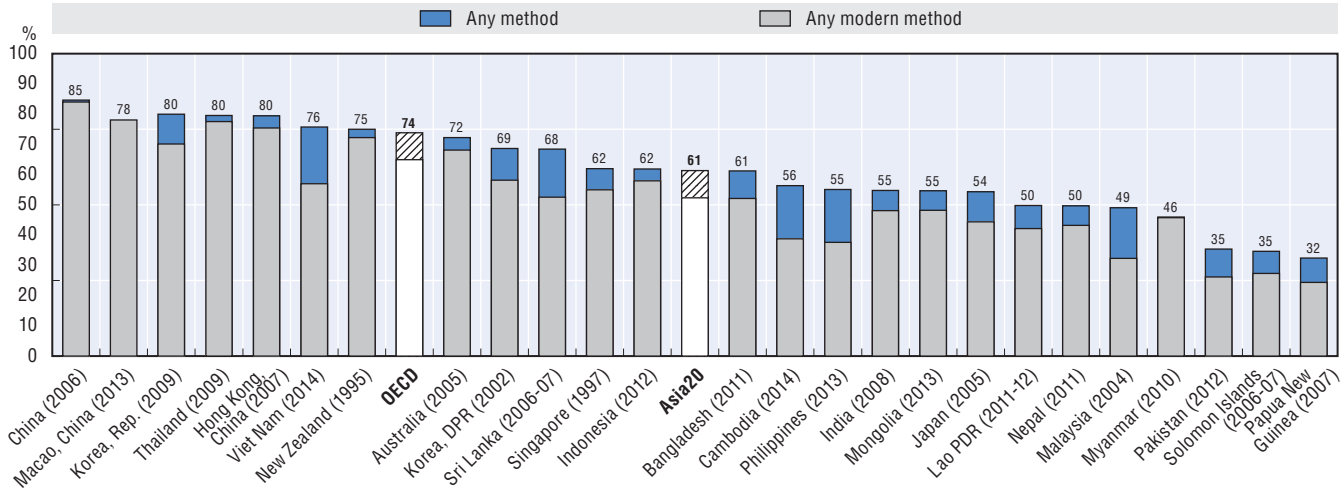
Definition and comparability

Contraceptive prevalence is the percentage of women who are currently using, or whose sexual partner is currently using, at least one method of contraception, regardless of the method used. It is usually reported as a percentage of married or in union women aged 15 to 49.

Women with an unmet need for family planning are those who are fecund and sexually active but are not using any method of contraception, and report not wanting any more children or wanting to delay the birth of their next child. It is also reported as a percentage of married or in union women aged 15 to 49.

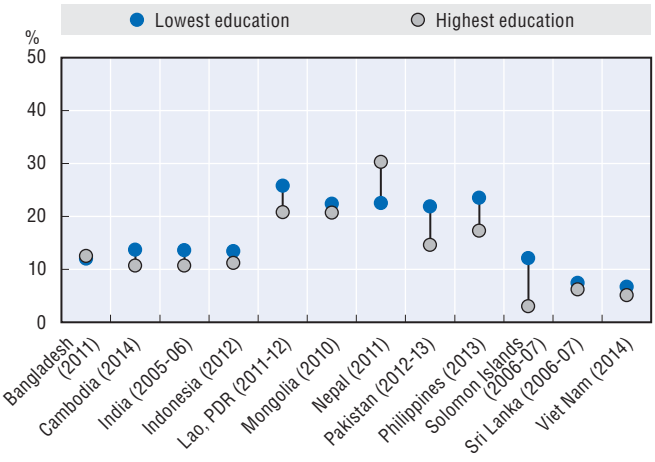
Information on contraceptive use and unmet need for family planning is generally collected through nationally representative household surveys.

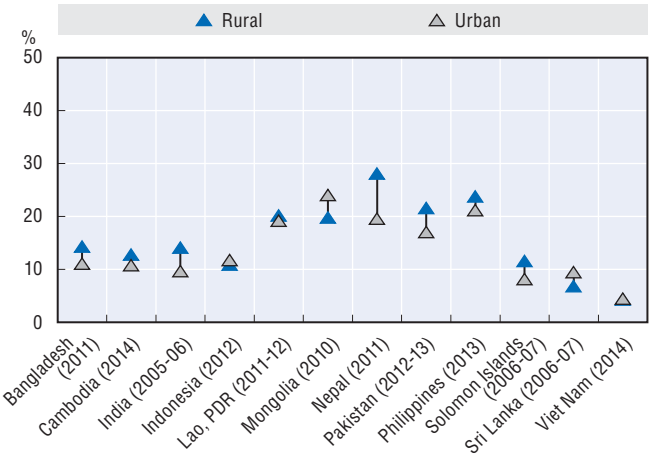
2.1. Contraceptive prevalence, latest available estimate

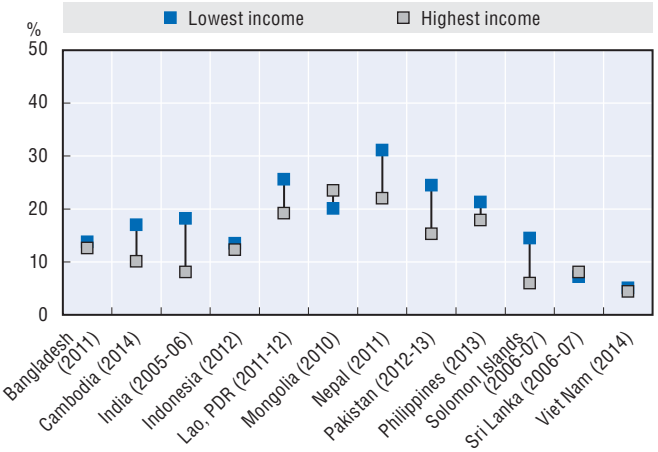


Source: WHO (2016e); Bureau of Health, Macao, China, 2014.

2.2. Unmet needs for family planning by socio-economic and geographic factor, selected countries and years







Source: WHO (2016e).

StatLink http://dx.doi.org/10.1787/888933413349

Preterm birth (i.e. before 37 completed weeks of gestation) is the leading cause of neonatal death (i.e. during the first four weeks of life or days 0-27) and the second leading cause of death in children under 5 (see indicator "Under age 5 mortality" in Chapter 1). Many survivors of preterm births also face a lifetime of disability, including learning disabilities and visual and hearing problems. But preterm birth can be largely prevented. Three-quarters of deaths associated with preterm birth can be saved without intensive care facilities. Current cost-effective interventions include warmth (skin to skin contact within the first minute of birth), kangaroo mother care and early initiation of breastfeeding (within the first hour of birth) and basic care for infections and breathing difficulties (WHO, 2013d; see indicator "Infant mortality" in Chapter 1). Preterm birth rates can be also reduced if women, particularly adolescents, have better access to family planning and increased empowerment, as well as improved care during pregnancies (see indicator "Reproductive health" in Chapter 2).

Every year, an estimated 15 million babies are born preterm worldwide and over 1 million babies die annually from preterm birth complications. In the Asia-Pacific region, India, China, Pakistan, Indonesia, Bangladesh and the Philippines have a particularly large number of preterm births and they accounted for almost half of the preterm births globally. Across 20 Asian countries, almost 12 babies out of 100 were born preterm on average in 2014 but the rate varies across countries, ranging from 5.9 in Japan to 15.8 in Pakistan (Figure 2.3, right panel). Sri Lanka and China have halved the rate in a recent decade through a national focus on improved obstetric and neonatal care, and the systematic establishment of referral systems with higher capacity of neonatal care units and staff and equipment (WHO et al., 2012).

In 2012, the World Health Assembly endorsed the Comprehensive implementation plan on maternal, infant and young child nutrition, which specified a set of six global nutrition targets. One of those targets aims to a 30% reduction in low birth weight by 2025.

Low birthweight occurring from restricted foetal growth or preterm birth is also an important determinant of child health as it is associated with greater risk of poor health, death or disabilities (UNICEF and WHO, 2004). Low birthweight is the result of many factors but largely preventable. Mothers' risk factors include poor nutritional status or a low body-mass index (BMI), low socioeconomic status or minority race, being a young mother, smoking or exposure to second hand smoke, excessive alcohol consumption, and history of in-vitro fertilisation treatment and low weight births.

The average rate of low birthweight is 12% across 22 Asian countries, much higher than the OECD average of 6.6% (Figure 2.3, left panel). There is a significant regional divide between countries in eastern Asia (such as China, the Republic of Korea and Mongolia) and southern Asia (Bangladesh, India, Nepal, Pakistan and Sri Lanka). China has the lowest low birthweight rate at 2.3% while Pakistan reported a rate of 32%. China achieved reductions in low birthweight through rapid and sustained economic growth over recent decades and also through improved access to food in many provinces.

The incidence of low birthweight has declined over the past decade in many countries in the Asia-Pacific region, while it significantly increased in the Republic of Korea, Thailand and Pakistan (Figure 2.4). A substantial decline of over one-third was observed in Myanmar and Viet Nam.

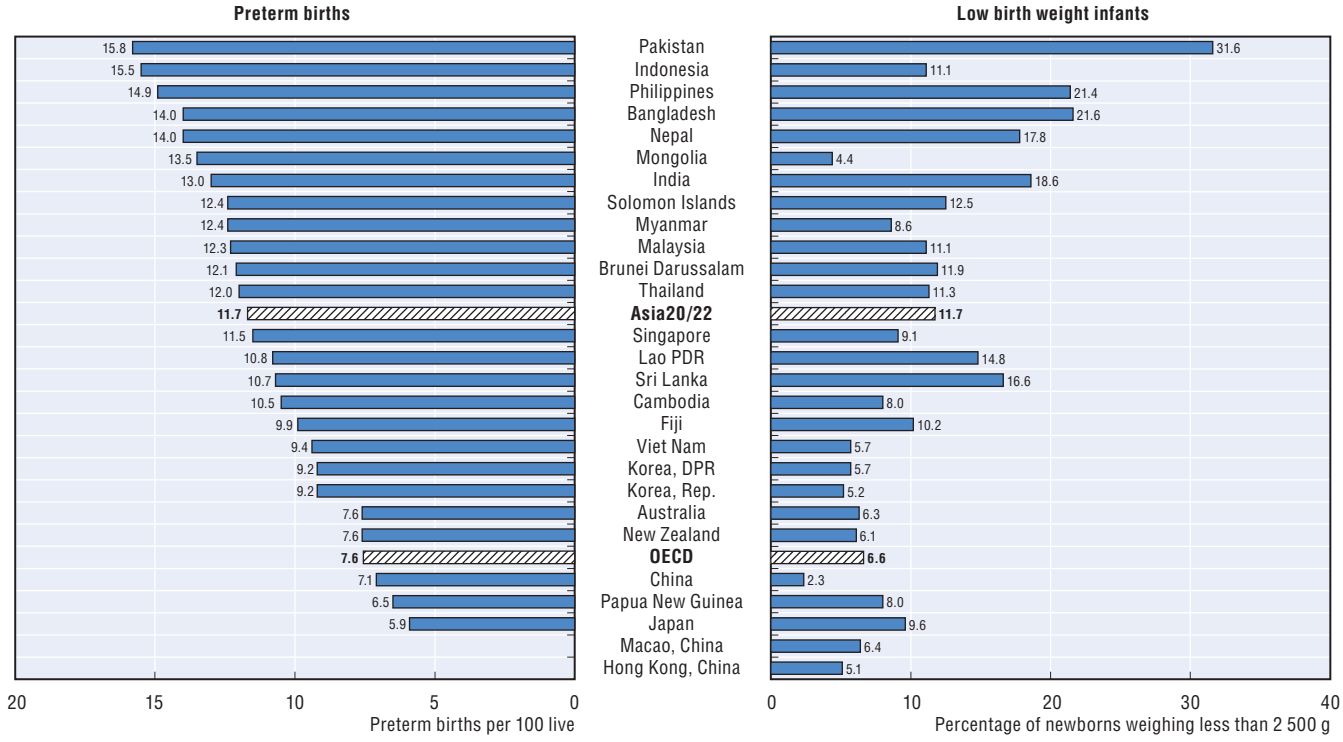
Higher coverage of antenatal care is also associated with higher birth weight, suggesting the significance of antenatal care over infant health across countries (Figure 2.5).

Definition and comparability

Low birthweight is defined by the World Health Organization as the weight of an infant at birth of less than 2 500 grams (5.5 pounds) irrespective of the gestational age of the infant. This figure is based on epidemiological observations regarding the increased risk of death to the infant and serves for international comparative health statistics.

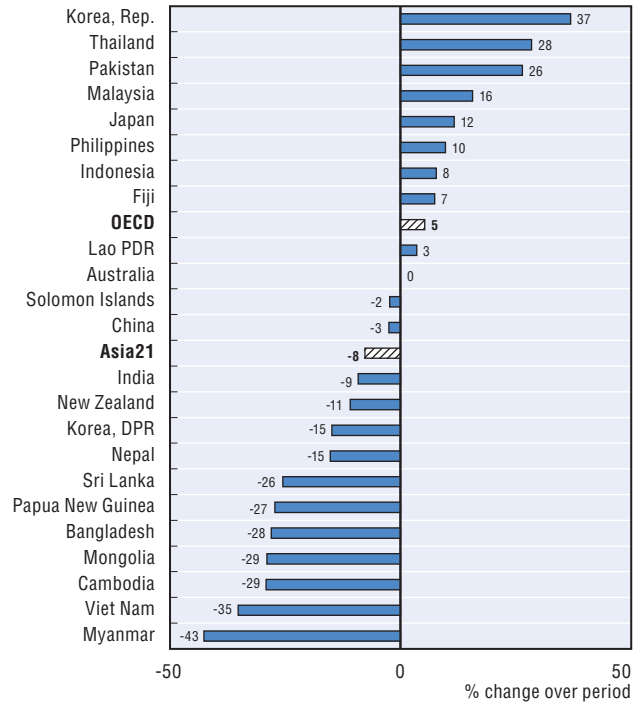
In developed countries, the main information sources are national birth registers. For developing countries, low birthweight estimates are primarily derived from mothers participating in national household surveys, as well as routine reporting systems (UNICEF and WHO, 2004).

2.3. Preterm births and low birth weight infants, 2014 (or nearest year available)



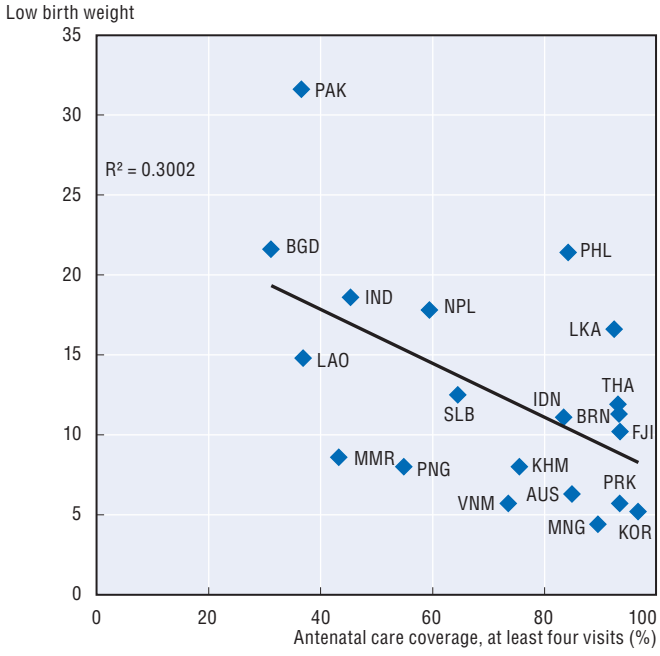
Source: *OECD Health Statistics 2016*; UNICEF Childinfo; World Bank WDI; Department of Health, Hong Kong, China, 2014; Statistics and Census Service, Macao, China, 2014.

2.4. Low birthweight, percentage change, 2000-14 (or nearest year available)



Source: March of Dimes Foundation 2014.

2.5. Antenatal care coverage and low birth weight, latest year available



Source: WHO (2016e); National survey on children for India for 2013-14.

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Optimal feeding practices of infants and young children can increase their chances of survival. They play an important role for healthy growth and development, decrease rates of stunting and obesity and stimulate intellectual development (Victora et al., 2016).

The first 1 000 days from the start of a woman's pregnancy until her child's second birthday offers a critical window of opportunity to ensure a healthy start of life. Breastfeeding is an unequalled way of providing nutrition for infants. Breast milk gives infants the nutrients they need for healthy development, including the antibodies that help protect them from common childhood illnesses such as diarrhoea and pneumonia, the two primary causes of child mortality worldwide. Breastfeeding is also linked with better health outcomes later in life. Adults who were breastfed as babies often have lower blood pressure and lower cholesterol, as well as lower rates of overweight, obesity and type 2 diabetes. About 800 000 deaths among children under age 5 can be saved every year globally, if all children 0-23 months are optimally breastfed (WHO, 2014f). Breastfeeding also benefits mothers through assisting in fertility control, reducing the risk of breast and ovarian cancer later in life and lowering rates of obesity.

The Global Strategy for Infant and Young Child Feeding and the Breastfeeding Advocacy Initiative, developed by UNICEF and WHO, outlines detailed recommendations on infant and young child feeding including timing, initiation, and types of complementary food and its frequencies. UNICEF and WHO recommend exclusive breastfeeding for the first six months of life and the introduction of solid or semisolid foods to complement breastfeeding after six months. UNICEF and WHO also recommends continued breastfeeding up to two years and beyond.

In 2012, the World Health Assembly endorsed a Comprehensive implementation plan on maternal, infant and young child nutrition, which specified a set of six global nutrition targets. One of those targets aims to increase the rate of exclusive breastfeeding in the first 6 months up to at least 50% by 2025.

Globally, only 38% of newborns are put to the breast within one hour from birth (UNICEF, 2016). In the Asia-Pacific region, more than half of the countries that report data have exclusive breastfeeding rates greater than the global average, but there are variations across countries (Figure 2.6). Around three-quarters of infants are exclusively breastfed in Sri Lanka and the Solomon Islands, while exclusive breastfeeding rates are less than 20% in Thailand and Malaysia. Key factors contributing to inadequate breastfeeding rates include unsupportive hospital and health care practices and policies; lack of adequate skilled support for breastfeeding, specifically in health facilities and the community; aggressive marketing of breast milk substitutes and inadequate maternity and paternity leave legislation and unsupportive workplace policies.

Cambodia has made notable efforts to improve rates of exclusive breastfeeding. In June 2004, the government declared that early initiation of and exclusive breastfeeding would be the top priority intervention to assist in reducing child mortality. Over the following 18 months, a number of diverse activities were implemented as part of a national breastfeeding movement. Breastfeeding practices were established in hospitals, and community-based volunteers advocated the benefit of breastfeeding to expecting and new mothers. Consequently, exclusive breastfeeding rates for babies under six months rose from 7% in 2000 to 60% in 2005 (UNICEF, 2008). Bangladesh also carried out intensive mass media campaigns that focused on maternal health, newborn care and child health, resulting in the increase of exclusive breastfeeding for the first six months from 43% in 2007 to 64% in 2011 (DHS, 2011).

In most countries in the Asia-Pacific region, exclusive breastfeeding is more common among poorer women with lower education living in rural areas than richer women with higher education living in urban areas (Figure 2.7). As an example, in Viet Nam the rate of exclusive breastfeeding is much higher (2.5 times) among women with the poorest quintile than those with the richest quintile. Thailand and Myanmar represent an exception as women with the highest education level are much more likely to follow exclusive breastfeeding recommendations than those with the lowest education.

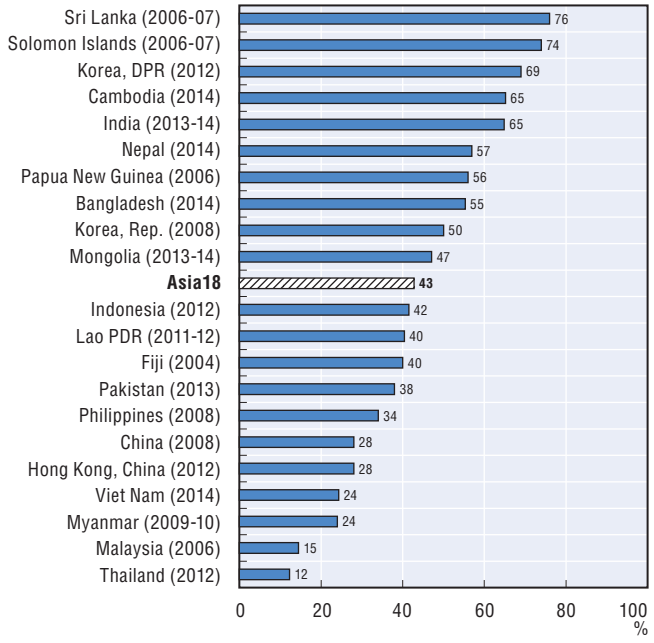
Considering persisting high levels of childhood malnutrition (see indicator in Chapter 2), infant and young child feeding practices must be further improved (Rollins et al., 2016). Early initiation and exclusive breastfeeding rates remain low in most countries (Figure 2.8). Less than half of all infants under six months in Asia are exclusively breastfed. Appropriate complementary foods are not introduced to the majority of children in Bangladesh and Lao PDR between 6-8 months, and less than 40% of young children are continuously breastfed through the first year of life in Thailand and China.

Definition and comparability

Exclusive breastfeeding is defined as no other food or drink, not even water, other than breast milk (including milk expressed or from a wet nurse) for the first six months of life, but allows the infant to receive oral rehydration salts, drops and syrups (vitamins, minerals and medicines). Thereafter, infants should receive complementary foods with continued breastfeeding up to two years of age or beyond.

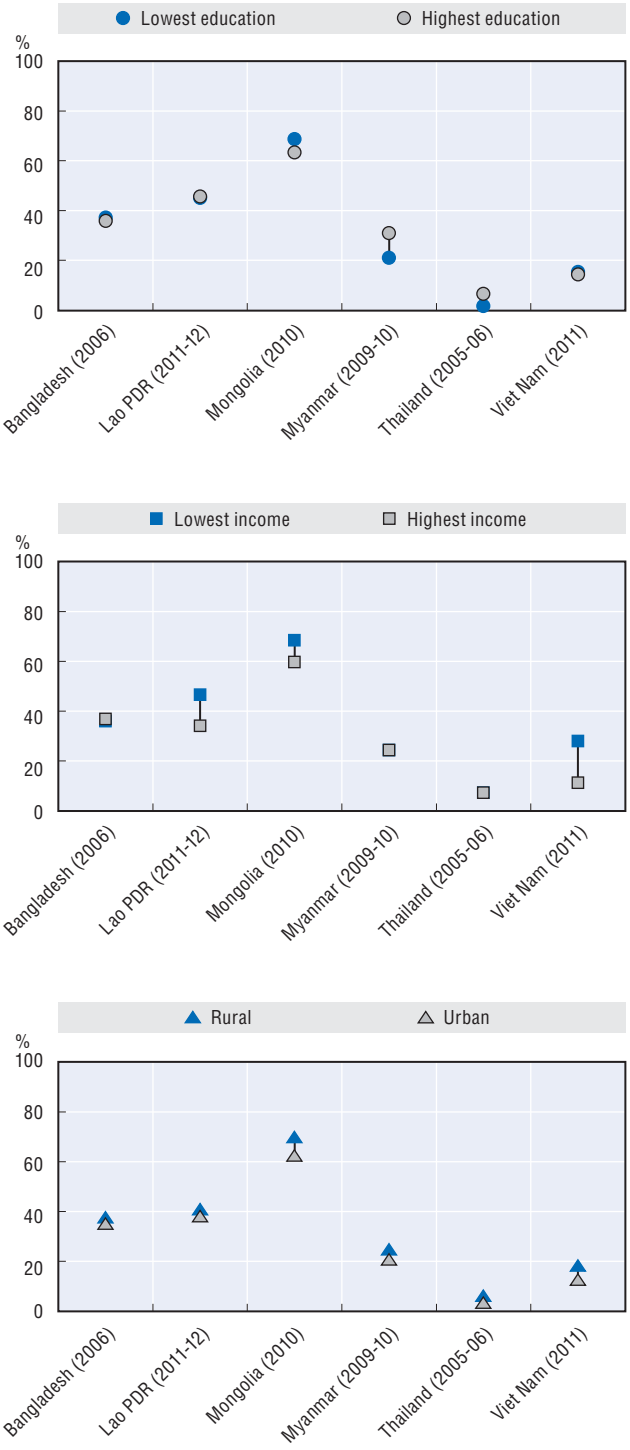
The usual sources of information on the infant and young child feeding practices are household surveys.

2.6. Infants exclusively breastfed, first six months of life



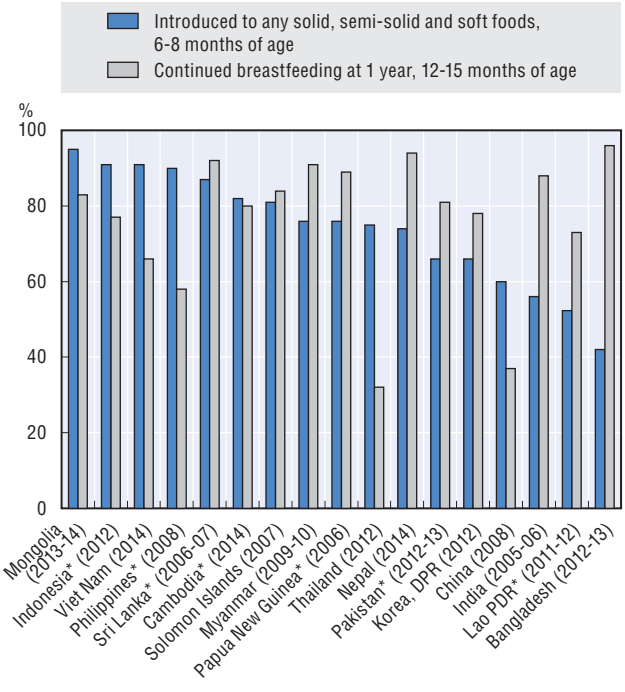
Source: DHS & MICS surveys 2005-13, WHO (2016e), and Survey on Diet and Nutrient intake, Hong Kong, China, 2012; National survey on children for India for 2013-14.

2.7. Infants exclusively breastfed in the first six months of life, by select socioeconomic and geographic factors



Source: DHS & MICS surveys 2005-13.

2.8. Feeding practices after six months of age, selected countries, 2006-14



* DHS surveys measure introduction of any solid and semi-solid foods.
Source: DHS & MICS surveys 2005-13 and UNICEF Childinfo.

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National development is largely dependent on healthy and well-nourished people, but many children are not able at all times to access sufficient, safe, nutritious food and a balanced diet that meets their needs for optimal growth and development, an active and healthy life. Undernutrition is an important determinant of poor child health and is estimated to contribute to more than one-third of all child deaths worldwide, although it is rarely listed as a direct cause. Child malnutrition also predicts poorer cognitive and educational outcomes in later childhood and adolescence and has important education and economic consequences at the individual, household and community levels. Children who are overweight or obese are at greater risk of poor health and reduced quality of life not only in adolescence, but also in adulthood.

The UN SDG target 2.2 says that "by 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age", and also includes an indicator on childhood overweight. In 2012, the World Health Assembly endorsed a Comprehensive implementation plan on maternal, infant and young child nutrition, which specified a set of six Global Nutrition Targets (WHO, 2014a). One of those targets aims to achieve a 40% reduction in the number of children under age 5 who are stunted, another target aims to reduce and maintain childhood wasting to less than 5% and another aims to halt the increase in childhood overweight by 2025.

The recently released report of the commission on ending childhood obesity (WHO, 2016c) states that "Childhood obesity is reaching alarming proportions in many countries and poses an urgent and serious challenge". And suggests that "obesity prevention and treatment requires a whole-of-government approach in which policies across all sectors systematically take health into account, avoid harmful health impacts, and thus improve population health and health equity".

Stunted growth (low height-for-age) reflects failure to reach linear growth potential as a result of long-term suboptimal health and/or nutritional conditions. High levels of stunting in a country are associated with poor socioeconomic conditions and increased risk of frequent and early exposure to adverse conditions such as illness and/or inappropriate feeding practices (WHO, 2014f). Wasting or thinness (low weight-for-height) indicates in most cases a recent and severe weight loss, which is often associated with inadequate food intake and/or a severe disease. Wasting may also be the result of a chronic unfavourable condition, like unsafe water and poor or lacking sanitary facilities. Recurrent events of wasting can increase the risk of stunting, and stunting increases the risk of overweight and obesity later in life.

Many countries in the Asia-Pacific region have a high prevalence of stunting and wasting among children. Stunting prevalence is high at around 50% in Papua New Guinea, while it is below 10% in Hong Kong, China; Singapore; Fiji and China (Figure 2.9, left panel). As for wasting, if there is no severe food shortage, the prevalence is usually below 5% even in poor countries, but it is much higher than this threshold in some countries such as India, Papua New Guinea and Bangladesh (Figure 2.9, right panel). On average, the stunting and wasting prevalence across Asian countries was 28% and 8% respectively.

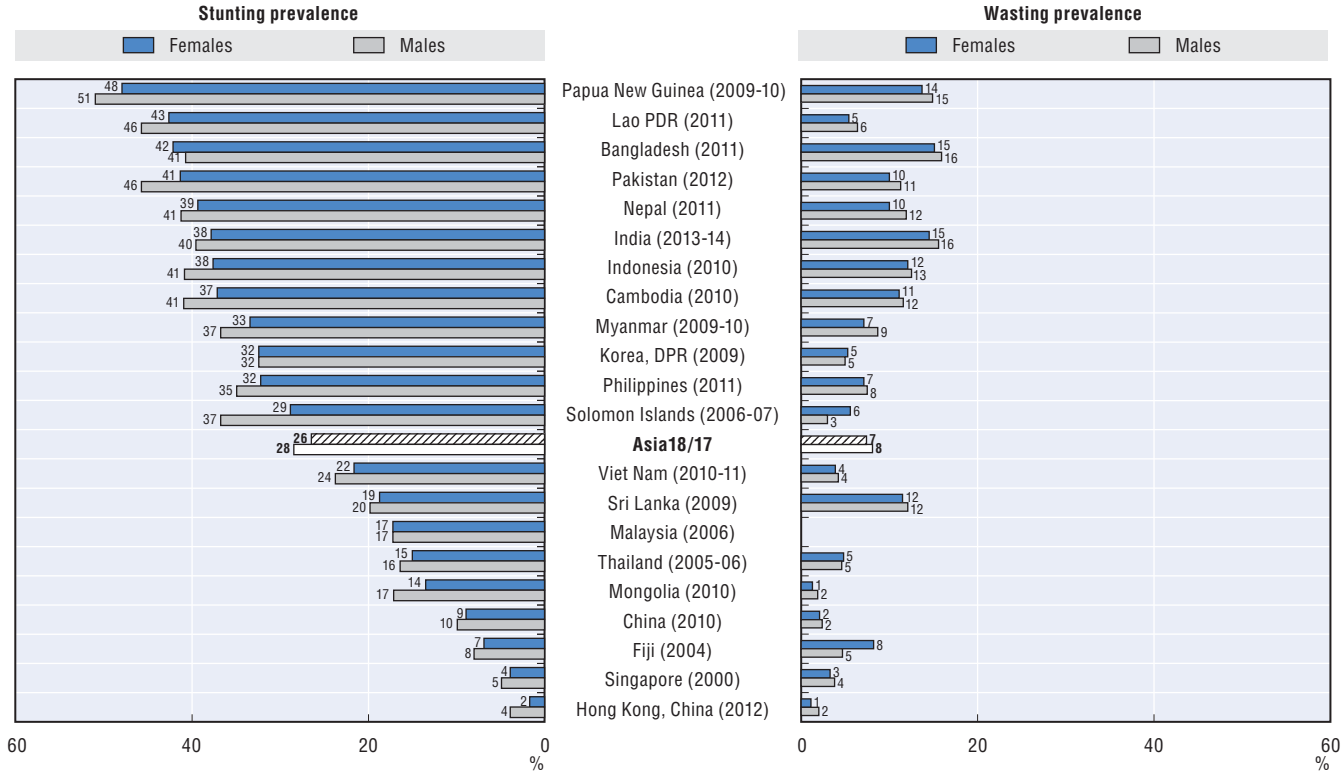
Countries with a lower under age 5 underweight prevalence have a lower under age 5 mortality (Figure 2.10), reflecting the fact that about 35% of under age 5 deaths are attributable to undernutrition (UNICEF, 2013; see indicator "Infant mortality" in Chapter 1). In order to reduce under age 5 mortality, countries need to not only implement effective preventive and curative interventions for newborns, children and their mothers during and after pregnancy (see indicator "Infant and child health" in Chapter 3) but also to promote optimal feeding practice (see indicator "Infant and young child feeding" in Chapter 2).

The number of overweight children increased from 32 to 42 million worldwide between 2000 and 2013. The prevalence of childhood overweight varies across the Asia-Pacific region (Figure 2.11). It is high for females in Indonesia, Thailand and Papua New Guinea, with three times the Asian average, and for males in Mongolia, Indonesia and Papua New Guinea, with about two and half time the average. Overweight is generally more prevalent among male children across countries.

Definition and comparability

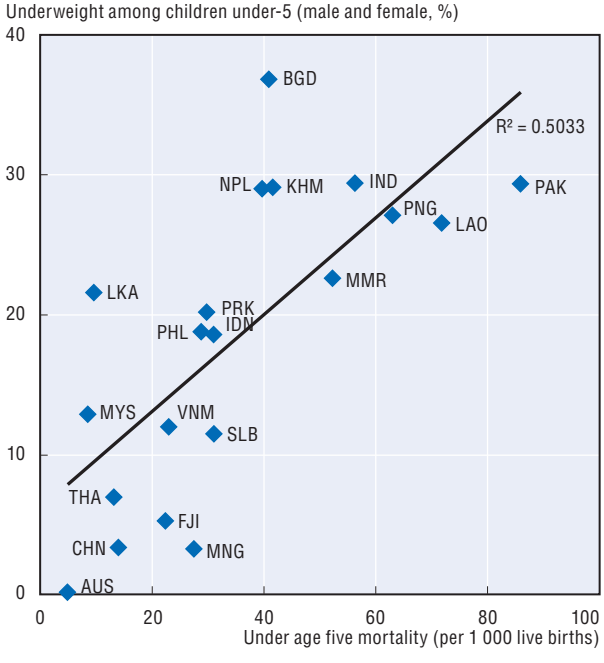
The WHO Global Database on Child Growth and Malnutrition uses a Z-score cut-off point of two standard deviations and preschool children lower than this international reference median value is classified as low weight-for-age, low height-for-age and low weight-for-height (moderate and severe undernutrition) and those higher than this is classified as high weight-for-height (overweight).

2.9. Prevalence of stunting and wasting among children under 5, latest year available



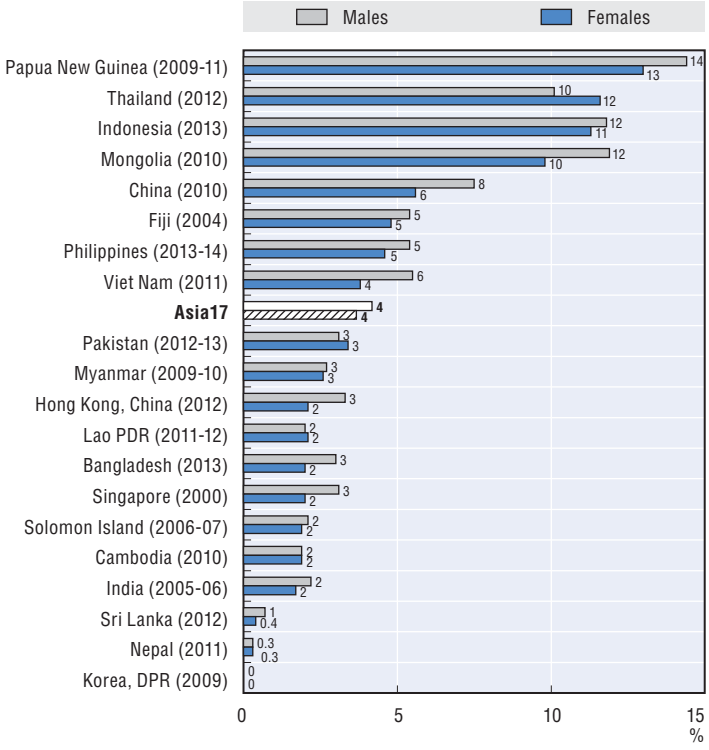
Source: DHS and MICS 2005-13; WHO (2016e); National survey on children for India for 2013-14.

2.10. Under age 5 mortality and underweight prevalence, latest year available



Source: DHS and MICS 2005-13; WHO (2016e); UN IGME Childinfo. National survey on children for India for 2013-14.

2.11. Prevalence of overweight among children under 5, latest year available



Source: DHS and MICS 2005-13 and WHO (2016e).

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Globally, overweight and obesity is a major public health concern, and there are more overweight or obese than underweight adults. In 2014, 39% of adults aged 18 years and older (38% of men and 40% of women) were overweight, while 11% of men and 15% of women aged 18 years and older were obese (WHO, 2014j). Obesity is a known risk factor for numerous health problems, including hypertension, high cholesterol, diabetes, cardiovascular diseases, respiratory problems (asthma), musculoskeletal diseases (arthritis) and some forms of cancer, and mortality also increases progressively once the overweight threshold is crossed (Sassi, 2010). Social determinants of health such as poverty, inadequate water and sanitation, and inequitable access to education and health services underlie malnutrition. A key driver of the increasing obesity epidemic is a changing food environment, in which nutrient poor and energy dense processed foods are aggressively marketed, readily available and often cheaper than healthier alternatives.

Across 20 Asian countries, 28.5% of females and 25.5% of males were overweight on average, compared to an average of 52.6% and 63.6% in OECD countries (Figure 2.12, left and right panel). More than two adult males out of three are overweight in Fiji, New Zealand and Australia, and more than half of the adult males are overweight in Mongolia, Solomon Islands and Papua New Guinea. More than two adult females out of three are overweight in Fiji, Solomon Islands and Papua New Guinea, and more than half of the adult females are overweight in New Zealand and Australia.

The prevalence of overweight is growing rapidly in the Asia-Pacific region (Figure 2.13). Since 2010, the share of overweight people has increased by 4.6% for females and 13% for males on average in Asian countries. The speed was much slower but the share has also grown at 3.4% for men and 2% for women in OECD countries during the same period.

However, up to now, obesity is still more prevalent in OECD countries than in countries in Asia, but a sizeable share of overweight adults is obese in the several countries of the Pacific (Figure 2.14). In developing countries obesity is more common among people with a higher socioeconomic status, those living in urban regions and middle-aged women. In developed countries, obesity is increasing among all age groups, and is associated with lower socioeconomic status, especially among women (Sassi, 2010).

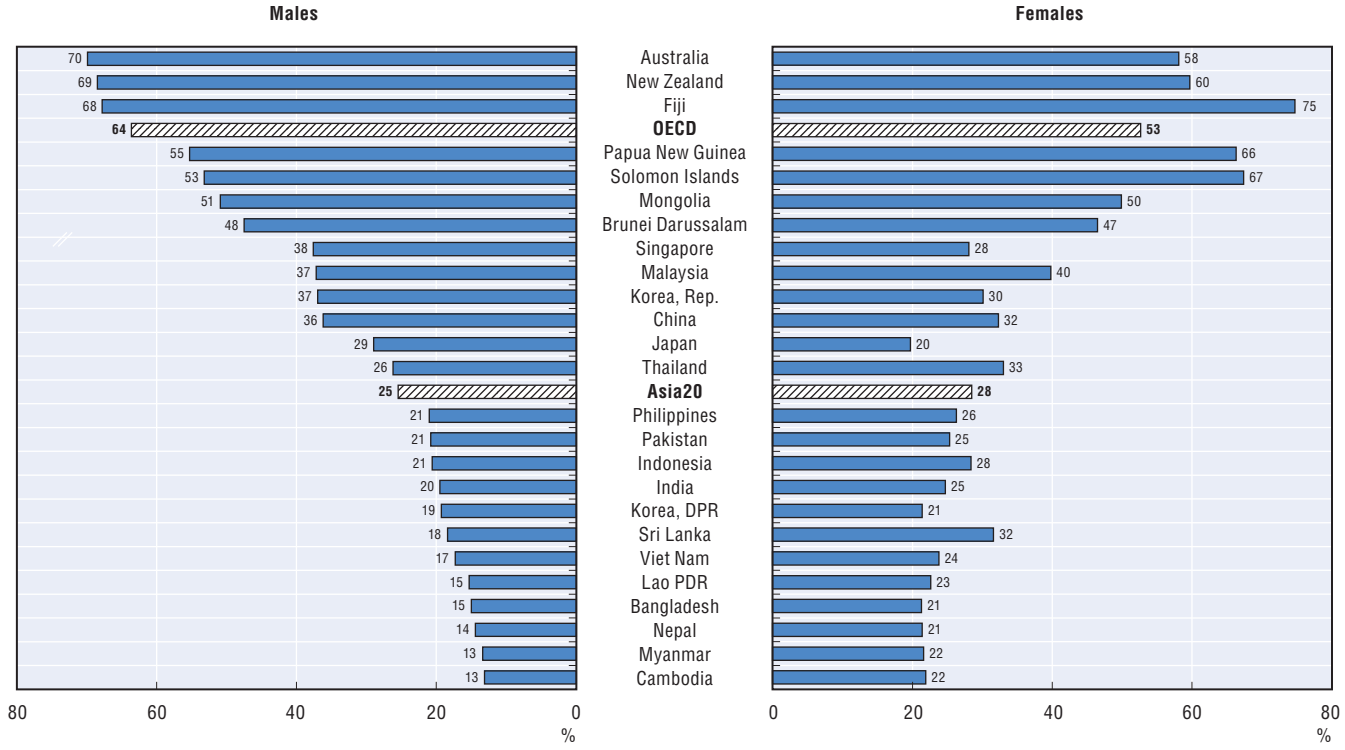
Definition and comparability

The most frequently used measure of underweight, overweight and obesity is the Body Mass Index (BMI). This is a single number that evaluates an individual's weight in relation to height, and is defined as weight in kilograms divided by the square of height in metres (kg/m^2).

Based on the WHO classification, adults with a BMI below 18.5 are considered to be underweight and 25 or over are overweight. Adults who have a BMI of 30 or over are defined as obese.

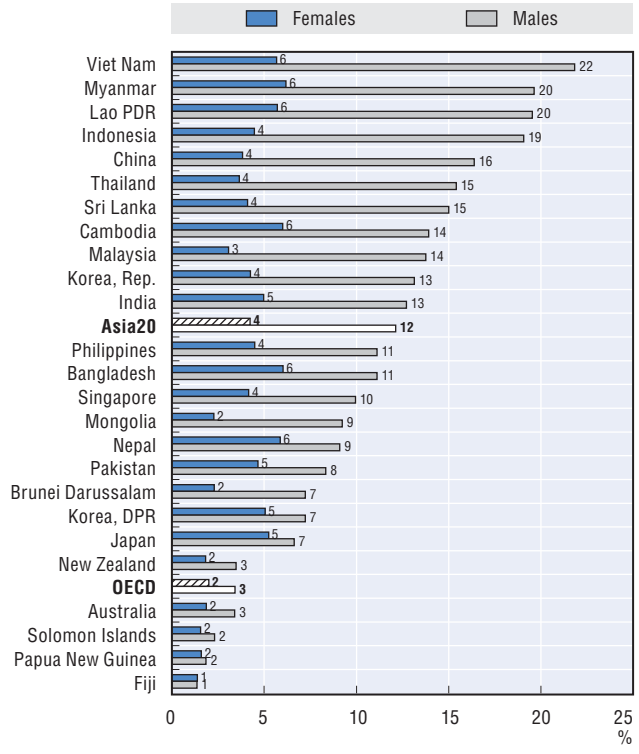
In many countries, self-reported estimates of height and weight are collected through population-based health surveys while in Australia, Japan, the Republic of Korea and New Zealand, health examinations measure actual height and weight. These differences limit data comparability. BMI estimates from health examinations are more reliable, and generally result in higher values than from self-report surveys.

2.12. Adults who are overweight (BMI ≥ 25), 2014

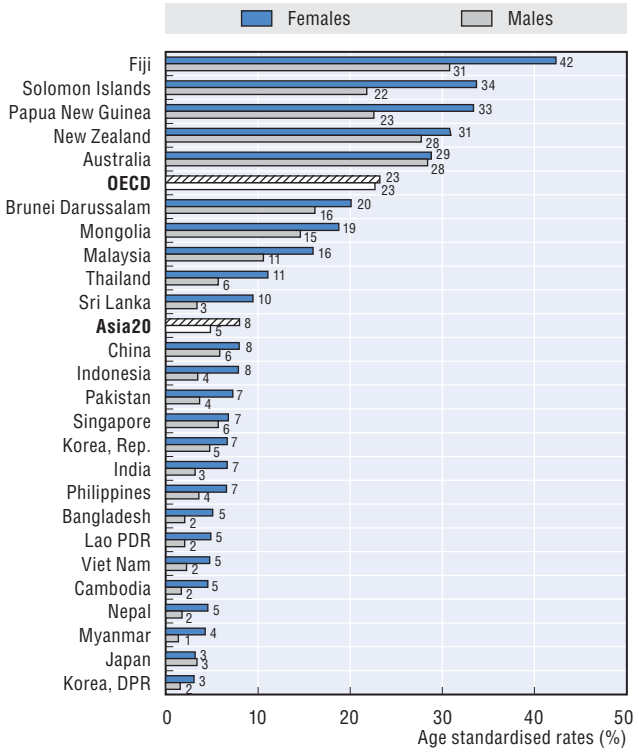


Source: *OECD Health Statistics 2016*; WHO (2016d).

2.13. Changes in overweight prevalence, 2010-14



2.14. Adults who are obese, 2014



Source: *OECD Health Statistics 2016*; WHO Infobase.

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Safe water and adequate sanitation are vital to individual health, livelihood and well-being. Exposure to diarrhoea-causing agents is frequently related to the use of contaminated water and to unhygienic practices in food preparation and disposal of excreta. Globally, diarrhoeal diseases are responsible for the deaths of 1.8 million people every year (WHO, 2004). It was estimated that 88% of that burden is attributable to unsafe water supply, sanitation and hygiene and is mostly concentrated on children in developing countries (UNICEF and WHO, 2014). Better access to water and sanitation contributes to better health but also leads to great social and economic benefits, whether through higher educational participation, improved living standards, lower health care costs or a more productive labour force. The United Nations set a target of achieving universal and equitable access to safe and affordable drinking water for all, as well as achieving access to adequate and equitable sanitation and hygiene for all and end open defecation by 2030.

The proportion of the population using improved sanitary facilities has grown in Asia-Pacific over recent decades (Figure 2.15). In 2015, almost three-quarter of the population in Asia countries have access to improved sanitation. However, in Papua New Guinea and the Solomon Islands, less than one-third of the population have facilities for adequate excreta disposal and open defecation are still common. The progress was rapid in Cambodia, Nepal, Lao PDR, Viet Nam and Pakistan, with an increase of around 40 percentage points between 1990 and 2015.

Between 1990 and 2015, all countries in the Asia-Pacific region – except Korea DPR – improved access to drinking water (Figure 2.16). On average, nine out of ten people have access to improved water sources in Asia. Only Cambodia, Mongolia, Papua New Guinea and Lao PDR lagged behind with three-quarters or less of the population having access to improved water sources. However, more than half and one third of the population gained access to improved water sources in Cambodia and Lao PDR respectively between 1990 and 2015. Papua New Guinea is the only country in the region where less than half of the population had access to improved water sources in 2015. In Mongolia, Indonesia, Cambodia, Nepal, Bangladesh and Papua New Guinea less than one-fourth of population has access to drinking water through piped connections to their homes (Figure 2.17). Since 2007, the establishment of water safety plans in many countries in the region, including Bangladesh, the Philippines, Mongolia and Viet Nam, has allowed millions to access safer drinking water. Tax-based public subsidies, well-designed water tariffs and strategic use of aid flows to the water sector can assist in ensuring that poor and vulnerable groups have access to sustainable and affordable water services (OECD, 2012; WHO, 2012b).

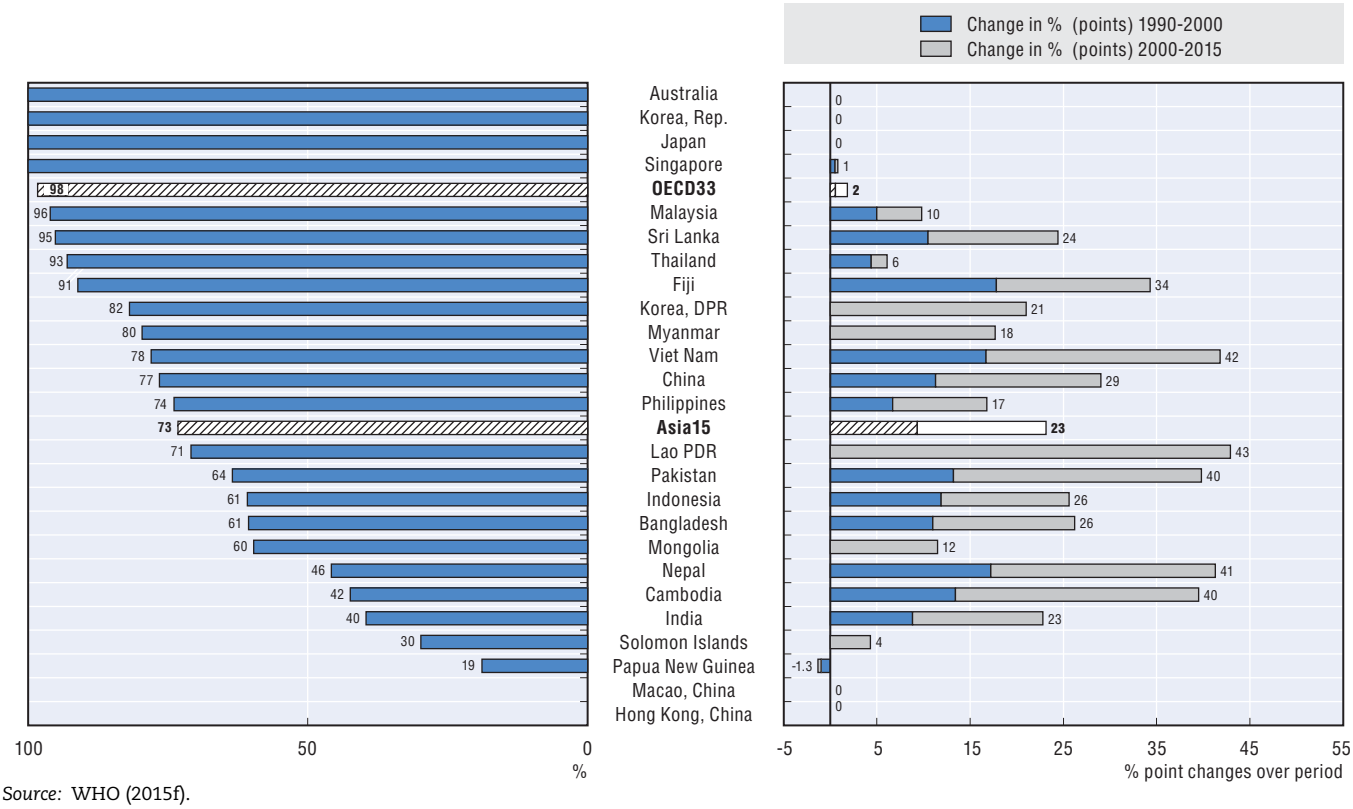
In the Asian countries, although safe water access for rural dwellers has improved steadily since 1990 and reached 80% of rural populations in 2015 compared to 93.3% in urban dwellings, improving sanitation in rural areas is more problematic. In the region, on average, only less than two third of rural dwellers had access to adequate sanitation in 2015 compared to 81.1% in urban dwellings, and the coverage was very low at less than one third in Cambodia and India (UNICEF and WHO, 2016). Responsibilities for rural sanitation are not clearly defined in many Asian countries, and there is an urgent need to establish national frameworks, including the definition of roles and responsibilities of stakeholders (WHO, 2010).

Definition and comparability

An improved drinking-water source is constructed so that it is protected from outside contact, especially from faecal matter. Improved sources include piped water, public taps, boreholes, and protected dug wells or springs. Improved sanitation facilities hygienically separate excreta from human contact, through the use of flushing to piped sewer systems, septic tanks or pit latrines, along with improved pit latrines or composting toilets (UNICEF and WHO, 2014).

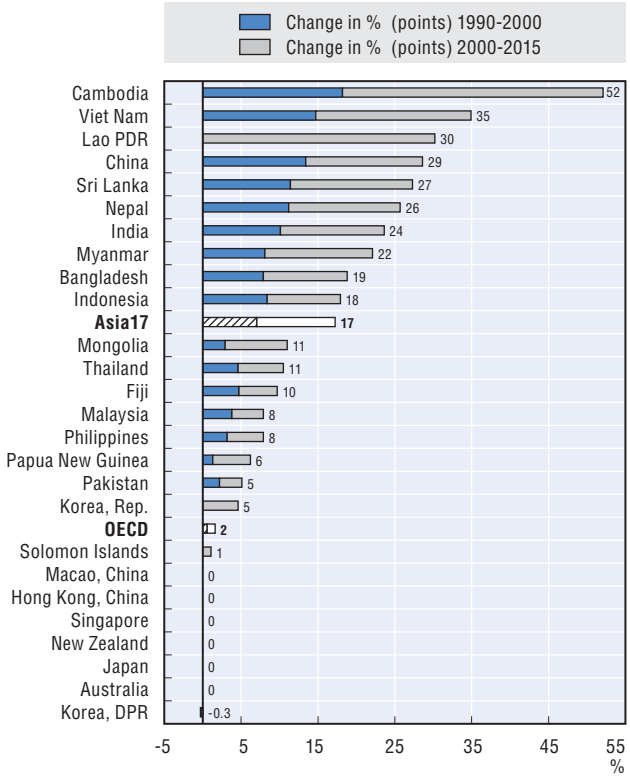
The WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP) database includes nationally representative household surveys and censuses that ask questions on water and sanitation, mostly conducted in developing countries. Generally, developed countries supply administrative data.

2.15. Access to improved sanitation, 2015 and change between 1990, 2000 and 2015



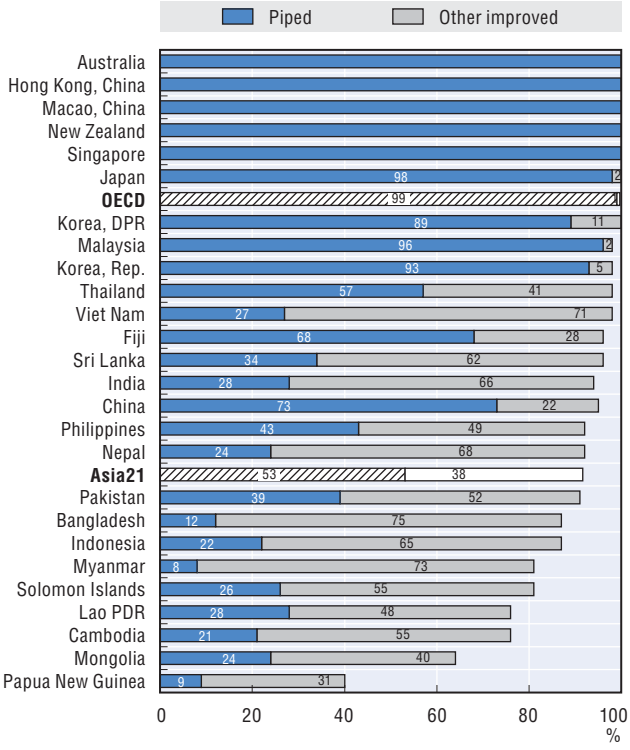
Source: WHO (2015f).

2.16. Changes in access to improved water sources, 1990, 2000 and 2015



Source: WHO (2015f).

2.17. Access to improved drinking water, 2015



Source: WHO/UNICEF JMP for Water Supply and Sanitation (2015).

StatLink http://dx.doi.org/10.1787/888933413398

Tobacco use is the leading global cause of preventable deaths and kills nearly 6 million people each year, of whom more than 5 million are from direct tobacco use and more than 600 000 are non-smokers exposed to second-hand smoke (WHO, 2013e). In the Asia-Pacific region, approximately 6 000 people die prematurely from tobacco-related diseases every day, equating to 2.3 million deaths per year (WHO, 2013e).

The UN SDGs call for strengthening the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate.

Tobacco smoking is a major risk factor for six of the eight leading causes of premature mortality – ischemic heart disease, cerebrovascular disease, lower respiratory infections, chronic obstructive pulmonary disease, tuberculosis and cancer of the trachea, bronchus and lung. Moreover, smoking in pregnancy can lead to low birthweight and illness among infants. Children who establish smoking habits in early adolescence also increase their risk of cardiovascular diseases, respiratory illnesses and cancer, and they are more likely to experiment with alcohol and other drugs. Smoking is also a risk factor for dementia. New studies have shown that 14% of Alzheimer's cases worldwide may be attributed to smoking, and exposure to second-hand tobacco smoke may also increase the risk for dementia (McKenzie et al., 2014).

The economic and social costs are also high, with families deprived of breadwinners, large public health costs for treatment of tobacco related diseases, and lower workforce productivity (WHO, 2013e). Tobacco use is greatest among those who can least afford it (Hosseinpoor et al., 2012).

The proportion of daily smokers varies greatly across countries but the average smoking rate for men in Asian countries was significantly higher at 34.3% than the OECD average of 22.1% in 2013 (Figure 2.18, left panel). In 2013, the smoking rate among men was highest in Indonesia at 67% and several other countries had over one third of adult males smoking daily such as Thailand, Mongolia, Bangladesh, Myanmar, China, Lao PDR and the Republic of Korea. In India, however, less than one in four adult males smoked daily. Between 2011 and 2013, a slight decrease of 0.3 percentage points in the rate of adult males smoking daily was observed.

There are large male-female disparities in the Asia-Pacific region and 3.9% of women in most Asian countries reporting smoking daily, compared with 14.5% in OECD countries (Figure 2.18, right panel). The rates were highest in New Zealand and Hong Kong, China at 14.3% and 10.5% respectively. Also for adult females, a significant decrease of daily smokers from 4.9% to 3.9% was observed between 2011 and 2013.

Although regular smoking in adolescence has both immediate and long-term health consequences, among youth aged 13-15 years, 15.4% of males and 6.2% of females report that they currently use tobacco (Figure 2.19). In OECD countries, smoking among males aged 15 is slightly higher at 16.9% than the Asian average, while female smoking among youth is much higher at 16.6%.

Increasing tobacco prices through higher taxes is an effective intervention to reduce tobacco use, by discouraging youth from beginning cigarette smoking and encouraging smokers to quit. Higher taxes also assist in generating additional government revenue. However, only Singapore, Sri Lanka, Bangladesh, New Zealand and Thailand have total taxes that constitute over 70% of the tobacco retail price (Figure 2.20).

In many countries in the Asia-Pacific region, there is a lack of public awareness about risks and tobacco control measures are lax. For instance, without habits changing, smoking is estimated to kill 2 million people annually in China over the next 15 years, there is low public awareness especially among the rural population and control policies face formidable opposition from large tobacco companies (Cui, 2010; Herd et al., 2010). In Indonesia, advertising is largely unrestricted and smoking bans are few (Barber et al., 2008).

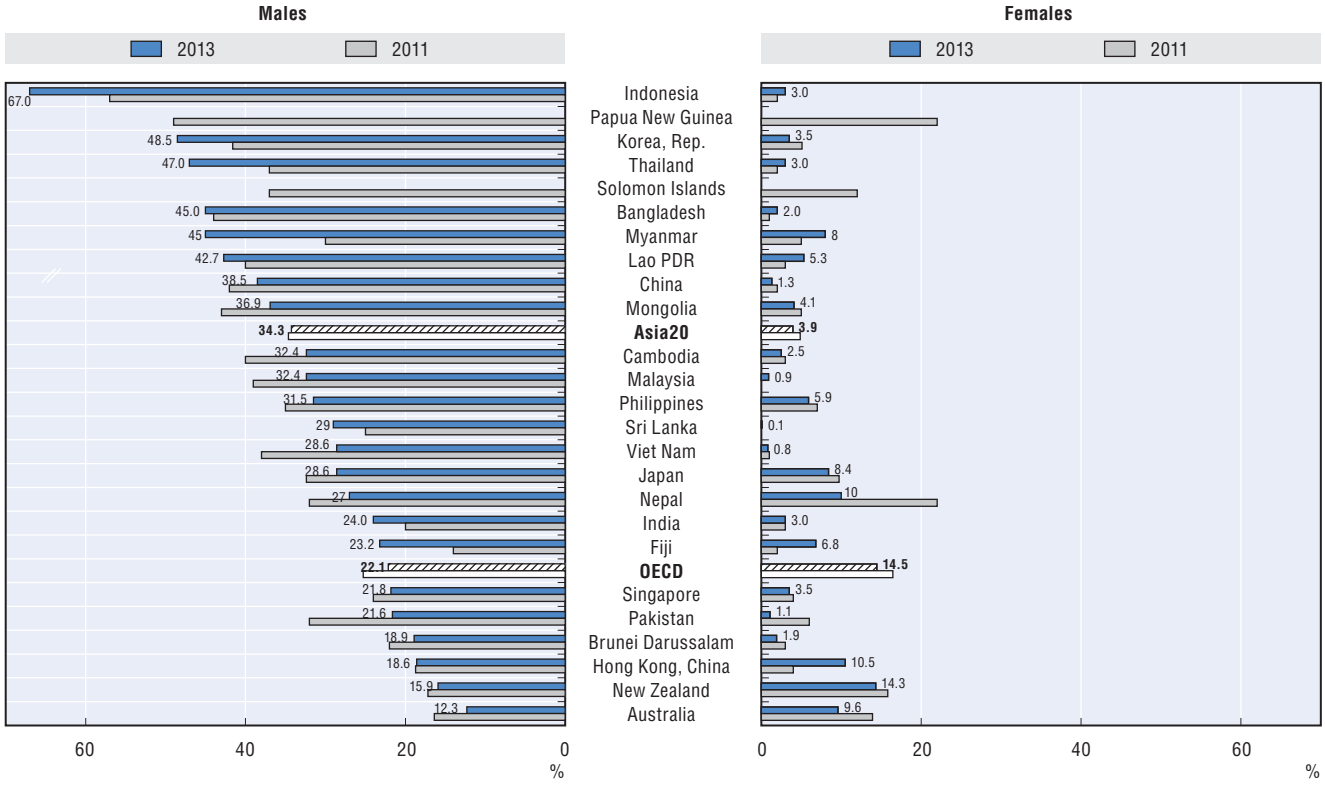
In the Asia-Pacific region, health warnings against smoking, including labels on tobacco product packaging and anti-tobacco mass media campaigns, could be used more to reduce tobacco use. Australia, Singapore and Thailand report that graphic pictorial warning labels have effectively impacted smoking-related behaviour (WHO, 2011g).

Definition and comparability

Adults smoking daily is defined as the percentage of the population aged 15 years and over who reported smoking every day. Estimates for 2012 were based on data obtained from a broad range of health and household surveys, including the Global Adult Tobacco Survey (GATS). Results were age-standardised OECD standard population for OECD countries and to the WHO Standard Population for non-OECD countries.

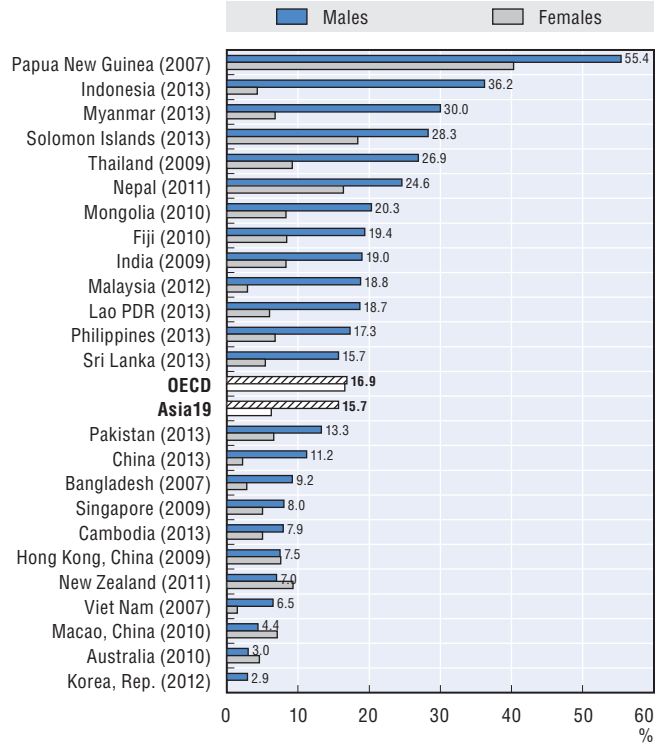
Current tobacco use among youth is derived from the Global Youth Tobacco Survey. It is defined as the percentage of young people aged 13-15 years who consumed any tobacco product at least once during the last 30 days prior to the survey.

2.18. Adults smoking daily, 2011-13



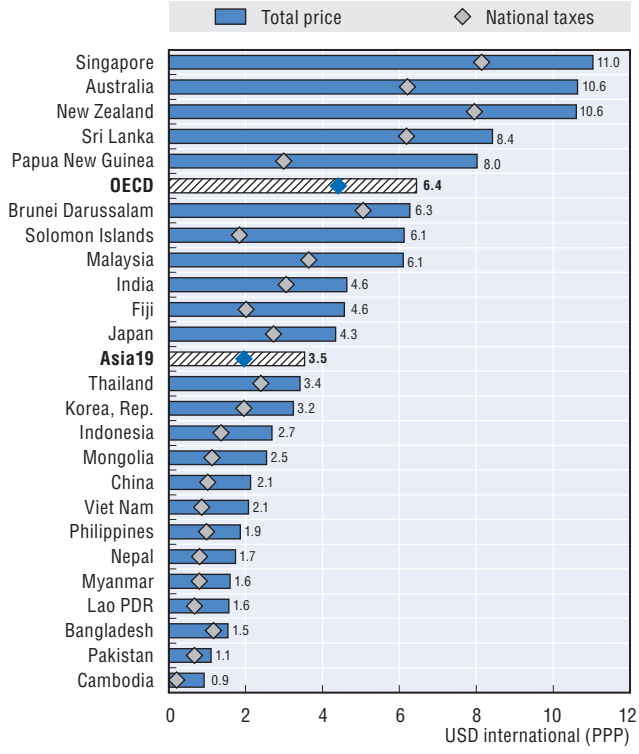
Source: *OECD Health Statistics 2016*; WHO (2016e); Thematic Household Survey, Hong Kong, China, 2012.

2.19. Current tobacco use among youth aged 13-15 years, 2013 (or nearest year)



Source: WHO (2016e); GYTS, Hong Kong, China, 2010; GYTS, Macao, China, 2010; GSHS, Solomon Islands, 2011.

2.20. Retail price of 20-cigarette pack of most-sold brand, 2014



Source: WHO (2013g).

StatLink http://dx.doi.org/10.1787/888933413407

The health burden related to harmful alcohol consumption, both in terms of morbidity and mortality, is considerable in most parts of the world (Rehm et al., 2009; WHO, 2014i). Alcohol use is associated with numerous harmful health and social consequences, including an increased risk of a range of cancers, stroke, and liver cirrhosis, among others. Foetal exposure to alcohol increases the risk of birth defects and intellectual impairment. Alcohol misuse is also associated with a range of mental health problems, including depressive and anxiety disorders, obesity and unintentional injury (Currie et al., 2012). Alcohol also contributes to death and disability through injuries, assault, violence, homicide and suicide, and is estimated to cause more than 2.5 million deaths worldwide per year (WHO, 2014i). While many countries set age limits for purchasing or drinking alcohol, lack of enforcement and no age limits in some countries allow young people to access alcohol easily, increasing their consumption and risk of harmful consequences.

UN SDGs target: strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol

WHO estimates that 5.9% of the global burden of disease is attributable to alcohol (WHO, 2014i), which accounts for about as much mortality and disability as tobacco and hypertension (Rehm et al., 2009). In the South East Asian region, 4.6% of all deaths in 2012 were attributed to alcohol consumption, and in the Western Pacific region, 5.9%. The direct and indirect economic costs of alcohol (which include lost productivity, health care costs, and road traffic crashes and crime-related costs) are substantial – in Thailand and the Republic of Korea these are about 2% of GDP (Rehm et al., 2009; Thavorncharoensap et al., 2010).

In the Asia-Pacific region, alcohol consumption is highest among more developed countries (Figure 2.21, left panel). Adults aged 15 years and over in Australia, the Republic of Korea, New Zealand and Japan consumed over seven litres of alcohol per capita in 2014. In Thailand; Macao, China; Mongolia; China; the Lao PDR; and the Philippines, consumption was between four and seven litres. Because cultural and religious traditions in a number of the remaining countries prohibit drinking alcohol, consumption figures in these are minimal. In some countries, only certain groups of people consume alcohol; in Thailand, for example, around one-third of the population drinks. The average consumption across 22 Asia-Pacific countries in 2014 was a modest 3.3 litres per capita, compared to 7.4 in OECD countries.

Average consumption in the Asia-Pacific region increased by 0.7 litres per capita between 1990 and 2014 (Figure 2.21, right panel), although variations exist across countries. Among countries with significant intake, alcohol consumption declined in Australia; New Zealand; Japan; DPR Korea; Hong Kong, China and Brunei Darussalam. In Viet Nam and Mongolia, the increase in alcohol consumption per capita between 1990 and 2014 was very large and higher than the average across Asia in 2015 at 3.9 and 3.6 litres per capita respectively.

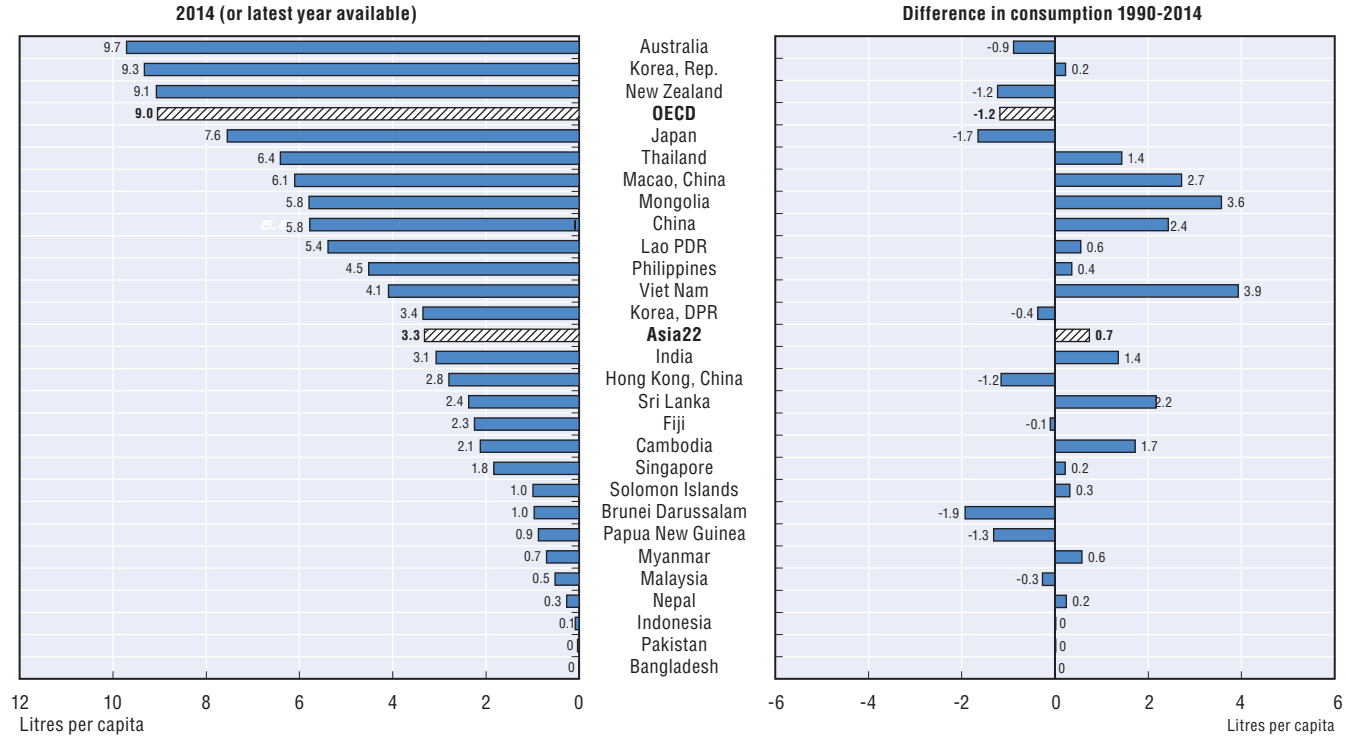
Changing patterns of drinking lead to more potential for harm through binging and heavy drinking occasions. In Asian countries, 16.8% of men and 4.5% of women reported weekly heavy episodic drinking during the last 30 days in 2010. In Mongolia, more than 70% of males and 40% of women reported heavy episodic drinking for the past 30 days (Figure 2.22). In Australia in 2010, two in five people aged 15 and over were at risk of harm from a single drinking occasion in the past 12 months; about 13% of recent drinkers admitted to driving under the influence of alcohol (AIHW, 2012a).

Almost two in five road traffic deaths were attributable to alcohol in the Asia-Pacific region in 2013. In Lao PDR and Papua New Guinea, more than 50% of road traffic deaths are associated with alcohol (Figure 2.23). Based on the blood alcohol concentration (BAC) at which crash risk begins to increase exponentially, WHO recommends drink-driving prevention legislation set maximum legal thresholds at 0.05g/dl. WHO recommendations go further to specify no higher than 0.02 for novice and probationary drivers due to the interaction of alcohol and inexperience. Both aspects are required for WHO to consider a country with good legislation for drink driving. Setting and enforcing legislation on BAC limits of 0.05 g/dl can lead to significant reductions in alcohol-related crashes. For example, Japan reduced BAC from 0.05 to 0.03 and recorded a 38% reduction in alcohol associated crashes. However, several countries in the region, such as Fiji, Malaysia, Singapore and Sri Lanka, still have BAC limits of 0.08 g/dl despite the crash risk being more than double compared to a driver with a BAC of zero (WHO, 2015c).

Definition and comparability

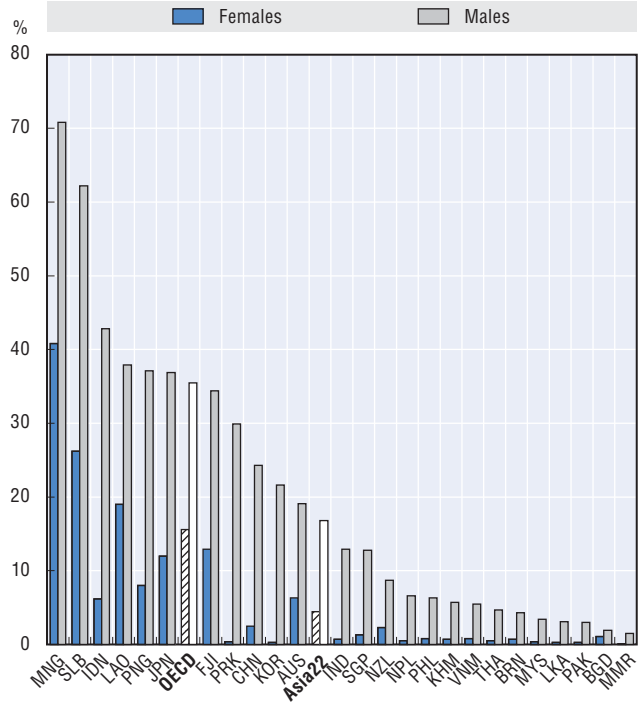
Alcohol intake is measured in terms of annual consumption of litres of pure alcohol per person aged 15 years and over. Sources are based mostly on FAO (Food and Agriculture Organization of the United Nations) data, which consist of annual estimates of beverage production and trade supplied by national Ministries of Agriculture and Trade. The methodology to convert alcoholic drinks to pure alcohol may differ across countries. Data are for recorded alcohol, and exclude homemade sources, cross-border shopping and other unrecorded sources. Information on drinking patterns is derived from surveys and academic studies (WHO, 2014i).

2.21. Recorded alcohol consumption, population aged 15 years and over

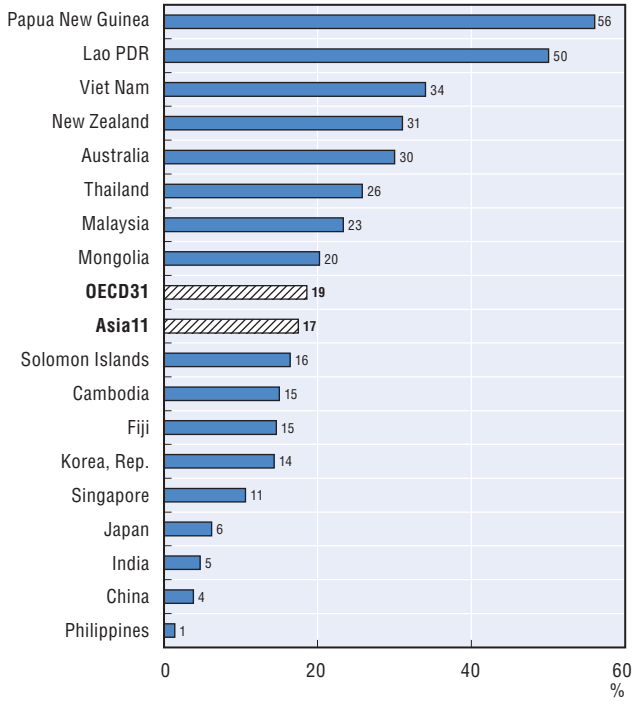


Source: WHO (2016e); *OECD Health Statistics 2016*.

2.22. Heavy episodic drinking (drinkers only), past 30 days (%), 2010 (or nearest available year)



2.23. Proportion of road traffic deaths that are attributable to alcohol, 2013



Source: WHO (2016e).

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Out of an estimated 1.25 million deaths and millions of injuries globally each year due to road accidents, 60% occur in Asia. This reflects not only traffic growth but also high road injury rates – injury rates in developing Asia are much higher than those in advanced countries.

The burden of road traffic injuries falls disproportionately on vulnerable road users – pedestrians, cyclists and motorcyclists. According to the World Health Organization (WHO, 2015c), almost half of those who die in road traffic crashes are pedestrians, cyclists, or users of motorized two-wheelers, and this proportion is higher in emerging economies where urbanisation and motorization accompany rapid economic growth. In many of these countries, necessary infrastructural developments, policy changes and levels of enforcement have not kept pace with vehicle use.

In September 2015 the United Nations launched the 2030 Agenda for Sustainable Development – the development framework that replaces and builds on the achievements of the Millennium Development Goals. Road safety was absent from the Millennium Development Goals but road safety targets have been integrated into the new Agenda. The SDG 3 target aims to halve the number of global deaths and injuries from road traffic crashes by 2020, while SDG 11 relates to providing access to sustainable transport systems for all, improving road safety, and expanding public transport.

In 2012, Asian countries reported 42.1 deaths per 100 000 population due to road traffic accidents (Figure 2.24), two and half times the rate observed across OECD counties. In Thailand, 70 males per 100 000 population aged more than 15 died because of road traffic injuries in 2012.

The five key risk factors in road traffic deaths and injuries are drinking and driving, speeding, and failing to use motorcycle helmets, seat-belts and child restraints (Figure 2.25).

Drinking and driving, especially with a blood alcohol concentration level of over 0.05g/dl (grams per decilitre), greatly increases the risk of a crash and the possibility that it will result in death or serious injury. In Malaysia, Thailand and Mongolia between one-fifth and one-third of road traffic deaths are related to alcohol. Law enforcement through random breath testing checkpoints is highly cost–effective and can reduce alcohol-related crashes by approximately 20%.

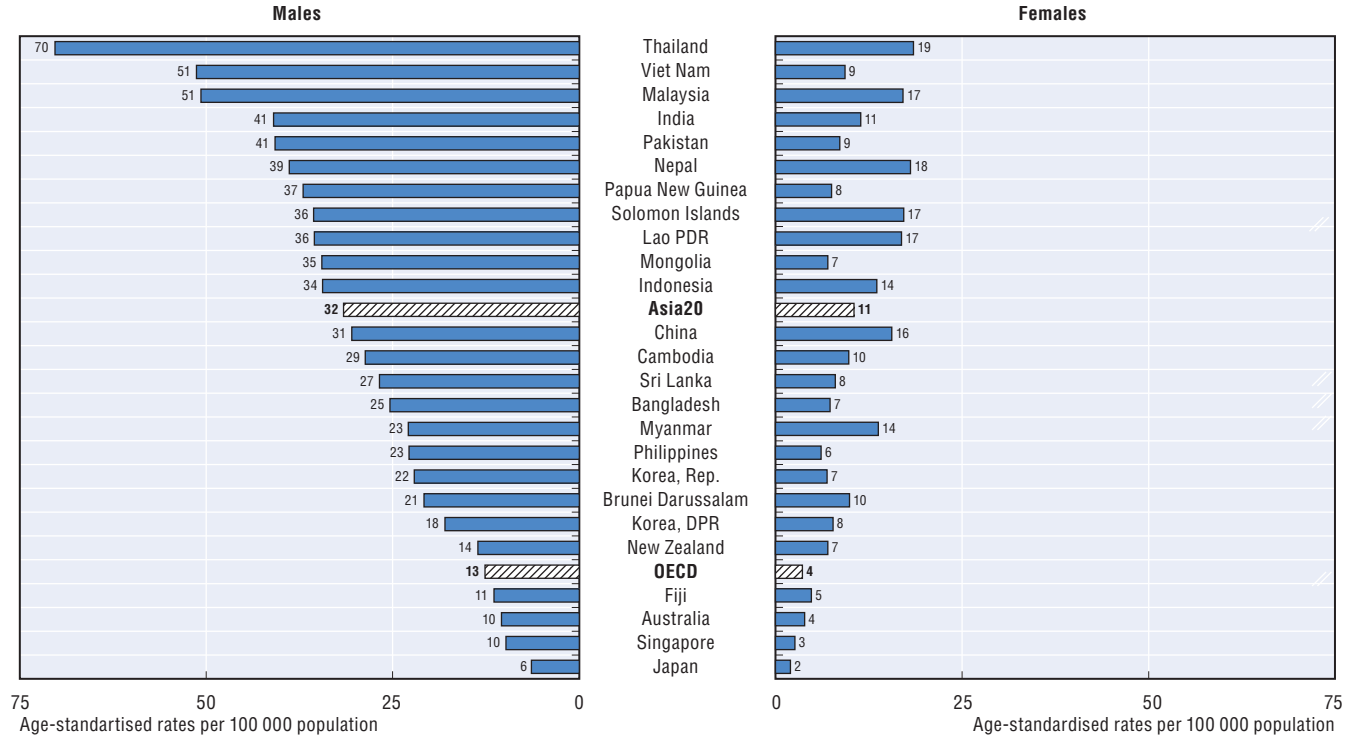
In high-income countries, speed contributes to about 30% of road deaths, while in some low and middle-income countries speed is the main factor in about half of road deaths. Speed limits are enforced by a national law in all Asia-Pacific countries (except Fiji). However, in several countries speed limits are not adapted at local level.

Wearing a motorcycle helmet correctly can reduce the risk of death by almost 40% and the risk of severe injury by over 70%. When motorcycle helmet laws are enforced, helmet-wearing rates can increase to over 90%. In all Asia-Pacific countries (except Fiji) wearing a helmet is mandatory by law. However, the motorcycle helmet wearing rate is very low in China (20%) and Pakistan (10.4%).

Wearing a seat-belt can reduce fatalities among front-seat passengers by up to 50% and among rear-seat car passengers by up to 75%. Public awareness campaigns, mandatory seatbelt laws and their enforcement have been highly effective in increasing the rates of seatbelt wearing. A national law does not exist in Bangladesh, Myanmar, Fiji and Solomon Islands, while few other Asia-Pacific countries require that a seat-belt is worn by all the occupants of a car.

Child restraint systems, such as child seats for infants and booster seats for older children, decrease the risk of death in a crash by about 70% for infants and up to 80% for small children. However, mandatory child restraint national laws exist only in few Asia-Pacific countries – Australia, Singapore, Japan, New Zealand, Cambodia and Lao PDR.

2.24. Road traffic death rates, population aged 15 years and over, 2012



Source: WHO (2015c).

2.25. Existence of a national legislation on five main risk factors of road traffic deaths, 2013

Country	Existence of a national law on:								
	Drink-driving		Seat-belt		Child-restraint	Speed limits		Motorcycle helmet	
	National law	Road traffic deaths to alcohol (%)	National law	Applicability to all occupants	National law	National law	Adaptation at a local level	National law	Motorcycle helmet wearing rate (%)
Thailand	Yes	25.8	Yes	No	No	Yes	No	Yes	n.a.
Viet Nam	Yes	34	Yes	No	No	Yes	No	Yes	96.0% Drivers, 83.0% Passengers
Malaysia	Yes	23.3	Yes	No	No	Yes	Yes	Yes	97.4% Drivers, 88.7% Passengers
India	Yes	4.7	Yes	Yes	No	Yes	Yes	Yes	n.a.
Pakistan	Yes	-	Yes	No	No	Yes	Yes	Yes	10.4% All riders, 10.4% Drivers
Nepal	Yes	-	Yes	No	No	Yes	No	Yes	-
Papua New Guinea	Yes	56	Yes	Yes	No	Yes	No	Yes	-
Solomon Islands	Yes	16.4	No	-	No	Yes	Yes	Yes	-
Lao PDR	Yes	-	Yes	No	Yes	Yes	No	Yes	-
Mongolia	Yes	20.2	Yes	Yes	No	Yes	No	n.a.	6.6% Drivers
Indonesia	Yes	-	Yes	No	No	Yes	Yes	Yes	n.a.
China	Yes	3.8	Yes	Yes	No	Yes	Yes	Yes	20.0% All riders
Cambodia	Yes	15	Yes	No	Yes	Yes	No	Yes	n.a.
Sri Lanka	Yes	-	Yes	No	No	Yes	No	Yes	-
Bangladesh	Yes	-	No	-	No	Yes	No	Yes	-
Myanmar	Yes	-	No	-	No	Yes	Yes	Yes	n.a.
Philippines	Yes	1.4	Yes	Yes	No	Yes	Yes	Yes	n.a.
Korea, Rep.	Yes	14.3	Yes	Yes	No	Yes	Yes	Yes	73.8% All riders
New Zealand	Yes	31	Yes	Yes	Yes	Yes	Yes	Yes	-
Fiji	Yes	14.6	No	-	No	No	-	No	-
Australia	Yes	30	Yes	Yes	Yes	Yes	Yes	Yes	n.a.
Singapore	Yes	10.6	Yes	Yes	Yes	Yes	No	Yes	-
Japan	Yes	6.2	Yes	Yes	Yes	Yes	Yes	Yes	-

Source: WHO (2015c).

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Chapter 3

Health care resources, utilisation and access

Access to high-quality health services critically depends on the size, skill-mix, competency, geographic distribution and productivity of the health workforce. Health workers, and in particular doctors and nurses, are the cornerstone of health systems.

The number of doctors per 1 000 population varies widely across Asia-Pacific countries and economies, but it is generally lower than the OECD average (Figure 3.1). Australia and DPR Korea have the highest number of doctors per capita, with 3.3 doctors per 1 000 population, slightly higher than the OECD average of 3.2. In contrast, Papua New Guinea, Cambodia, the Solomon Islands and Nepal have the lowest number of physicians per 1 000 population at or below 0.2.

The specialisation-mix and distribution of doctors may be improved in countries in the Asia-Pacific region. In Mongolia, for example, general practitioners account for only 21.9% of all doctors in 2011, and postgraduate training needs to be reorganised to ensure an adequate mix of specialisations (WHO, 2014b). Furthermore, despite the relatively large supply, there is also a shortage of experienced doctors in rural areas (Asian Development Bank, 2008). Unequal geographic distribution of doctors is also reported in countries such as the Lao PDR and the Solomon Islands (WHO, 2013c and 2014c) but this is a challenge in many other countries in the region.

There is a large variation in the number of nurses per 1 000 population across countries and economies in the Asia-Pacific region, but in many of them, it is lower than the average of OECD countries (Figure 3.2). The number of qualified nurses is highest in high-income countries such as Japan, Australia and New Zealand, with over ten nurses per 1 000 population. The supply is much lower in a number of low-income countries, including Nepal and Bangladesh, where there are less than 0.5 nurses per 1 000 population. Nurses are not well distributed geographically within countries such as the Lao PDR, the Philippines and the Solomon Islands (WHO, 2013c, 2013d and 2014c) and many other countries in the region also have distribution problems.

In some countries, national human resources for health planning needs to take account of emigration trends in order to secure the necessary number of health professionals domestically. For example, India is the leading exporter of doctors and nurses to the OECD countries but their domestic density is half of the Asian average for doctors and less than half for nurses. On the other hand, the Philippines is also the leading exporter of nurses and a major exporter of doctors (WHO, 2013d) but the density of these health professionals is at about the Asian average.

As seen in the OECD countries, nurses outnumber doctors and there are between two and five nurses per doctor in many Asia-Pacific countries (Figure 3.3). But there are some exceptions. Due to very few numbers of doctors, Papua New Guinea and the Solomon Islands have more than eight nurses per doctor. On the other hand, there is less than one nurse per doctor in Pakistan, Viet Nam and Bangladesh while in Mongolia, the ratio has been continuously going down in recent years, and these raise concerns over the allocation of tasks in health care in these countries.

Countries in the Asia-Pacific region need to respond to the changing demand for health services and hence the health professional skill-mix in the context of rapidly ageing populations (see indicator "Ageing" in Chapter 1). The WHO global strategic directions (WHO, 2016b) provide the framework for strengthening nursing services to help countries achieve universal health coverage and the Sustainable Development Goals.

OECD countries, already experiencing population ageing, have developed formal systems to care for people with limitations on activities of daily living, and long-term care workers, typically nurses and personal carers, provide care and/or assistance to these people at home or in institutions (OECD, 2011).

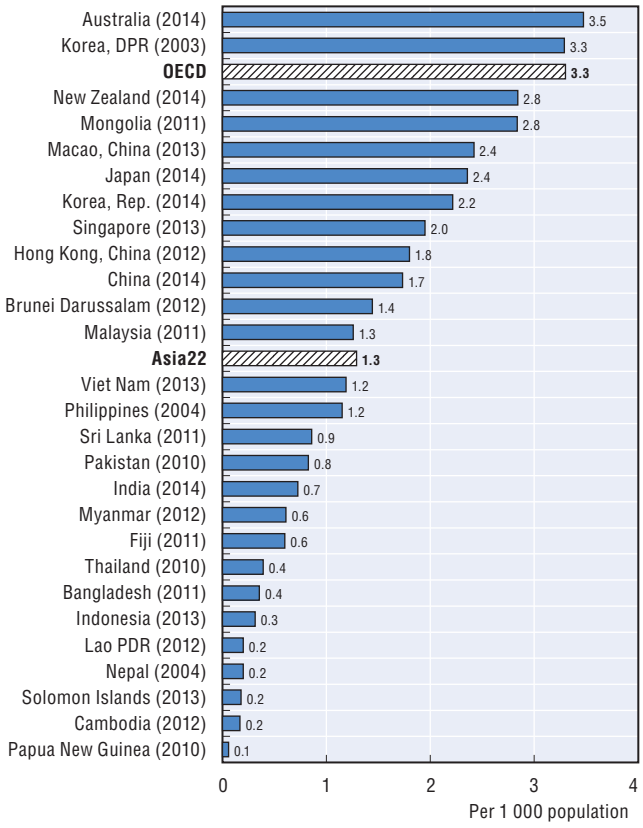
Definition and comparability

Doctors include Generalist medical doctors (including family and primary care doctors) and Specialist medical doctors.

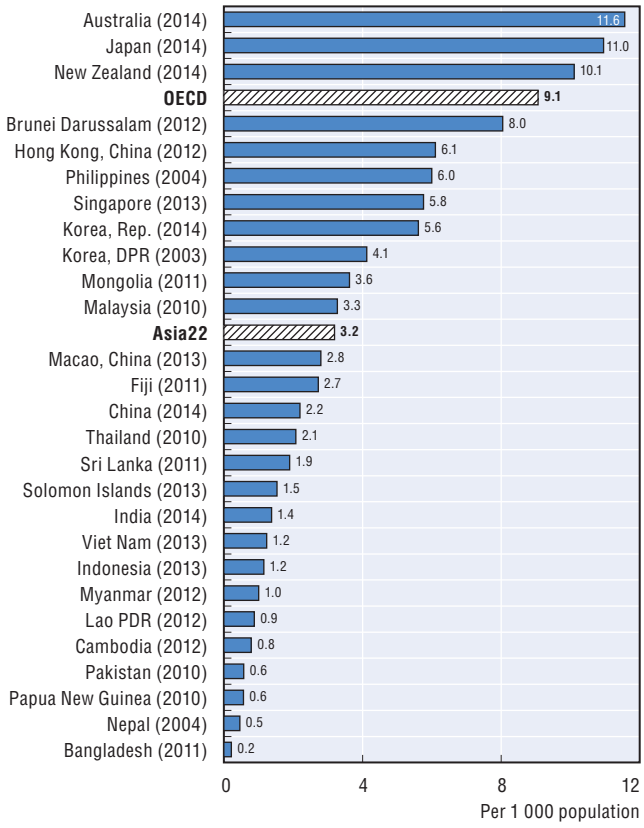
For Asia-Pacific countries, nurses include professional nurses, professional midwives, auxiliary nurses, auxiliary midwives, enrolled nurses, enrolled midwives and related occupations such as dental nurses and primary care nurses. The OECD average includes nursing professionals only.

Data are based on headcounts.

3.1. Doctors per 1 000 population, latest year available

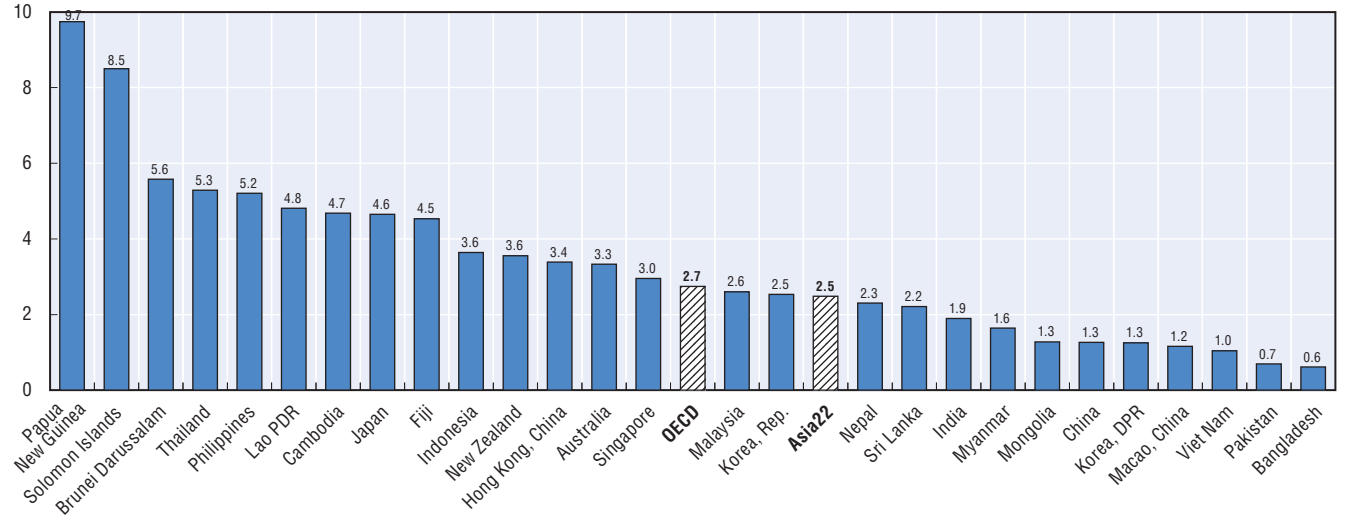


3.2. Nurses per 1 000 population, latest year available



Source: OECD Health Statistics 2016; WHO (2016e); National Data Sources (see Annex A).

3.3. Ratio of nurses to doctors, latest year available



Source: OECD Health Statistics 2016; WHO (2016e); National Data Sources (see Annex A).

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Consultations with doctors are an important measure of overall access to health services, since most illnesses can be managed in primary care without hospitalisation, and a doctor consultation often precedes a hospital admission.

Generally, the annual number of doctor consultations per person in the Asia-Pacific region is lower than the OECD average of 6.7, but there are some cross-country variations (Figure 3.4). The doctor consultation rate ranges from above ten in the Republic of Korea, Japan and Hong Kong, China to fewer than two in Bangladesh, Cambodia, the Solomon Islands, Papua New Guinea and Singapore. In general, consultation rates tend to be highest in the high-income countries in the region and significantly lower in low-income countries (except Singapore), suggesting that economic situations have some impact on populations' health care-seeking behaviours. It should be noted that in these low-income countries, most primary contacts are with non-doctors (i.e. medical assistants, clinical officers or nurses).

Mainly reflecting the smaller supply of doctors (see indicator "Doctors and nurses" in Chapter 3), the number of consultations per doctor is high at 4 100 per year on average across Asia-Pacific countries and economies, compared with the OECD average of 2 100, but there is a large cross-country variation (Figure 3.5). Doctors had more than 6 000 consultations on average in the Republic of Korea, Thailand and Hong Kong, China in a year while doctors in Bangladesh, New Zealand and Viet Nam generally had less than 2 000 consultations per year.

It should be noted that the number of consultations per doctor should not be taken as a measure of productivity because consultations can vary in length and effectiveness and doctors also undertake work devoted to inpatients, administration and research. It is also subject to comparability limitations such as the exclusion of doctors working in the private sector or the inclusion of other health professionals providing primary care in some countries (see box below on "Definition and comparability").

There is a close relationship between doctor consultation rates – a proxy for access to services – and life expectancy, with consultation rates being highest in the countries with highest life expectancy (Figure 3.6). This simple correlation, however, does not necessarily imply causality since overall living standards may influence both consultation rates and life expectancy. There are also country examples such as Mongolia and DPR Korea where life expectancy is much lower than expected based on consultation rates, indicating that other factors beyond doctor consultations affect life expectancy, such as geographic accessibility and economic circumstance.

While there are large variations in consultation rates across countries, there are also substantial variations in consultation rates between the poorest and richest households within each country (Figure 3.7). Although the poorest quintiles might be expected to have the greatest need for medical consultations, their consultation rates are typically lower than in other households, and especially so in India, Thailand, Sri Lanka, China and Indonesia. However, there are some exceptions and people in poor households visit doctors more often than the non-poor, particularly in Hong Kong, China and the Republic of Korea.

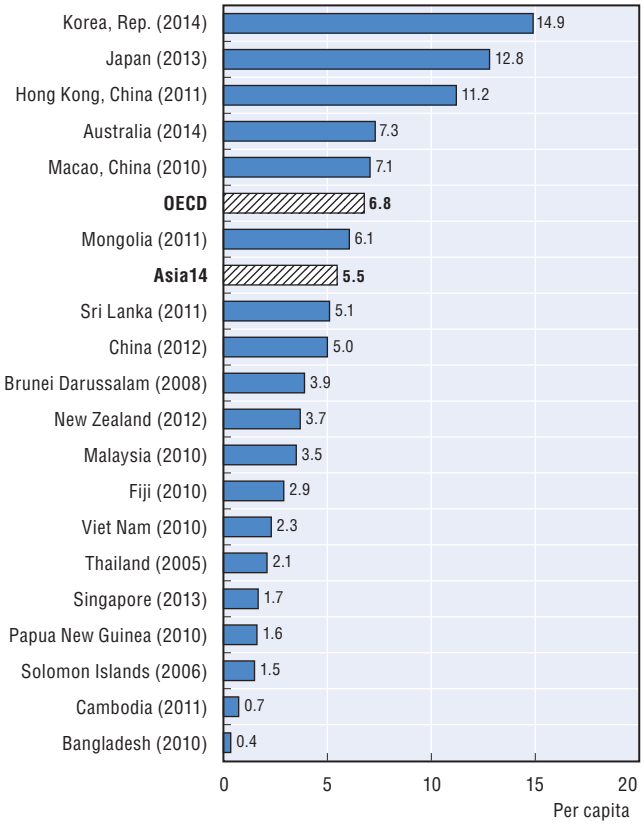
Definition and comparability

Consultations with doctors are defined as contacts with physicians (both generalists and specialists, for more details see indicator "Doctors and nurses" in Chapter 3). These may take place in doctors' offices or clinics, in hospital outpatient departments and in homes.

Two main data sources are used to estimate consultation rates: administrative data and household health surveys. In general, administrative data sources in the non-OECD countries and economies of the Asia-Pacific region only cover public sector physicians or publicly financed physicians, although physicians in the private sector provide a large share of overall consultations in most of these countries. Moreover, outpatient visits recorded in administrative data can be also with non-physicians. The alternative data source is household health surveys, but these tend to produce lower estimates owing to incorrect recall and non-response rates. Administrative data have been used where available but survey data are used for Hong Kong, China, Singapore, Solomon Islands and Sri Lanka. Caution must be applied in interpreting the data from different sources.

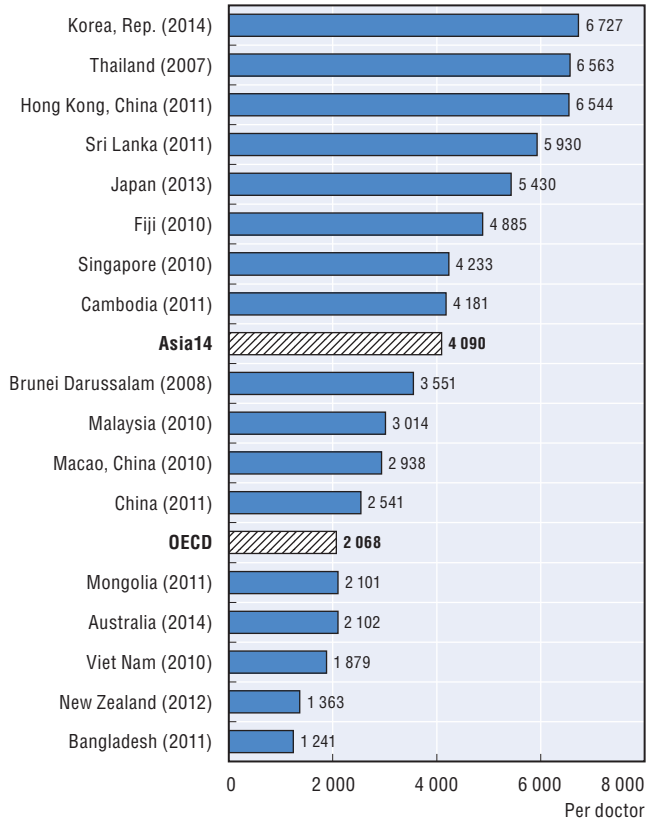
The annual number of consultations per doctor is estimated by dividing the number of total consultations in a year by the number of doctors.

3.4. Doctor consultations per capita, latest year available



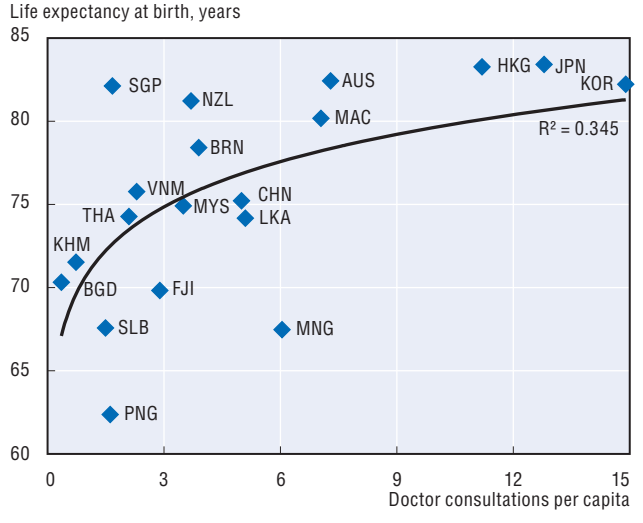
Source: *OECD Health Statistics 2016*; National Data Sources (see Annex A).

3.5. Estimated number of consultations per doctor, latest year available



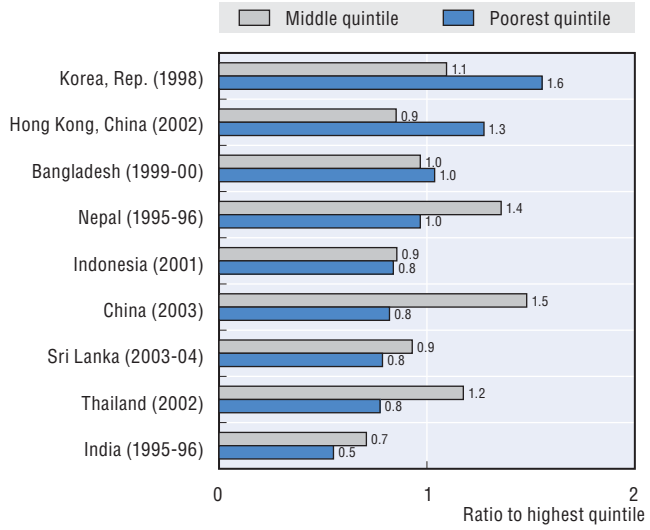
Source: *OECD Health Statistics 2016*; National Data Sources (see Annex A).

3.6. Doctor consultations per capita and life expectancy at birth, latest year available



Source: *OECD Health Statistics 2016*; National Data Sources (see Annex A).

3.7. Ratio of doctor consultation rates in poorest and middle socioeconomic quintiles, compared to highest quintile, latest year available



Source: National Data Sources (see Annex A).

StatLink http://dx.doi.org/10.1787/888933413445

Medical technologies may improve diagnosis and treatment. Access to these technologies is improving, but also contributing to increases in health spending. Computed tomography (CT) scanners and magnetic resonance imaging (MRI) units help doctors diagnose a range of conditions by producing images of internal organs and structures of the body. MRI exams do not expose patients to ionising radiation, unlike conventional radiography and CT scanning. Mammography is used to diagnose breast cancer, and radiation therapy units are used for cancer treatment. But such equipment is expensive.

The availability of diagnostic equipment has increased in many countries in the Asia-Pacific region. Japan has by far the highest number of MRI and CT scanners per million population, followed by Australia and the Republic of Korea (Figures 3.8 and 3.9). The Republic of Korea has the highest number of mammography per female aged 50-69, followed by other OECD countries such as Japan, New Zealand and Australia (Figure 3.10). The availability of these diagnostic medical technologies is high in OECD countries but also in Brunei Darussalam, Malaysia, Mongolia and Singapore. On the other hand, Lao PDR, Myanmar and Papua New Guinea reported the lowest numbers.

The availability of treatment equipment is also much higher in OECD countries than non-OECD countries in the Asia-Pacific region. New Zealand and Australia have over ten radiation therapy units per million population, much higher than the OECD average of 7.2, and Japan and the Republic of Korea also have more than five per million people. But there is less than one per 10 million people in Myanmar, Cambodia, Pakistan and Sri Lanka, and no radiation therapy unit in Fiji and Lao PDR (Figure 3.11).

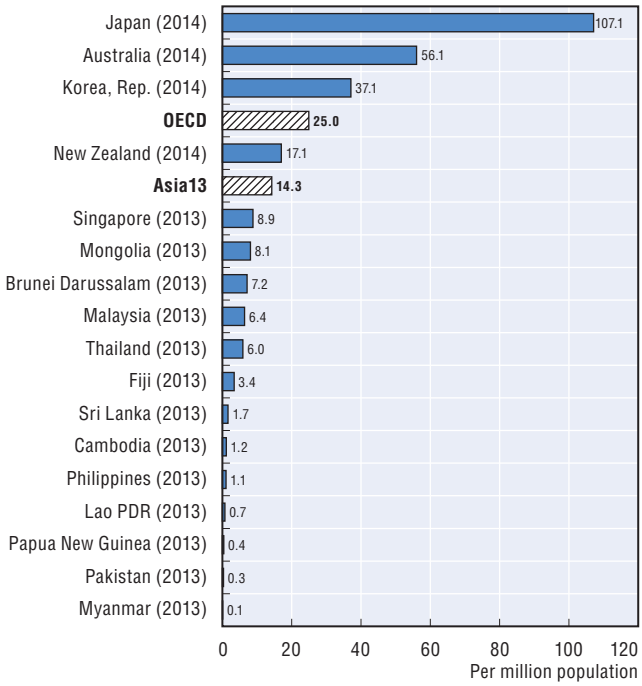
General guidelines or benchmarks regarding the ideal number of medical technologies per population are not available. However, if there are too few units, this may lead to access problems in terms of geographic proximity or waiting times. If there are too many, this may result in overuse of these costly diagnostic procedures, with little, if any, benefits for patients (OECD, 2015b). Although the use of medical technologies is not well known in the Asia-Pacific region, data from OECD countries show that several countries with a high number of CT scanners and MRIs, such as Greece and the United States, also have a higher number of diagnostic exams per population, suggesting some degree of overuse (OECD, 2015b).

Clinical guidelines have been developed in some OECD countries to promote more rational use of diagnostic technologies (OECD, 2010). In Australia, clinicians may use Diagnostic Imaging Pathways (DIP), an evidence-based clinical decision support tool and educational resource for diagnostic imaging. DIP guides the choice of the most appropriate diagnostic examinations in the correct sequence in a wide range of clinical scenarios. The broad objective is to reduce the number of unnecessary examinations that may expose patients to risk without benefits, and increase the number of appropriate examinations resulting in cost-effective diagnosis (Government of Western Australia, 2013).

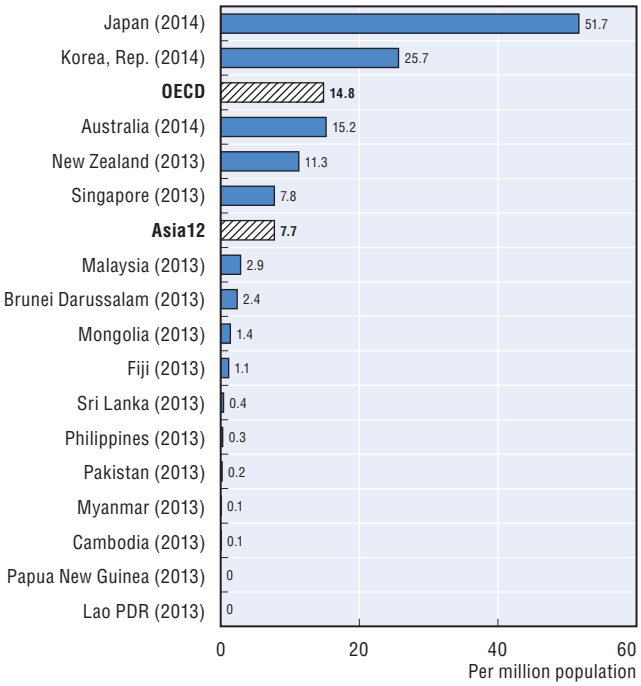
Definition and comparability

The data cover equipment installed both in hospitals and the ambulatory sector and public and private sectors in most countries. However, there is only partial coverage for some countries. In Myanmar, data refer to equipment in the public sector. MRIs in Brunei Darussalam refer to those in the private sector, and in Mongolia, radiation therapy units refer to those in the public sector. For Australia, the number of medical technology equipment includes only those eligible for public reimbursement (about 60% of total MRI units are eligible for reimbursement under Medicare, the universal public health system).

3.8. Computed tomography scanners, latest year available

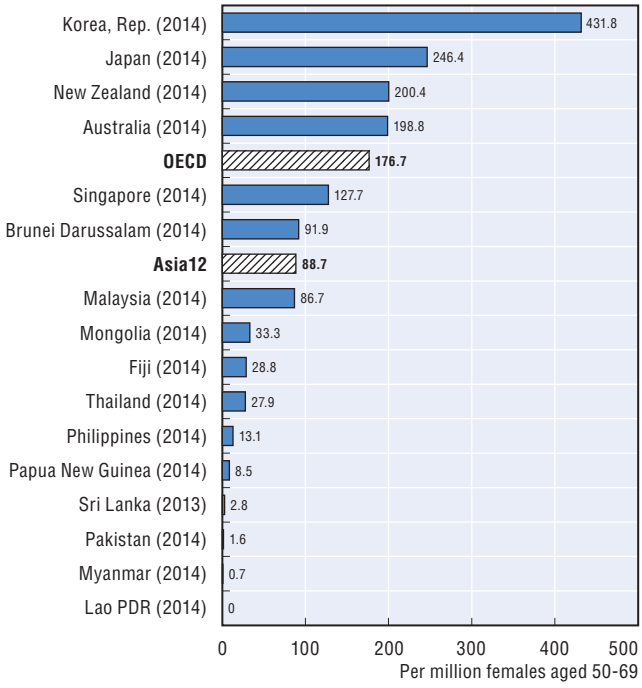


3.9. MRI units, latest year available

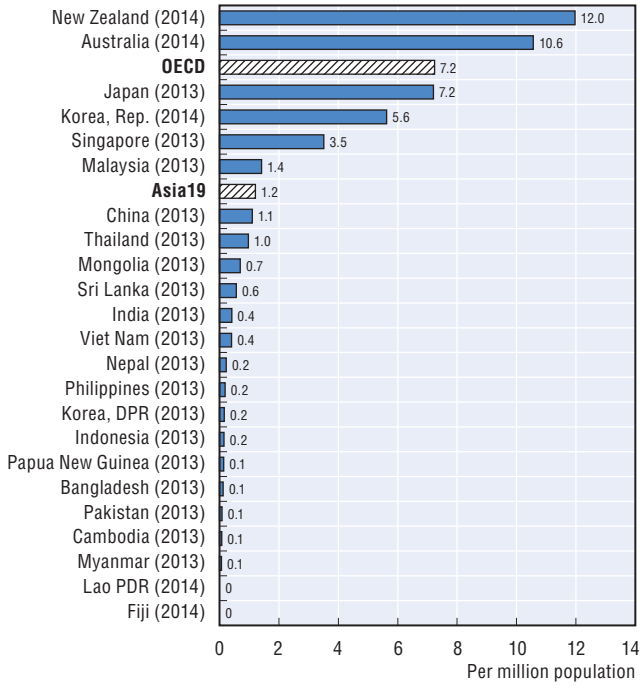


Source: *OECD Health Statistics 2016*; WHO (2016e).

3.10. Mammography units, latest year available



3.11. Radiation therapy units, latest year available



Source: *OECD Health Statistics 2016*; WHO (2016e).

StatLink http://dx.doi.org/10.1787/888933413458

Hospitals in most countries account for the largest part of overall fixed investment. Beside quality of hospital care (see indicator "In-hospital mortality following acute myocardial infarction and stroke" in Chapter 5), it is important to use resources efficiently and assure a co-ordinated access to hospital care.

Available resources in the hospital sector and access to hospital care were assessed in the report by the number of hospital beds and hospital discharge rates. Increasing the numbers of beds and overnight stays in hospitals does not always bring positive outcomes in population health. Hospital resources need to be used efficiently and effectively. Hence, the average length of stay (ALOS) is also used to assess appropriate access and use, but caution is needed in its interpretation. Although all other things being equal, a shorter stay will reduce the cost per discharge and provide care more efficiently by shifting care from inpatient to less expensive post-acute settings, it tends to be more service-intensive and more costly per day. Too short a length of stay could also cause adverse effects on health outcomes, reduce the comfort and recovery of the patient or increase hospital readmissions.

The number of hospital beds per capita is 3.3 per 1 000 population on average across Asian countries and economies, lower than the OECD average of 4.7, but varies considerably (Figure 3.12). It is highest in Japan with over 13 beds per 1 000 population, followed by the Republic of Korea and DPR Korea. At the other end, in the Philippines, Bangladesh, Pakistan, Indonesia, Cambodia, Nepal and India, the stock of beds is less than one per 1 000 population. These large disparities reflect substantial differences in the resources invested in hospital infrastructure across countries.

Hospital discharge is at 116 per 1 000 population on average in Asian countries and economies, compared with the OECD average of 156, and there is also a large variation between countries in the region (Figure 3.13). The highest rates are in Sri Lanka and Mongolia, with over 250 discharges per 1 000 population in a year, which is significantly higher than the OECD average. But in Nepal, Myanmar and Bangladesh, discharge rates are less than 25, suggesting delays in accessing services.

In general, countries with more hospital beds tend to have higher discharge rates, and vice versa (Figure 3.14). However, there are some notable exceptions. Japan and the Republic of Korea, with the highest number of hospital beds per population, have a relatively low discharge rate while Sri Lanka, with approximately average bed availability, has the highest discharge rate.

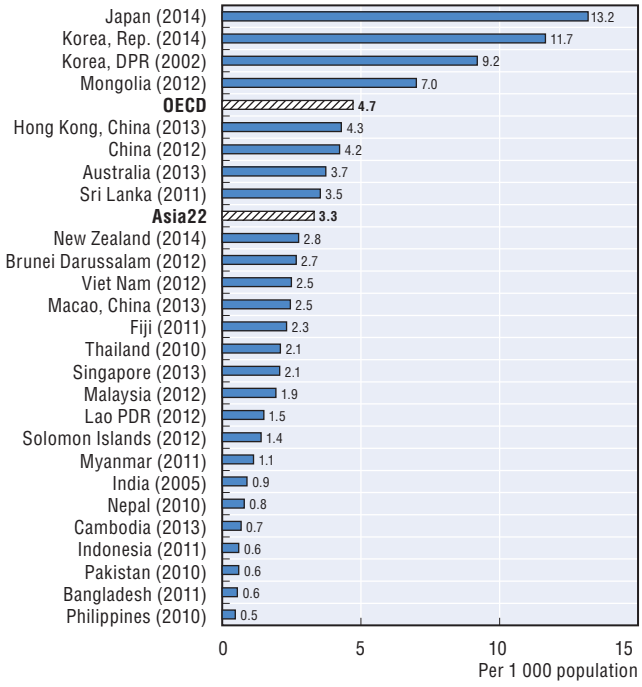
In the Asia-Pacific region, ALOS for acute care is 6.2 days on average, slightly lower than the OECD average of 7.7 days, but the cross-country variation is large (Figure 3.15). The longest ALOS is over ten days in Japan, the Republic of Korea and China, while the shortest length of stay is 2.5 days in Lao PDR and 3.0 days in Sri Lanka. In Japan and the Republic of Korea, "social admission", in that some "acute care" beds are devoted to long-term care, partly explains the large number of beds and long ALOS (Hurst, 2007). The short ALOS, coupled with the high admission rates in Sri Lanka, suggests that inpatient services may be partly substituting for outpatient and primary care.

Definition and comparability

All hospital beds include those for acute care and chronic/long-term care, in both the public and private sectors. A discharge is defined as the release of a patient who has stayed at least one night in hospital. It includes deaths in hospital following inpatient care but usually excludes same-day separations. The discharge rates presented are not age-standardised, not taking into account differences in the age structure of the population across countries.

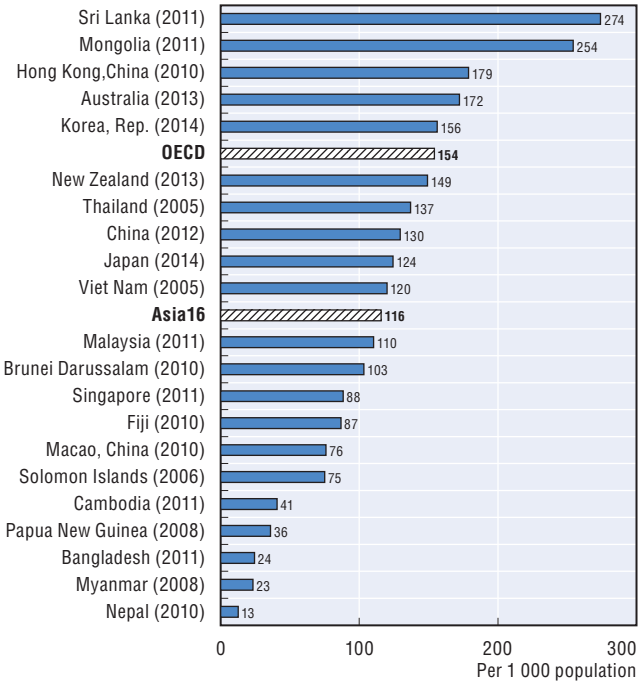
The figures reported for ALOS refer to the number of days that patients spend overnight in an acute-care inpatient institution. ALOS is generally measured by dividing the total number of days stayed by all patients in acute-care inpatient institutions during a year by the number of admissions or discharges. There are considerable variations in how countries define acute care, and what they include or exclude in reported statistics. For the most part, reported ALOS data in the developing countries of the Asia-Pacific region cover only public sector institutions.

3.12. Hospital beds per 1 000 population, latest year available



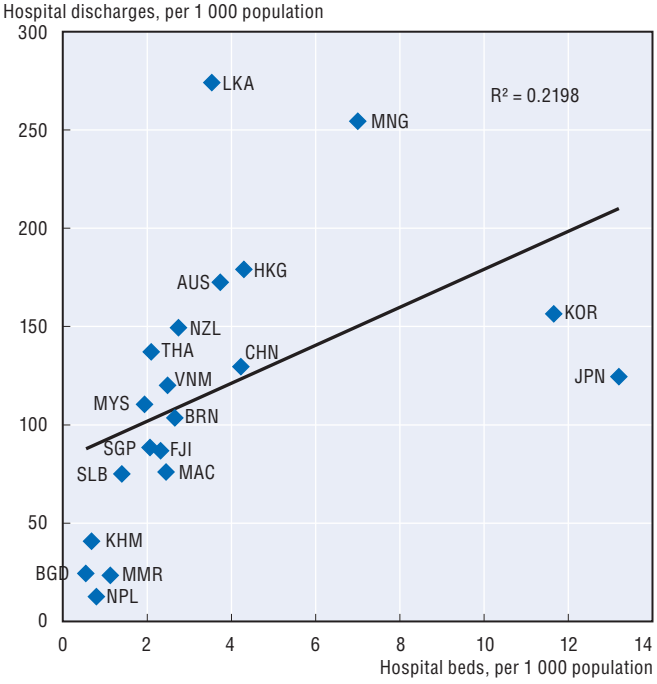
Source: OECD Health Statistics 2016; WHO (2016e).

3.13. Hospital discharges per 1 000 population, latest year available



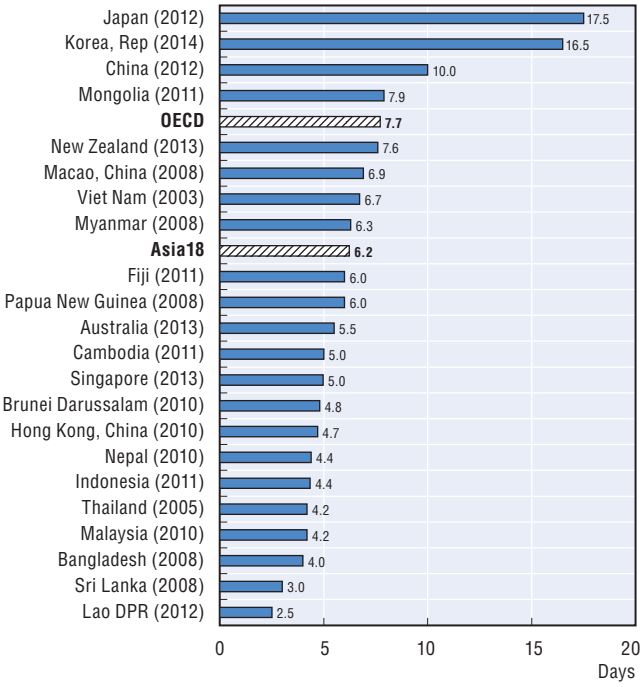
Source: OECD Health Statistics 2014; National sources (see Annex A).

3.14. Hospital beds per 1 000 population and hospital discharges per 1 000 population, latest year available



Source: OECD Health Statistics 2014; WHO (2016e).

3.15. Average length of stays for acute care in hospitals, latest year available



StatLink http://dx.doi.org/10.1787/888933413469

Antenatal care, delivery attended by skilled health professionals and access to health facilities for delivery are important for the health of both mothers and their babies as they reduce the risk of birth complications, morbidity and mortality (see indicators "Reproductive health", "Preterm births and low birthweight" and "Infant and young child feeding" in Chapter 2). WHO currently recommends a minimum of four antenatal visits, and antenatal care coverage has been monitored to ensure the progress towards universal access to reproductive health, set in the UN's MDGs.

In 15 Asian countries, 85% of pregnant women on average received at least one antenatal visit. The coverage of the recommended four visits is about 73%, but access to antenatal care varies across countries (Figure 3.16, left panel). The coverage of one antenatal visit is 100% in Fiji, DPR Korea, the Republic of Korea, and Singapore, while DPR Korea, Sri Lanka, Brunei Darussalam, Fiji, Thailand and the Republic of Korea have nearly complete coverage of over 90% of four antenatal visits. At the other end, in Bangladesh, Lao PDR and Nepal, over 40% of pregnant women do not access any antenatal care, and in Bangladesh, Pakistan and Lao PDR, the coverage of four antenatal care visits is less than 40%.

In many countries and economies in the Asia-Pacific region, almost all births are attended by a skilled health professional such as a doctor, nurse or midwife, but there are several countries where access to skilled care is low (Figure 3.16, right panel). Less than half of births in Bangladesh, Nepal, Lao PDR and Papua New Guinea are attended by a skilled health professional, with most deliveries assisted by *dais* or untrained birth attendants. Traditional birth attendants are important in several other countries including Cambodia, India, Indonesia, Myanmar, Pakistan and the Philippines, especially in rural settings. Across countries in the region, access to skilled birth attendants is generally lower among pregnant girls aged 15-19 than older pregnant women, and the difference is as large as 20% in Cambodia, Indonesia and India (WHO, 2014h).

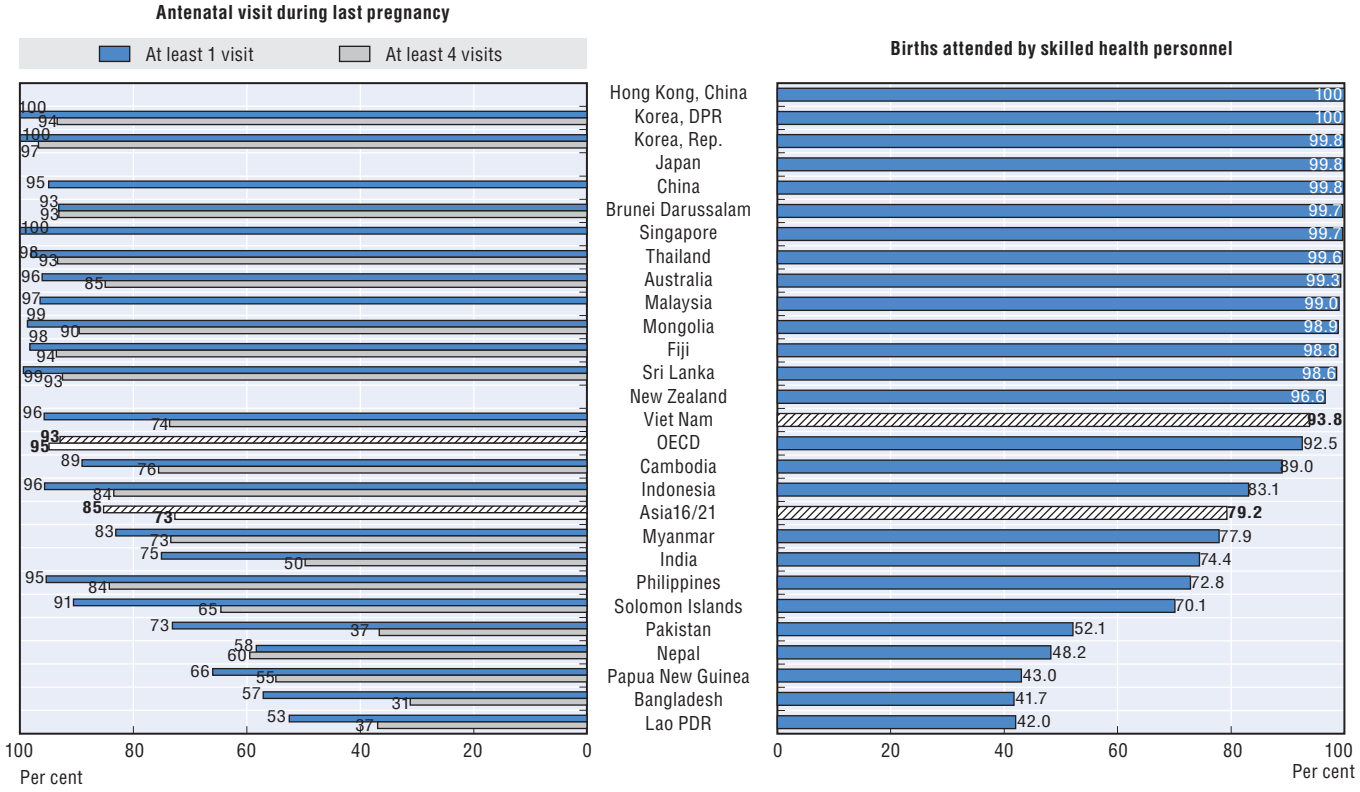
Delivery in health facilities varies across countries (Figure 3.17). In Australia, all deliveries take place at a health facility and access is also over 90% in Sri Lanka, Viet Nam and Mongolia. On the other hand, in Bangladesh, most deliveries occur at home and only 27% of births take place in a health facility. In Nepal and India just over one-third of deliveries occur in a health facility. Across countries, deliveries in health facilities are more common among mothers giving birth for the first time, or those who have had at least four antenatal visits, as well as among mothers living in urban regions (NIPS & Macro International Inc., 2008) and those with higher education and wealth.

Access to skilled birth attendants varies by socio-economic factors (Figure 3.18). Mongolia and Sri Lanka have a high coverage of births attended by skilled health professionals among mothers with different education and income levels, and living in different geographical locations. But in other countries, the coverage of births attended by skilled health professionals is highly unequal among women of different income and education levels. For example, in Bangladesh, the Philippines and Nepal, access differs by more than five-fold between mothers of the lowest education level versus mothers of the highest levels. Disparity by household income is largest in Bangladesh and Lao PDR, with a 13-fold and 8-fold difference between the highest and lowest income quintiles respectively. In contrast, differences in access to skilled care at birth remain relatively small between urban and rural areas across countries.

Definition and comparability

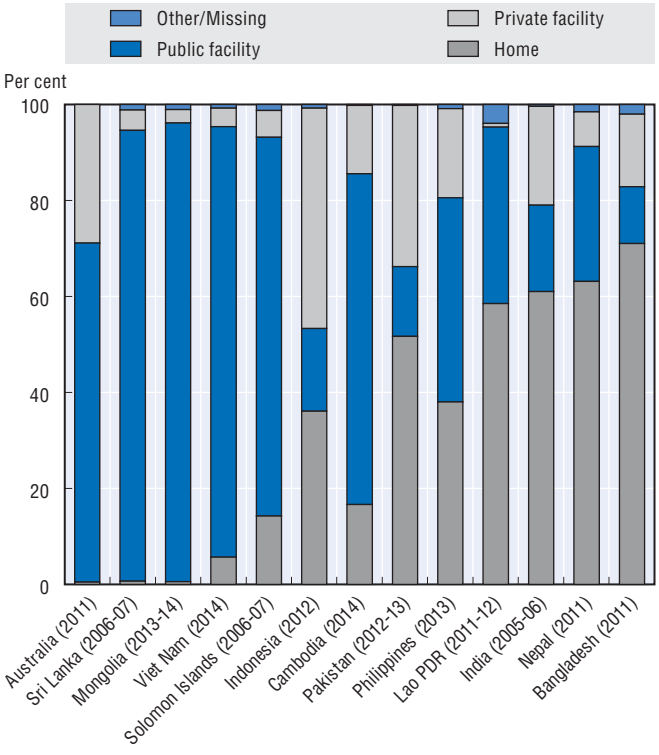
The major source of information on care during pregnancy and birth are health interview surveys. Demographic and Health Surveys (DHS), for example, are nationally-representative household surveys that provide data for a wide range of indicators in the areas of population, health, and nutrition. Standard DHS Surveys have large sample sizes (usually between 5 000 and 30 000 households) and typically are conducted every five years, to allow comparisons over time. Women who had a live birth in the five years preceding the survey are asked questions about the birth, including how many antenatal care visits they had, who provided assistance during delivery, and where the delivery took place.

3.16. Provision of care during pregnancy and birth, 2014 or latest year available



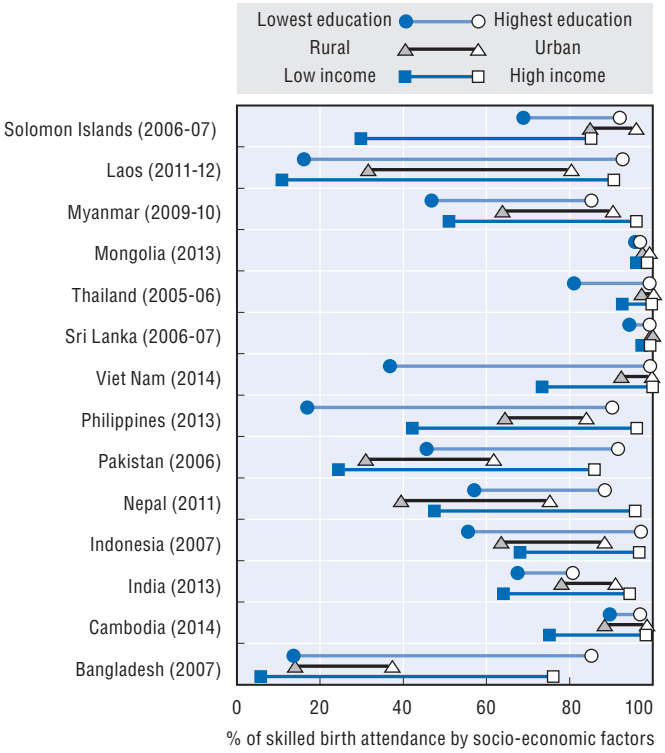
Source: WHO (2016e).

3.17. Place of delivery, latest year available



Source: DHS & MICS 2005-15; Li et al. (2013).

3.18. Births attended by skilled health professionals, by socio-economic and geographic factor, latest year available



Source: DHS & MICS 2005-15; Li et al. (2013).

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Basic care for infants and children includes promoting and supporting early and exclusive breastfeeding (see indicator "Infant and young child feeding" in Chapter 2), identifying conditions requiring additional care and counselling on when to take an infant and young child to a health facility. There are several cost-effective preventive and curative services for leading causes of childhood morbidity and mortality worldwide. These include vitamin A supplementation, measles vaccination, oral rehydration therapy (ORT) for diarrhoea, and antibiotic treatment for acute respiratory infection (ARI). Access to these services leads to better infant and child health.

As part of prevention, supplementation with vitamin A is considered important for children because it reduces the risk of disease and death from severe infections. A safe and effective vaccine is available for measles, so its coverage has been used to monitor the progress towards achieving the Millennium Development Goal 4: Reduce Child Mortality and it is also considered a marker of access to child health services.

Appropriate treatment could also prevent deaths from diarrhoea and pneumonia. Dehydration caused by severe diarrhoea can be easily treated with ORT, and early diagnosis and treatment with antibiotics can also prevent a large proportion of deaths from pneumonia.

Access to preventive care varies across Asia-Pacific countries as shown by the intake of vitamin A supplements (Figure 3.19) and vaccination coverage (see indicator "Childhood vaccination programmes" in Chapter 5). Access to vitamin A supplementation is markedly low in the Solomon Islands at 7% and India at 46%, followed by 56% in Myanmar and 59% in Lao PDR. Meanwhile, DPR Korea and the Republic of Korea have nearly complete coverage.

Measles vaccination coverage is negatively related to child mortality, and countries that administer this vaccination to less than two-thirds of children, such as Pakistan and Papua New Guinea, have high under age 5 mortality of 81 and 57 per 1 000 live births, suggesting the importance of measles vaccination in reducing mortality (Figure 3.20, see indicator "Childhood vaccination programmes" in Chapter 5).

With regards to curative care, on average more than one-third of children are not receiving appropriate care for diarrhoea in the Asia-Pacific region (Figure 3.21). Less than 50% of children with diarrhoea receive ORT in India (26%), Cambodia (35%), Pakistan (42%) and Indonesia (47%). The coverage is as high as 92% in DPR Korea and the Republic of Korea.

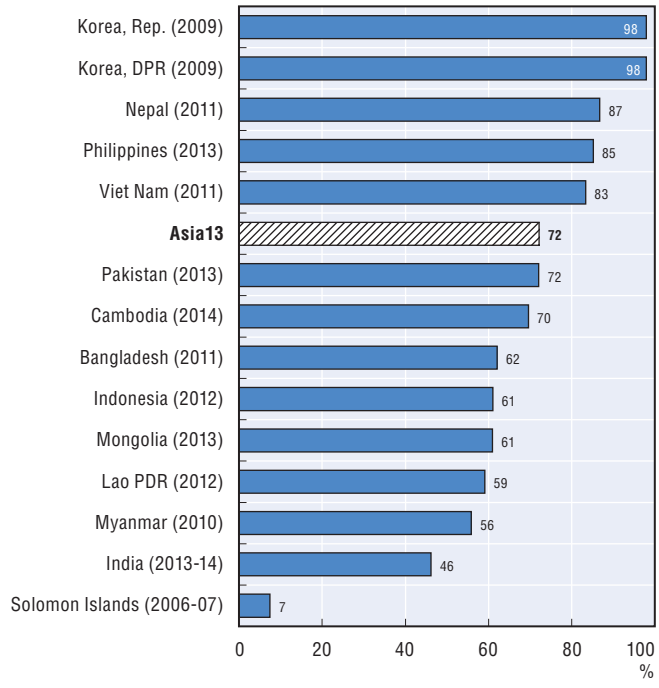
Access to appropriate medical care for children with ARI can also be improved in many countries in the region. Although two-thirds of children with symptoms are taken to a health facility, only 60% of them receive antibiotic treatment (Figure 3.22). There is a correlation between treatment coverage for diarrhoea and ARI. Antibiotic treatment for ARI is particularly low in India and Nepal, where the treatment for diarrhoea is also low. This suggests a need to expand access to care to treat leading causes of child mortality in these countries.

Definition and comparability

Prevention and treatment coverage data are usually collected through household surveys. Accuracy of survey reporting varies and is likely to be subject to recall bias. Seasonal influences related to the prevalence of diarrhoeal disease and ARI may also affect cross-national data comparisons.

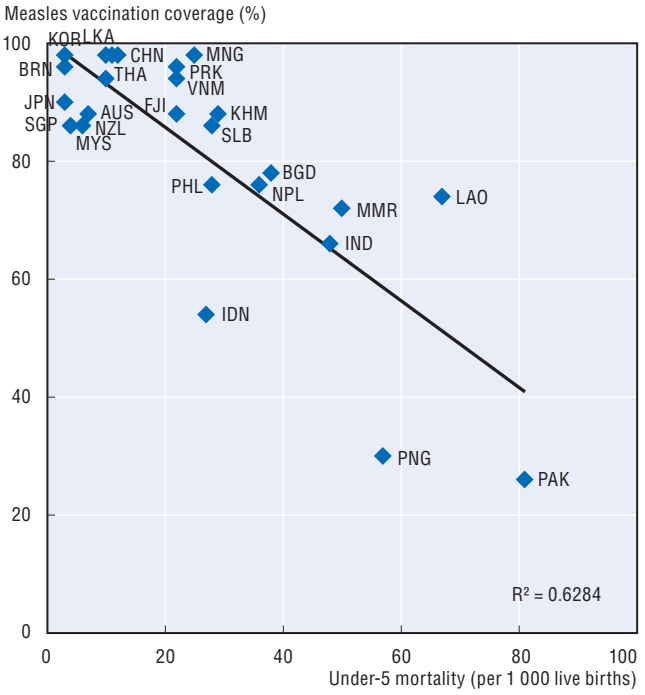
The prevalence of ARI is estimated by asking mothers whether their children under five had been ill with a cough accompanied by short, rapid breathing in the two weeks preceding a survey, as these symptoms are compatible with ARI.

3.19. Children aged 6-59 months who received vitamin A supplementation, latest year available



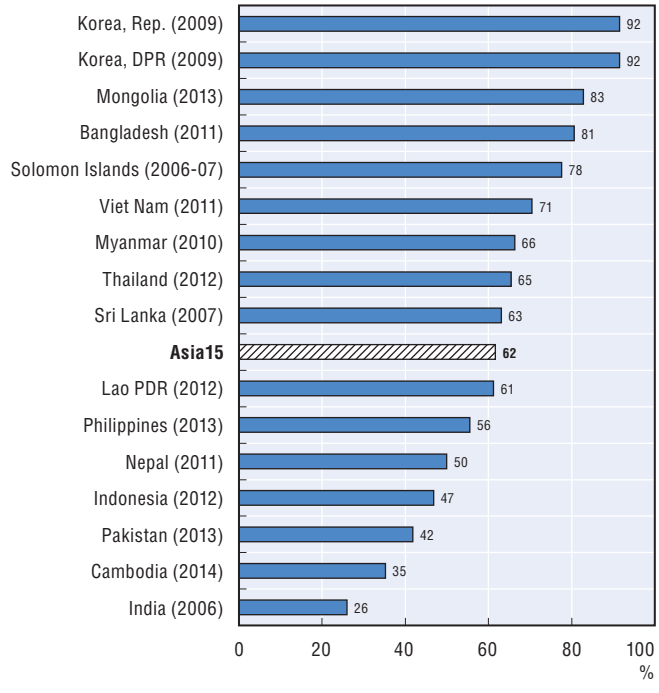
Source: WHO (2016e); DHS & MICS 2005-15.

3.20. Under age 5 mortality and measles vaccination coverage, latest year available



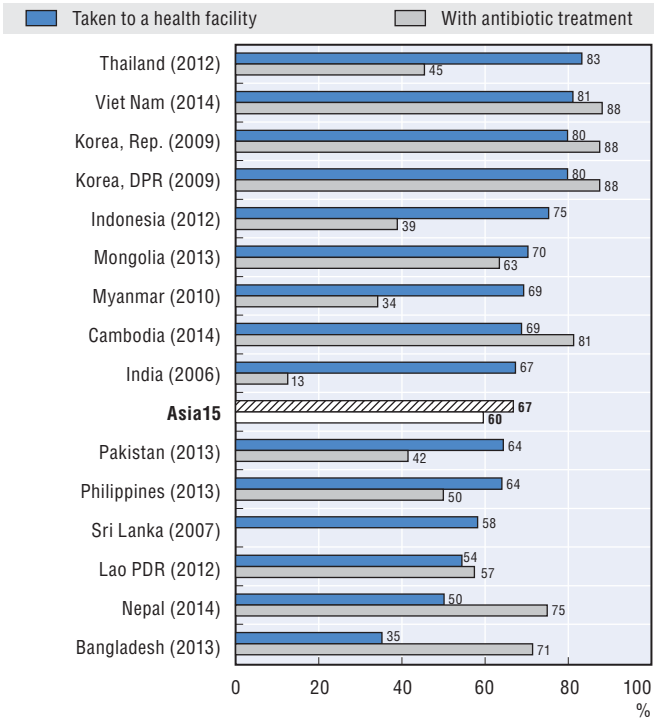
Source: UN Inter-agency Group for Child Mortality Estimation.

3.21. Children aged under 5 years with diarrhoea receiving ORT (%), latest year available



Source: WHO (2016e); DHS & MICS 2005-15.

3.22. Children aged under 5 years with ARI symptoms who took antibiotic treatment (%), latest year available



Source: WHO (2016e); DHS & MICS 2005-15.

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Despite the enormous epidemiological, social and economic burden of mental ill-health, mental health care is still not a priority in most health systems and access to mental health care is often not adequate. At any point in time, about 10% of the adult population report having some type of mental or behavioural disorder (WHO, 2001) and in some countries, over 90% of people who have attempted or committed suicide had been diagnosed with psychiatric disorders such as severe depression, bipolar disorder and schizophrenia (Nock et al., 2008). In many parts of the Asia-Pacific region, appropriate care may not be available and access to mental health care may not be assured for people with mental ill-health. Access to mental health care can be assessed by the supply of professionals and the availability of psychiatric beds in different settings such as general hospitals, mental health hospitals and community facilities.

Psychiatrists are generally responsible for the prevention, diagnosis and treatment of a variety of mental health problems, including schizophrenia, depression, learning disabilities, alcoholism and drug addiction, eating disorders and personality disorders. The number of psychiatrists is lower in all countries in the Asia-Pacific region than the OECD average of 15.6 per 100 000 population (Figure 3.23). Developed OECD countries in the region such as Japan, New Zealand, Australia and the Republic of Korea, have the highest number of psychiatrists, but in most Asian countries there is fewer than one psychiatrist per 100 000 population. This suggests that many countries in the region underinvest in mental health care.

As is the case for many other medical specialties (see indicator "Doctors and nurses" in Chapter 3), psychiatrists are not distributed evenly across regions within each country. For example, in Australia, the number of psychiatrists per capita was two times greater in certain states and territories than others in 2009 (AIHW, 2012b).

Mental health nurses play an important and increasing role in the delivery of mental health services in hospital, primary care or other settings, but in many non-OECD countries in the Asia-Pacific region, the number is still very low (Figure 3.24). Japan has the highest rate with over 100 mental health nurses per 100 000 population, followed by New Zealand and Australia with more than 50 mental health nurses per 100 000 population. But there are fewer than one mental health nurse per 100 000 population in India, Myanmar, Nepal, Lao PDR, Bangladesh, the Philippines and Cambodia, suggesting again the need for an appropriate supply of professionals in mental health care to assure access.

Some countries, such as Australia, have introduced new programmes to improve access to mental health care by extending the role of mental health nurses in primary care. Under the Mental Health Nurse Incentive Program launched in 2007, mental health nurses in Australia work with general practitioners, psychiatrists and other mental health professionals to treat people suffering from different mental health conditions. A recent evaluation of this programme found that mental health nurses have the potential to make a significant contribution to enhance access and quality of mental health care through flexible and innovative approaches (Happell et al., 2010).

The number of psychiatric beds is less than 10 per 100 000 population in most of Asian countries, with Lao PDR and Cambodia reporting less than one psychiatric bed per 100 000 population (Figure 3.25).

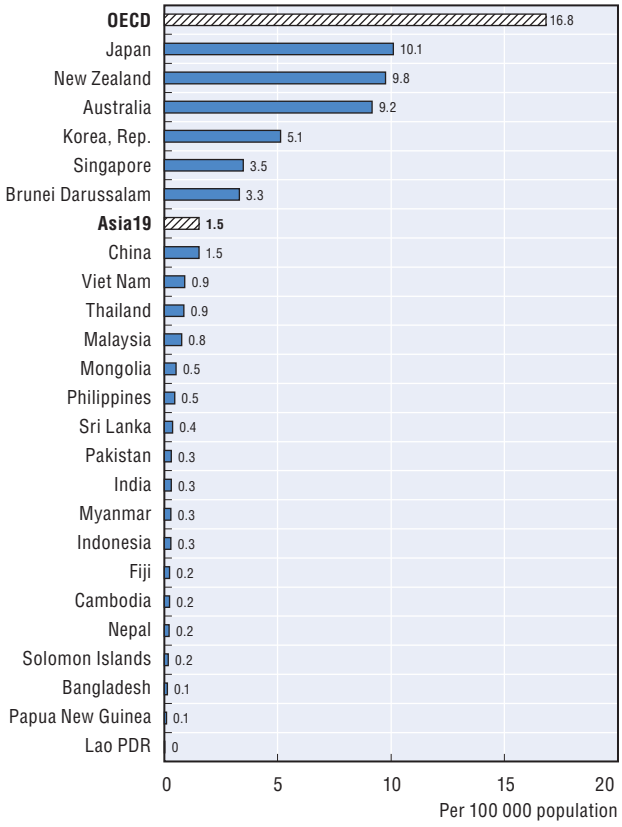
Definition and comparability

Psychiatrists have post-graduate training in psychiatry and may also have additional training in a psychiatric specialty, such as neuropsychiatry or child psychiatry. Psychiatrists can prescribe medication, whereas psychologists cannot do in most countries. Data include psychiatrists, neuropsychiatrists and child psychiatrists, but psychologists are excluded.

Mental health nurses usually have formal training in nursing at a university level.

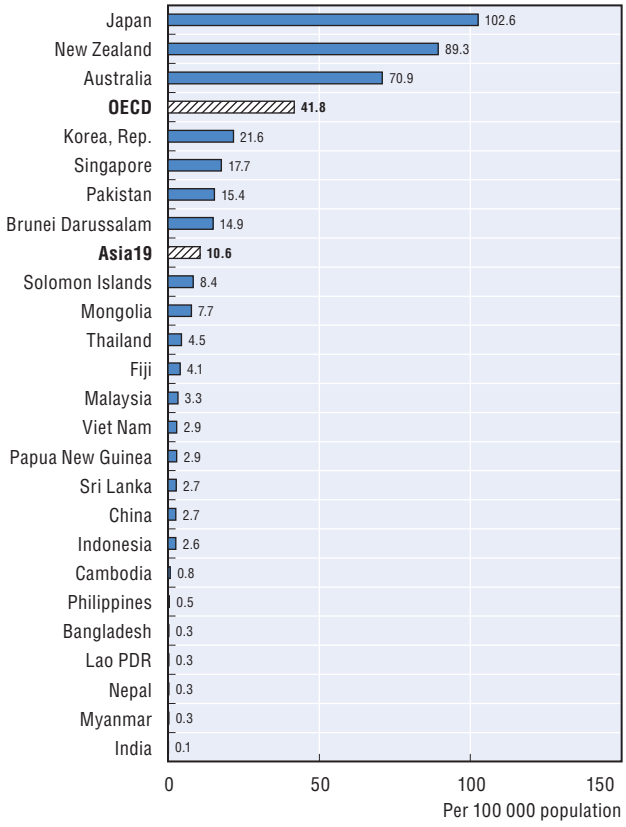
Data are based on head counts.

3.23. Psychiatrists, per 100 000 population, 2014 or last available year



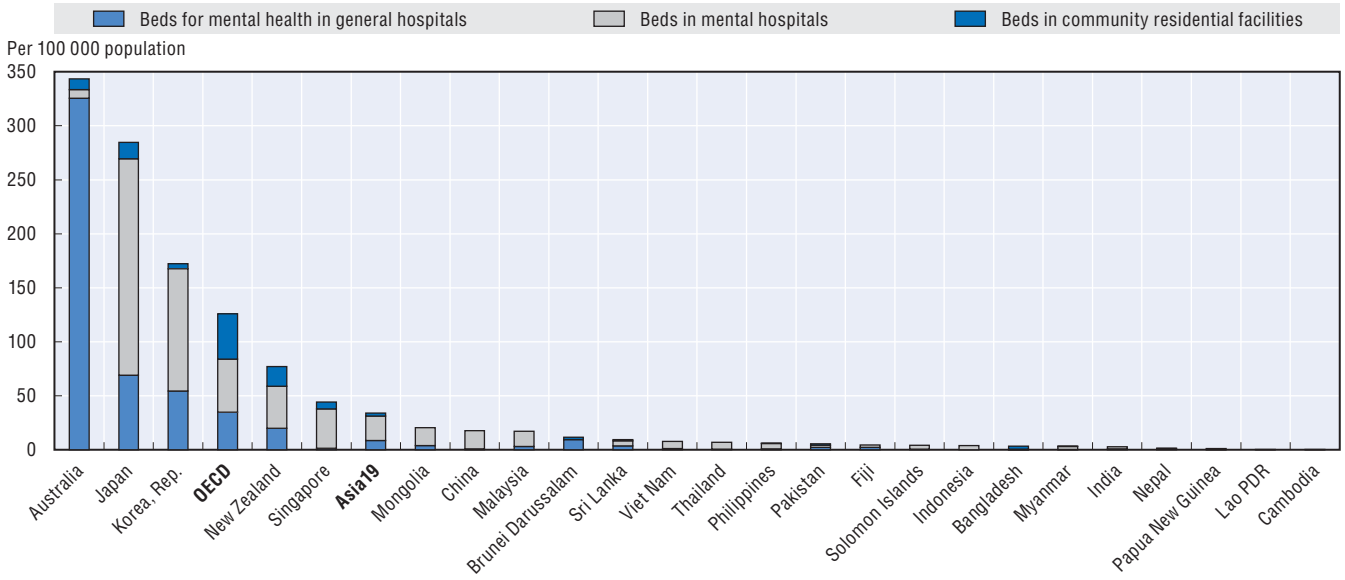
Source: *OECD Health Statistics 2016;* WHO (2016e).

3.24. Nurses working in mental health sector, per 100 000 population, 2014 or last available year



Source: *OECD Health Statistics 2016;* WHO (2016e).

3.25. Mental health beds, per 100 000 population, 2014 or last available year



Source: WHO (2016e).

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Evidence suggests that certain socially disadvantaged groups tend to use health services less, although these groups may need health services more. This phenomenon, sometimes referred to as "inverse care law", can partly be explained by the fact that disadvantaged groups typically face multiple barriers in accessing services. This includes financial barriers, such as direct and indirect costs of accessing services, geographical and socio-cultural barriers.

Health care coverage through health financial protection can promote access to medical goods and services, and provides financial security against unexpected or serious illness (OECD, 2004). The financial protection coverage, however, may not guarantee access to all essential health services because certain services may not be covered and cost-sharing rules may still result in high costs for patients and their families.

There is a huge divide in health financial protection coverage between OECD and non-OECD countries in the Asia-Pacific region (Figure 3.26). OECD countries have achieved universal coverage of health care for a set of services, which usually include consultations with doctors and specialists, tests and examinations, surgical and therapeutic procedures and pharmaceutical drugs, while dental care is not covered in Australia and New Zealand (Paris et al., 2010). These countries have maintained universal health coverage already for over a few decades; for example, Japan attained universal health coverage in 1961. On the other hand, health financial protection coverage is still low in non-OECD countries in the region and it is less than 10% in the Solomon Islands, India and Cambodia.

Access to care may also be influenced by socio-cultural factors, such as ethnicity and gender. A significant proportion of women reported unmet needs for health care in non-OECD countries in the Asia-Pacific region. In Cambodia, the Solomon Islands, the Philippines and Nepal, more than 70% of women with the lowest household income have difficulties in accessing health care due to financial reasons when they are sick (Figure 3.27). In Cambodia and the Solomon Islands, over 40% of women from households with the highest income also have problems with access to care due to financial reasons, while in India, Sri Lanka, Indonesia and Pakistan, less than 10% of women from household in the richest quintile have unmet care needs due to cost. These data are not available for many countries in the Asia-Pacific region, but given the large share of out-of-pocket payments (see indicator "Financing of health care" in Chapter 4), access to care may also be problematic due to cost in some other countries such as Myanmar, Bangladesh and Pakistan. There are also gender-related reasons for not accessing care. A notable share of women reported that they do not access health care because of difficulties in getting permission (Figure 3.28). The proportion is high in Cambodia, and in the Solomon Islands and Pakistan, about a third of poor women do not receive care because of difficulties in getting permission. Furthermore, in some countries such as India and the Philippines, about 20% of women do not seek care when needed due to concerns about not having female health care professionals (DHS, 2006; DHS 2013).

A third area relates to geographical access barriers: adequate numbers and appropriate distribution of health service providers are needed to ensure access to health care for a country's entire population. Distance to providers is an issue for accessing health care among many women in non-OECD countries in the Asia-Pacific region (Figure 3.29). The share of women with unmet care needs due to distance is consistently larger in rural areas than urban areas, suggesting that health care resources are less adequate in rural areas. Many women with the lowest household wealth also have serious problems with health care access due to distance. In Nepal, the Solomon Islands and Pakistan, about 70% of women from households in the poorest quintile reported having unmet care needs due to distance.

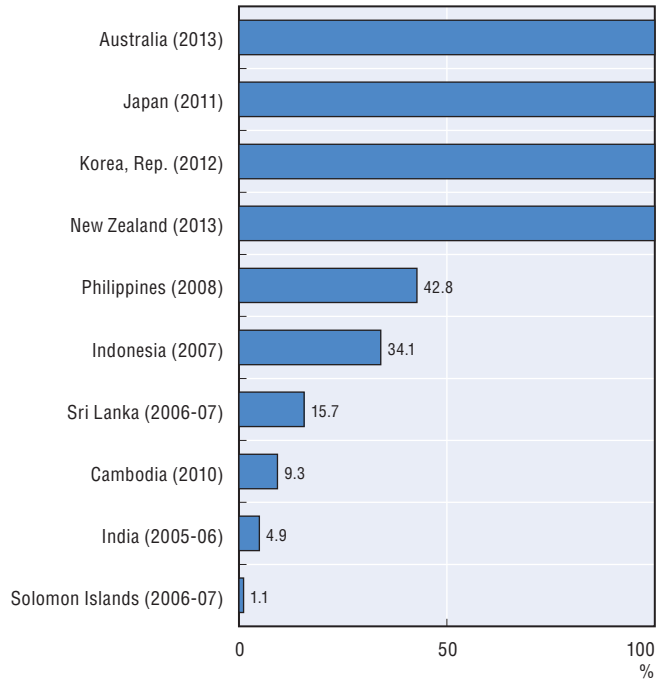
In addition, lack of knowledge and awareness can hinder groups from accessing care. Poor quality or lack of responsiveness of the health system may also present barriers. An important starting point to identify and tackle access barriers to care is to collect appropriately disaggregated health information to identify those population groups that have been left behind and inform equity-focused analysis and action.

Definition and comparability

Data on health financial protection coverage are available only for a limited number of countries. For several countries, national averages are estimated based on the data for males and females, and female coverage is used as the national average if data are not available for male. The range of services covered by health insurance and the degree of cost-sharing applied to these services vary across countries, so it should be noted that the insurance coverage *per se* does not guarantee the same level of access to health care across countries.

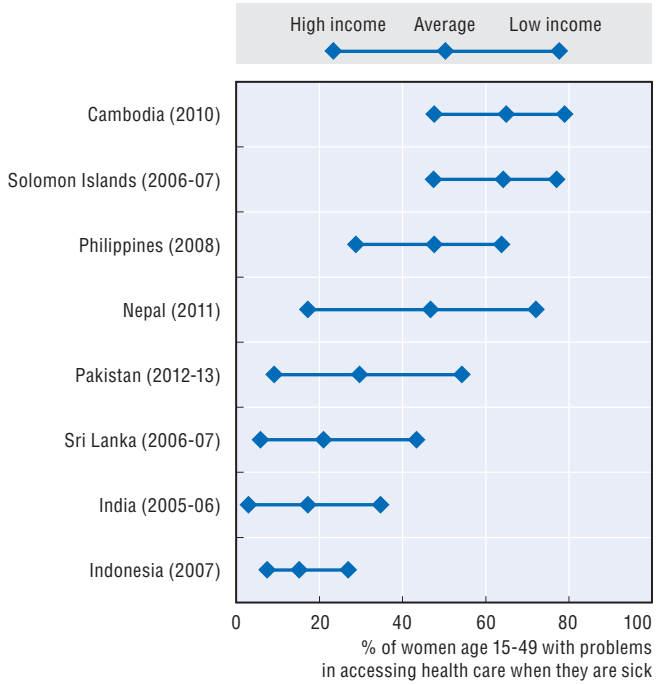
Data on problems with access to care are based on data collected through DHS. These questions were asked of women aged 15-49, who reported that they had serious problems in accessing health care when they were sick. Equivalent data for men are not collected in the survey.

3.26. Health care insurance coverage, latest year available



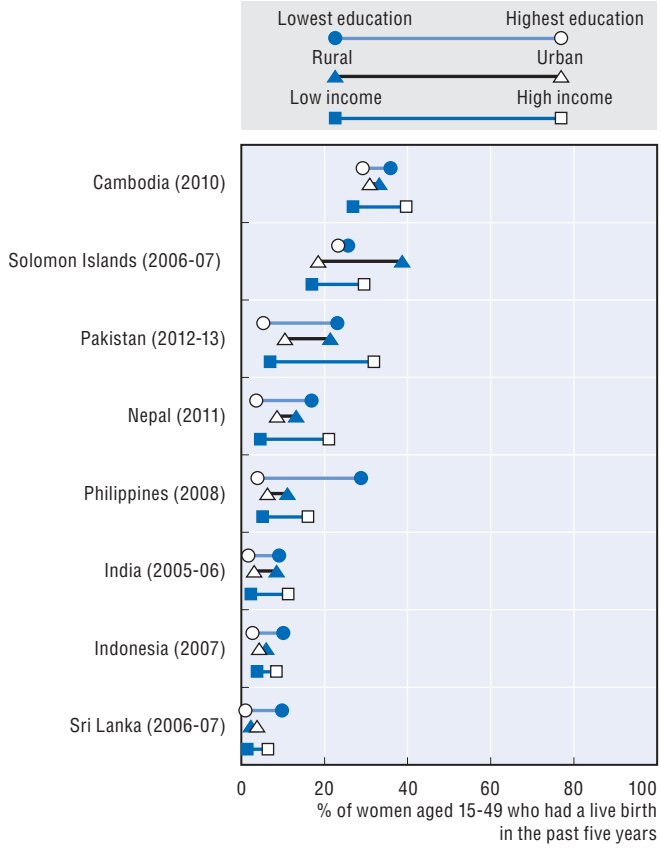
Source: *OECD Health Statistics 2016*; DHS & MICS surveys 2005-15.

3.27. Problems in accessing care due to financial reason, latest year available



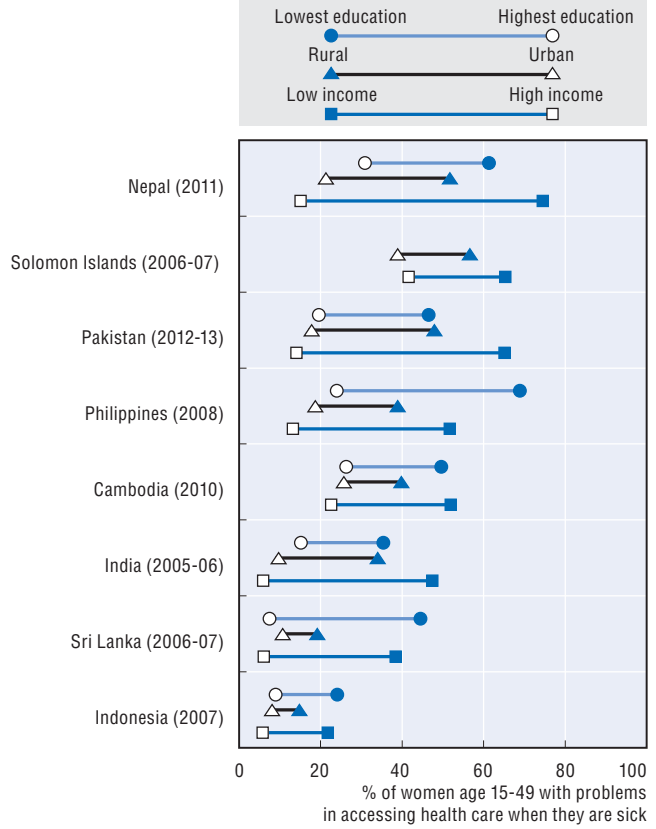
Source: DHS & MICS surveys 2005-15.

3.28. Problems in accessing care due to difficulties in getting permission, latest year available



Source: DHS & MICS surveys 2005-15.

3.29. Problems in accessing care due to distance, latest year available



Source: DHS & MICS surveys 2005-15.

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Persistent and growing disparities in the use of health services are increasingly evident, both between and within countries. For example, inequalities in health outcomes are observed for children (see indicators "Infant mortality" and "Under age 5 mortality" in Chapter 1). Inequalities in health outcomes can partly be explained by inequalities in access to essential health services, which result in a poorer health status of underserved populations. For example, access to family planning and skilled birth attendance varies by social stratifiers (see indicators "Reproductive health" in Chapter 2 and "Pregnancy and birth" in Chapter 3).

Access to antenatal care by skilled professionals varies by economic background in some countries (Figure 3.30). In Sri Lanka, Thailand and Mongolia, antenatal care coverage is high for all women aged 15-49 who had a recent live birth. In Lao PDR, Nepal and Bangladesh, however, access to antenatal care by professionals is more than 50% higher for mothers from the richest households quintile compared to those from poorest household quintile.

Disparities in the use of postnatal care vary by the socio-economic background of mothers across countries (Figure 3.31). Disparities in access to postnatal care based on household income, mother education level and geographical location are large in countries such as Bangladesh, Nepal and India.

Universal coverage of children against vaccine-preventable diseases is crucial in reducing infant and child mortality (see indicator "Childhood vaccination programmes" in Chapter 5) but in several Asian countries, immunisation coverage varies by socio-economic factors (Figure 3.32). Sri Lanka and Myanmar achieved high immunisation coverage for both poorer and richer households, but in countries such as Pakistan, Lao PDR and India, inequalities are large with a difference of almost 50% between children from richer and poorer families. In these three countries, immunisation coverage also greatly differs by the mother's education background.

Access to treatment is high for children with diarrhoea in some Asian countries, while access remains low among certain population groups in other countries (Figure 3.33). In Indonesia and Pakistan, access to diarrhoea treatment is relatively high at over 80% across population groups and disparities are small. But in Myanmar and Nepal, around 40% of children with diarrhoea from poorer families do not have access to treatment. In Myanmar and Lao PDR, disparities by geographic location are larger than in other countries. Gender-based disparities still persist in Nepal, Bangladesh, Mongolia and the Solomon Islands with the coverage difference of over 5%.

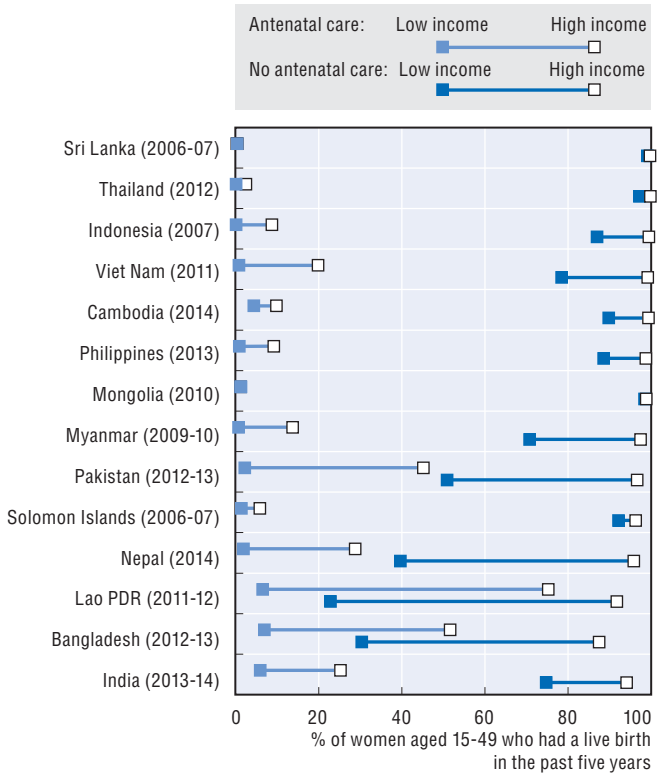
While the examples described above do not provide an exhaustive list of services, they are an illustration of disparities in the use of essential services in the region. Beyond disparities based on income, it should be noted that there are many other forms of social exclusion – such as gender, race, ethnicity, age, place of residence, employment status, sexual orientation and health status – that often interact with poverty, acting as strong determinants of inequalities in health and access to care for disadvantaged groups. Hence, a targeted approach is needed to ensure that underserved populations use essential health services.

Definition and comparability

Data are based on DHS and are subject to recall bias. In some cases, the sample size is too small to report access by socio-economic background.

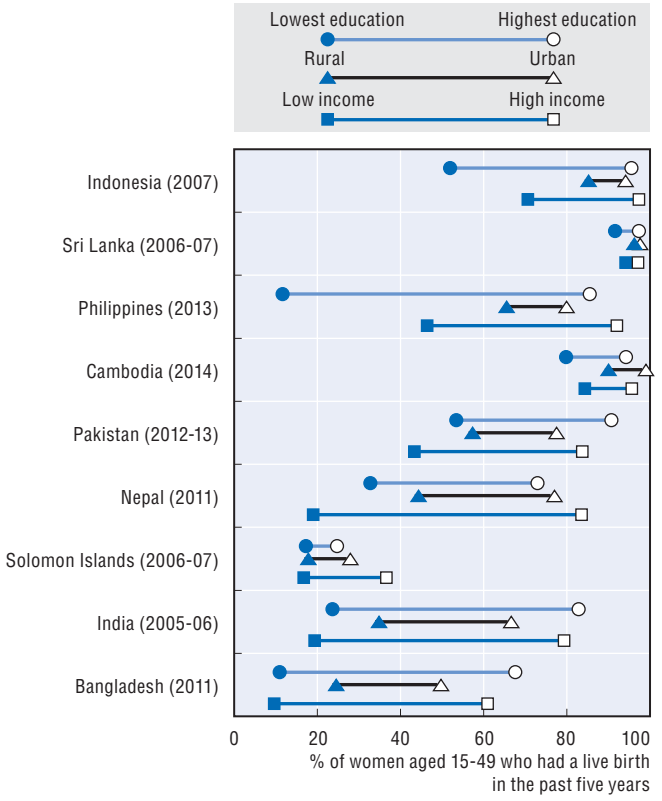
DHS questions are asked of women aged 15-49 about their and their children's experiences in accessing health care, and access to care relating to other population groups are not collected.

3.30. Antenatal care from a skilled provider and no antenatal care among women, latest year available



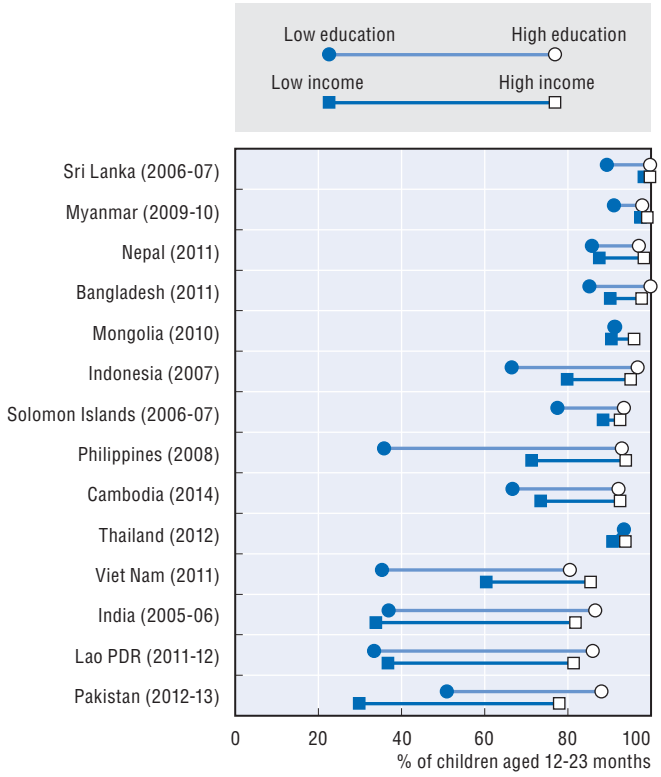
Source: DHS & MICS surveys 2005-15.

3.31. Postnatal care among women, latest year available



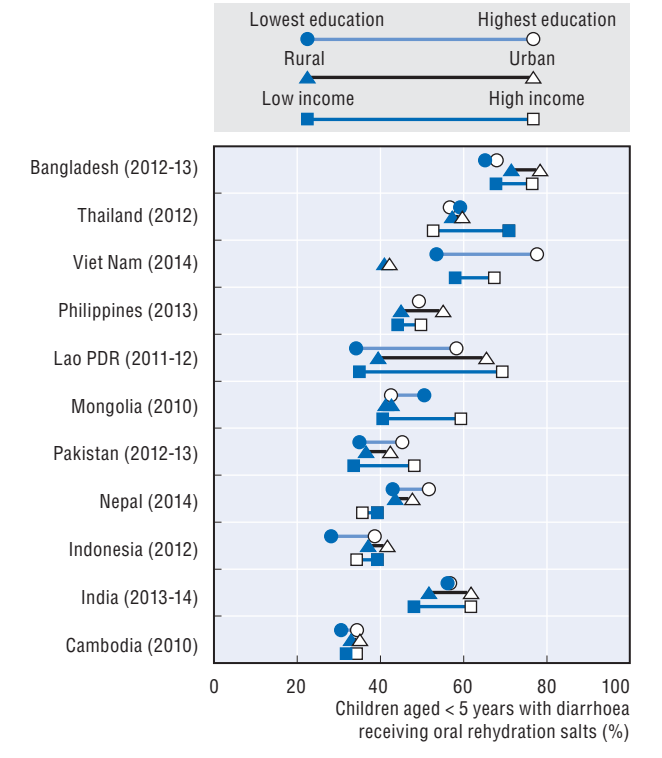
Source: DHS & MICS surveys 2005-15.

3.32. DPT immunisation coverage among children aged 12-23 months, latest year available



Source: DHS & MICS surveys 2005-15.

3.33. Children with diarrhoea, who received ORS treatment, latest year available



Source: DHS & MICS surveys 2005-15.

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Chapter 4

Health expenditure and financing

Much variation in per capita health care spending levels can be observed in Asia-Pacific countries and economies in 2014 (Figure 4.1), ranging from Bangladesh total health spending per capita of only 88 international dollars (USD PPP) to Australia's 4 357 international dollars (USD PPP). The average OECD current health spending per capita in 2014 was around four times that of the Asian economies (3 618 versus 935). 61.6% of total health spending per capita is funded by government sources in Asia.

On average, between 2010 and 2014, the growth rate in per capita health spending in real terms was 4.7% per year in Asia, higher than the 4.0% observed for gross domestic product (GDP) (Figure 4.2). The growth for China and Mongolia was even more rapid – twice the average rate for the region. Brunei Darussalam, Solomon Islands, Lao PDR and Pakistan reported a negative growth rate in per capita health spending in real terms between 2010 and 2014.

Health spending growth in many Asia-Pacific countries has exceeded economic growth over the past five years, resulting in an increasing share of the economy devoted to health in most countries. All economies above the diagonal line in Figure 4.2 report that health expenditure has grown faster than income. This means that the share of health care expenditure in total expenditure has continued to increase. In all economies below the line, the increase in health spending – on average – was lower than the increase in GDP. Hence the share of health spending in total spending declined in those countries and economies.

Health expenditure accounted for 4.7% of GDP in the Asian region in 2014, an increase of 0.2 percentage points from 2010. This indicator varied from 1.9% in Lao PDR to up to 11.0% in New Zealand (Figure 4.3). Generally, the richer a country is, the more it spends on health as a percentage of GDP. The percentage of GDP allocated to health across OECD countries is – on average – twice that of the Asian countries and economies (9.3 versus 4.7).

Between 2010 and 2014, the share of health in relation to GDP declined more than 2 percentage points in Solomon Islands, while it increased in Thailand and Singapore of 1 percentage point (Figure 4.3).

Definition and comparability

Total health expenditure is given by the sum of expenditure on all the core health care functions – that is total health care services, medical goods dispensed to outpatient, prevention and public health services, and health administration and health insurance – plus capital formation in the health care provider industry. Expenditure on these functions is included as long as it is borne by final use of resident units i.e. as long as it is final consumption by nationals in the country or abroad. For this reason, imports for final use are included and exports for final use are excluded.

The descriptive analyses presented in this chapter are based on available data for 24 Asia-Pacific countries and economies. Countries and economies reported health expenditure following the SHA 1 standard.

The economy-wide (GDP) PPPs are used as the most available conversion rates. These are based on a broad basket of goods and services, chosen to be representative of all economic activity. The use of economy-wide PPPs means that the resulting variations in health expenditure across countries might reflect not only variations in the volume of health services, but also any variations in the prices of health services relative to prices in the rest of the economy.

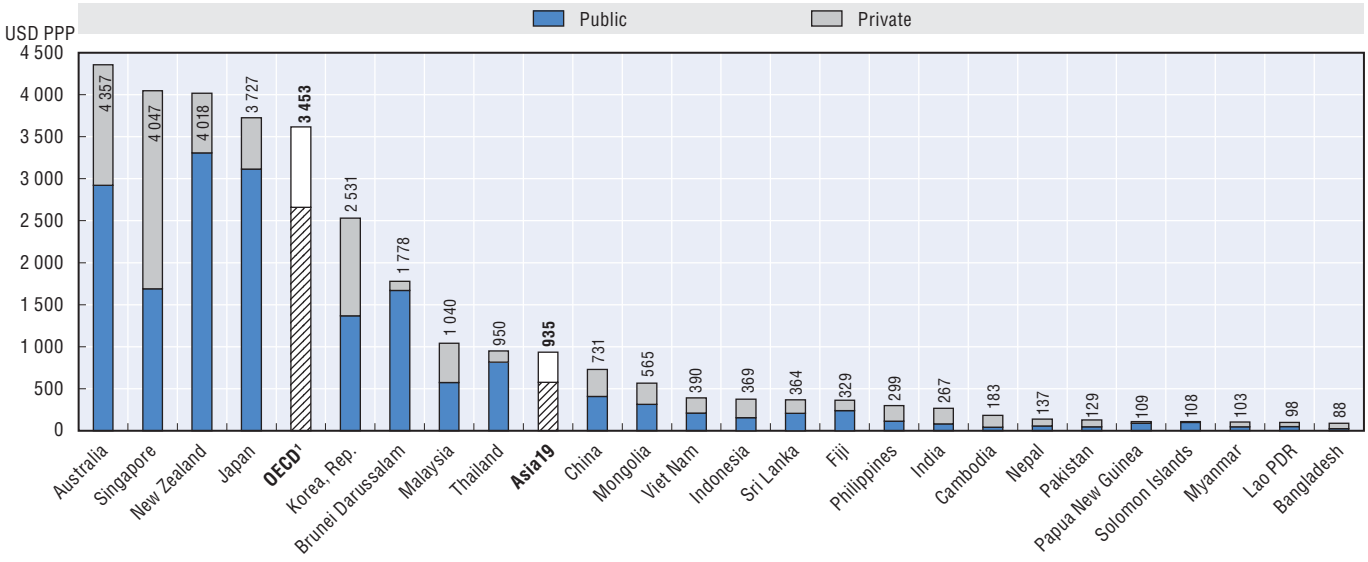
To make useful comparisons of real growth rates over time, it is necessary to deflate (i.e. remove inflation from) nominal health expenditure through the use of a suitable price index, and also to divide by the population, to derive real spending per capita. Due to the limited availability of reliable health price indices, an economy-wide (GDP) price index is used in this publication.

The annual average growth rate was computed using a geometric growth rate formula:

$$\left(\sqrt[4]{2014value / 2010value} - 1\right) * 100$$

Gross domestic product (GDP) = final consumption + gross capital formation + net exports.

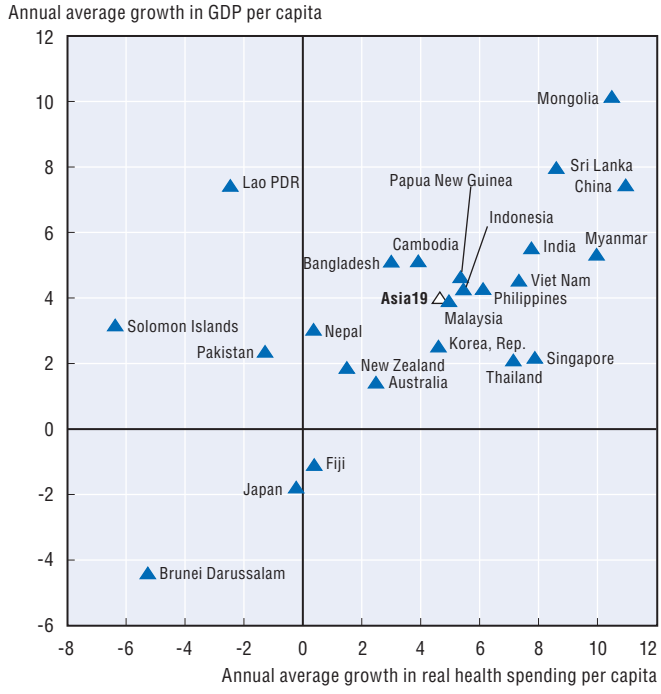
4.1. Total expenditure on health per capita, public and private, international dollars (USD PPP), 2014



1. Current health expenditure.

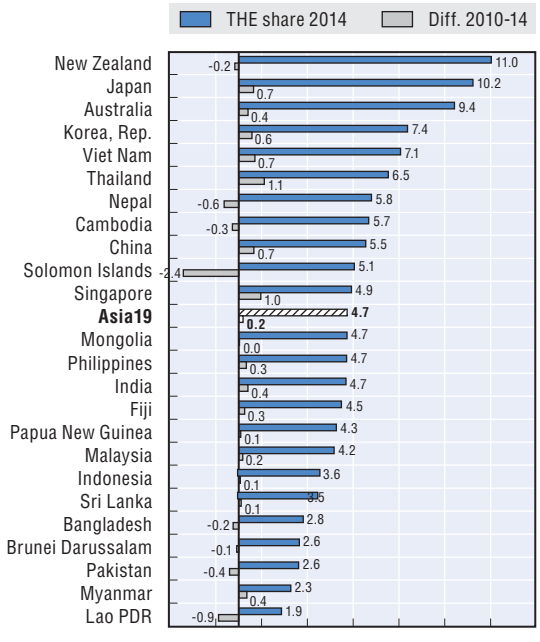
Source: WHO (2016a), *OECD Health Statistics 2016*.

4.2. Average annual growth rate in real health spending and GDP per capita, 2010-14



Source: WHO (2016a), *OECD Health Statistics*.

4.3. Change in total expenditure on health as a share of GDP, 2010-14



Source: WHO (2016a), *OECD Health Statistics 2016*.

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Financing of health care from government sources is analysed by reporting the ratio of government spending on health to GDP, to total health spending and to total government spending. This allows a sound international comparison of the role of government in financing the health care sector and of the importance of the health sector in the government budget.

Figure 4.4 reports the change in the government spending on health care as a share of GDP between 2010 and 2014. On average, there was a slight increase in Asia from 2.3% in 2010 to 2.5% in 2014. Viet Nam and Thailand reported in increase of 1 percentage point in the period in study, while Solomon Islands showed a decrease of more than 2 percentage points.

Figure 4.5 shows the change in the public share of health financing between 2010 and 2014. On average, the public share of health spending has increased by 3 percentage points in the Asian countries and economies to 50.5% in 2014. In Thailand, Japan, New Zealand, Papua New Guinea, Brunei Darussalam, and the Solomon Islands, public financing accounted for more than three quarters of all health expenditure, while it accounted for less than one third of total health spending in India, Bangladesh and Cambodia. The public share of health spending has increased significantly over the past years in Myanmar (30 points of share), while it has decreased in Bangladesh and Fiji (four points or more).

The importance of health in the government budget is shown in Figure 4.6. On average, slightly less than 10% of the government budget is invested in financing the health care sector. From 2010 to 2014, this share increased by 0.6 percentage points. The weight of the health sector in the government budget varies significantly across Asia: it represents more than one fifth of spending in Japan and Thailand, while it is as low as 5% or less in India, Pakistan, Myanmar and Lao PDR.

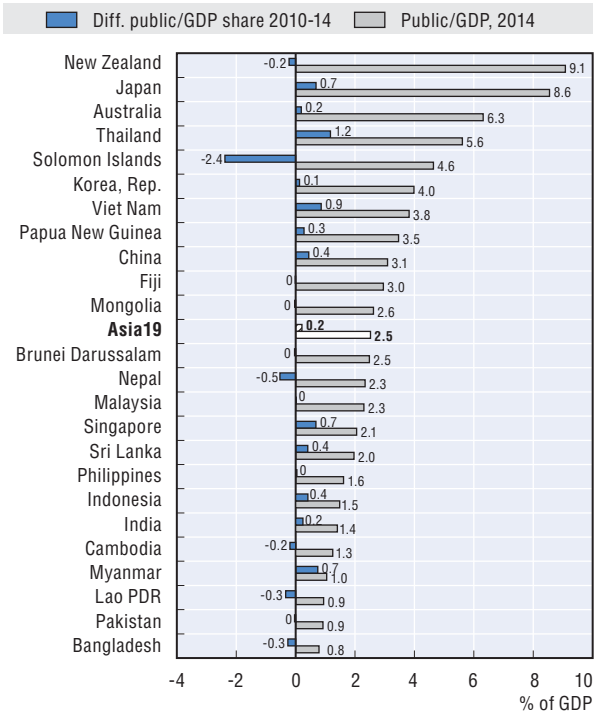
External funding for health care is quite relevant in most developing countries and economies in Asia-Pacific. In Lao PDR and Solomon Islands more than 25% of funds spent on health were from external resources in 2013 (Figure 4.7), while external resources accounted for between 10 and 20% of total health expenditure in Myanmar, Cambodia and Papua New Guinea.

Definition and comparability

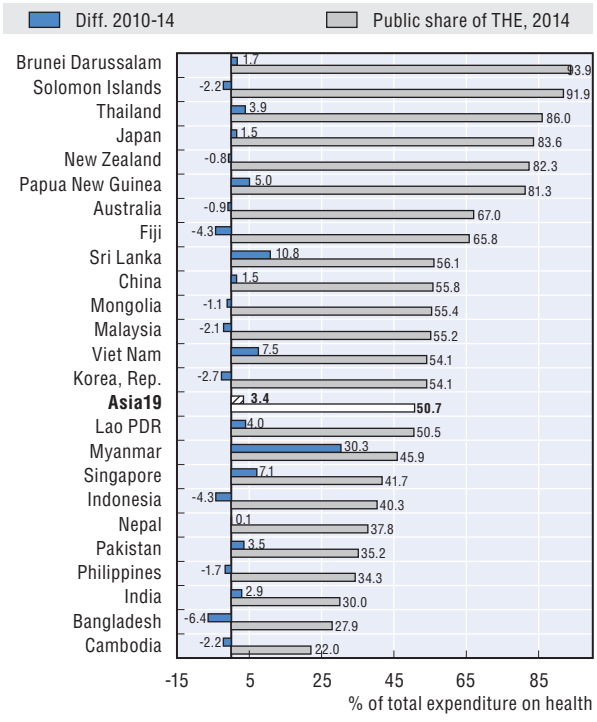
The financing classification used in the *System of Health Accounts* provides a complete breakdown of health expenditure into public and private units incurring expenditure on health. Public financing includes general government expenditure and social security funds. Private sector comprises pre-paid and risk pooling plans, household out-of-pocket expenditure and non-profit institutions serving households and corporations. Out-of-pocket payments are expenditures borne directly by the patient. They include cost-sharing and, in certain countries, estimations of informal payments to health care providers.

External funding for health is measured as Official Development Assistance *disbursements* for health from all donors. Disbursements represent the actual international transfer of financial resources. Disbursements for health are identified by using the classification of sector of destination codes 121 (health, general except 12181, medical education/ training and 12182, medical research), 122 (basic health) and 130 (population policies/programmes and reproductive health except 13010 Population policy and administrative management), and 510 (general budget support) (OECD, 2014). General budget support to health is estimated by applying the share of government expenditure on health over total general government expenditures to the value reported in ODA. Given that disbursement money is spent over several years by countries, funds disbursed at year *t* are compared to total health expenditure in year *t*+1.

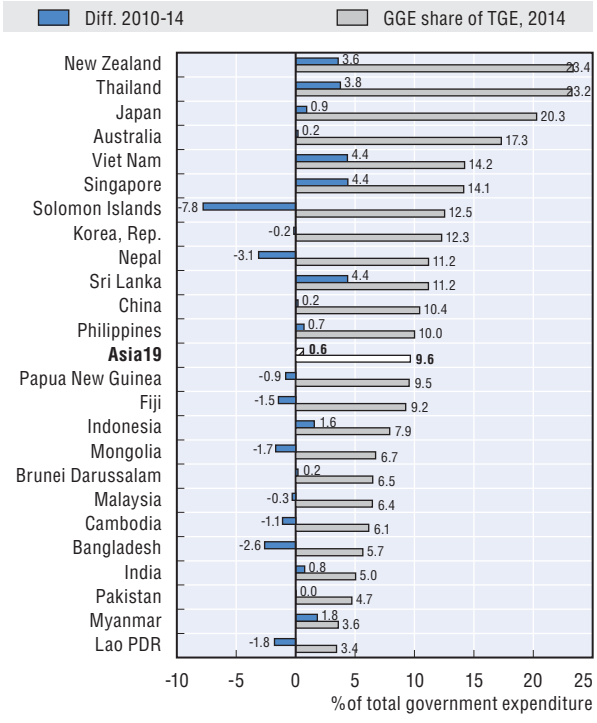
4.4. Change in government health care spending as a share of GDP, 2010-14



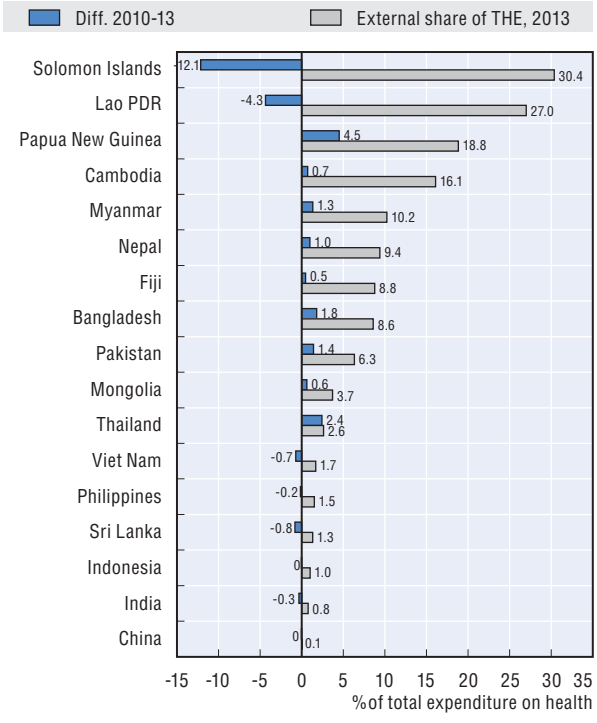
4.5. Change in government share of total expenditure on health, 2010-14



4.6. Change in government health expenditure as a share of total government expenditure, 2010-14



4.7. External resources as a share of total health expenditure, 2010-13



Source: WHO (2016a), *OECD Health Statistics 2016*.

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Figure 4.8 shows that private health expenditure as a percentage of GDP was stable across Asian countries and economies between 2010 and 2014 at 2.2%. Cambodia reported a share of private health spending twice the Asian average, while this share was less than 1% in Lao PDR, Papua New Guinea, Thailand, Solomon Islands and Brunei Darussalam. In general, private household out-of-pocket payments, comprising direct payments, and cost-sharing payments, form the greater part of private funding sources.

Given that the ratio of out-of-pocket expenditure to total expenditure on health may be high or low only because the public expenditure on health is low or high, we also reported the ratio of OOP spending to GDP as an indicator that may be used to assess financial protection of households. Figure 4.9 reports a stable share of OOP to GDP at 1.9% across Asia. The Republic of Korea and Cambodia reported an increase in this share of 0.4 percentage point or more, while Viet Nam, Myanmar, Pakistan, Indonesia and Lao PDR showed a decrease of the burden on household of 0.3-0.4 percentage point.

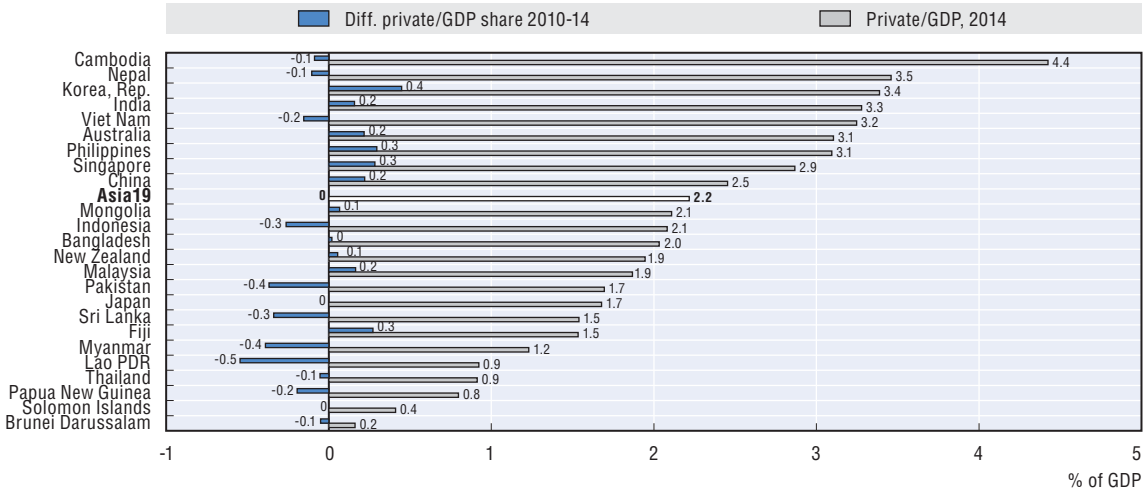
In 2014, out-of-pocket payments represented more than 50% of total expenditure on health in the Philippines, India, Singapore, Pakistan, Myanmar and Bangladesh, while they reached 74.2% in Cambodia (Figure 4.10). This share was less than 10% in Thailand, Brunei Darussalam, and the Solomon Islands.

On average, in Asian countries and economies, the share of total health spending paid out-of-pocket has fallen by 2.1 percentage points to 42.2% since 2010. The trend is quite diverse across the countries and the economies in the study. However, more than two thirds of the Asian countries and economies reported a decrease, including more than 25 percentage points between 2010 and 2014 for Myanmar, while a growth of 6 and 13.9 percentage points was reported in Bangladesh and Cambodia respectively in the same period.

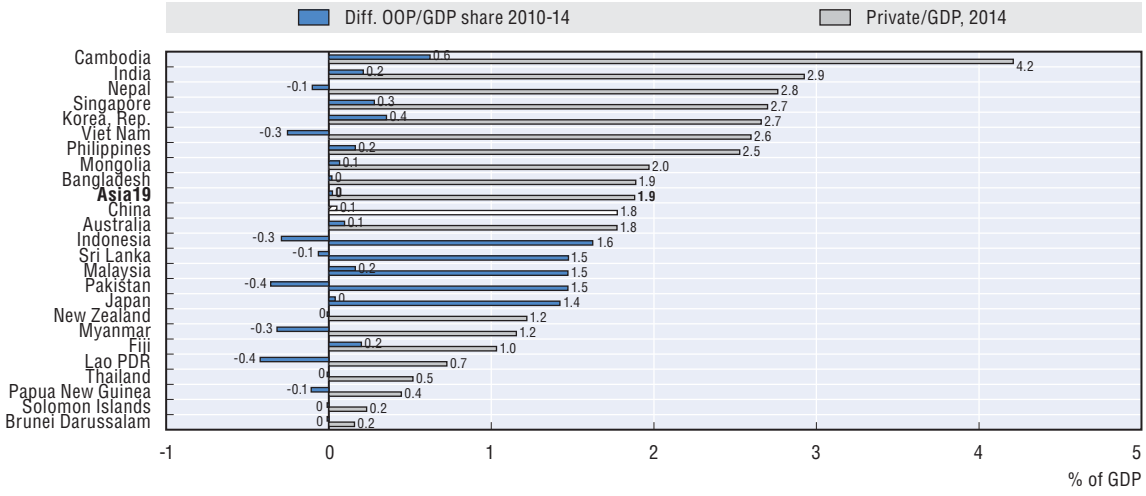
Definition and comparability

The financing classification used in the *System of Health Accounts* provides a complete breakdown of health expenditure into public and private units incurring expenditure on health. Public financing includes general government expenditure and social security funds. Private sector comprises pre-paid and risk pooling plans, household out-of-pocket expenditure and non-profit institutions serving households and corporations. Out-of-pocket payments are expenditures borne directly by the patient. They include cost-sharing and, in certain countries, estimations of informal payments to health care providers.

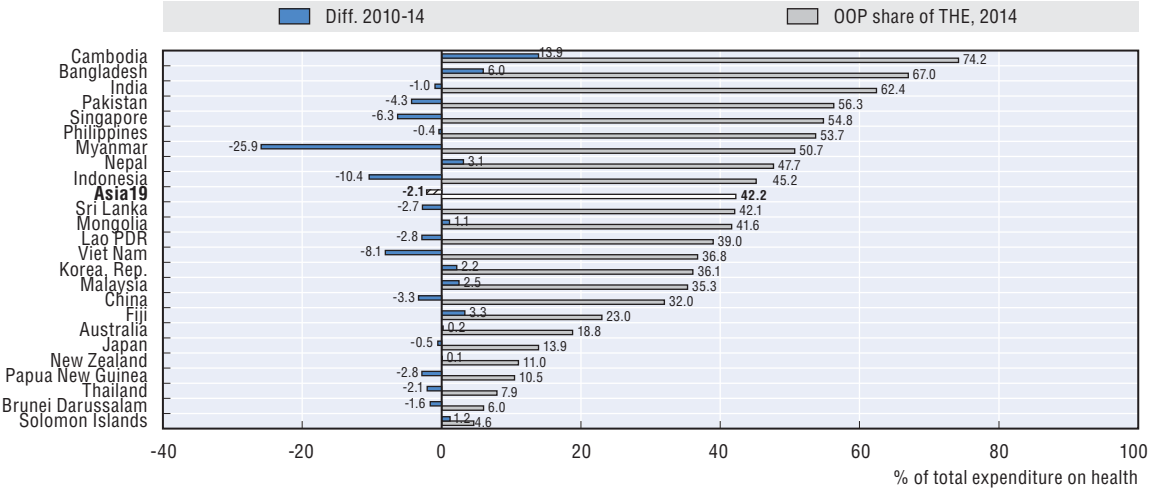
4.8. Change in private health care spending as a share of GDP, 2010-14



4.9. Change in out-of-pocket spending as a share of GDP, 2010-14



4.10. Change in out-of-pocket spending as a share of total expenditure on health, 2010-14



Source: WHO (2016a), *OECD Health Statistics 2016*.

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Despite the commitment to a national medicines policy in many countries in the Asia-Pacific region, progress on the implementation of these policies has been slow (Asia-Pacific Conference on national medicine policies, 2012). For millions of people in those countries, problems of access to essential medicines remain. Medicines are often not available or affordable and they may be low quality products which may also be inappropriately used in practice. Consumer out-of-pocket expenses on medicines account for a substantial proportion of total health care expenditures, and for many people on lower incomes, these out-of-pocket expenses push them below the poverty line with major consequences.

Per capita pharmaceutical spending varies a lot among the countries and economies under study. In 2014, several Asia-Pacific countries and economies reported spending below USD PPP 50 per capita, with Myanmar, Pakistan, Lao PDR and Papua New Guinea spending less than USD PPP 35 per capita per month (Figure 4.11). Philippines, Mongolia and Malaysia reported a per capita annual average growth rate of pharmaceutical spending in real terms of 8% or more from 2010-14, while Brunei Darussalam, Cambodia and Lao PDR showed a decrease over the same period of 5% or more (Figure 4.12). A decrease in expenditure (or a limited increase over time) does not necessarily mean a drop in use, but may be due to an increase in the use of generics.

In Cambodia and Bangladesh more than 40% of total health expenditure was on pharmaceuticals, while this share was less than 15% in Fiji and New Zealand. Spending on pharmaceuticals accounted for almost one third of all health expenditure on average across Asian countries and economies in 2014, a decrease of 2.5 percentage points from 2010. Pharmaceutical share of total health expenditure increased by more than 4 percentage points from 2010-14 in Bangladesh and the Philippines, while it decreased by more than 10 percentage points in Myanmar and Cambodia (Figure 4.13).

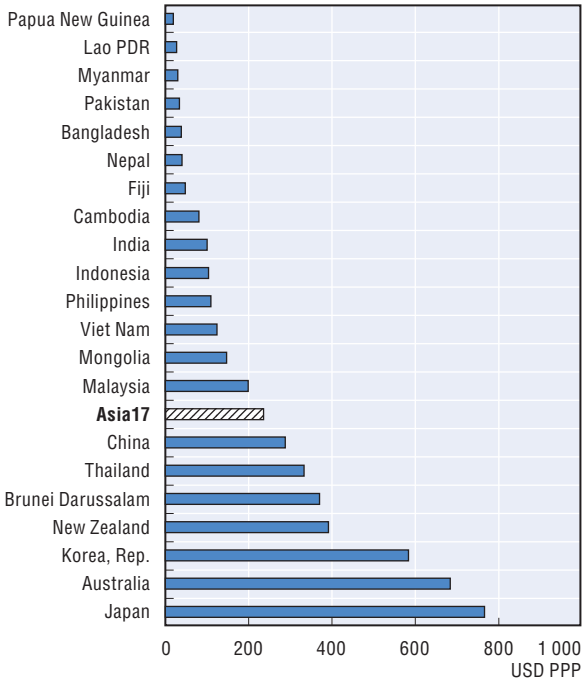
Government finances more than 75% of pharmaceutical expenditure in Japan, Brunei Darussalam and Thailand, while the public share is less than 15% in Indonesia, Nepal, India and Myanmar (Figure 4.14). On average, only one health dollar in three that goes towards purchasing pharmaceuticals is from public sources in Asia.

Definition and comparability

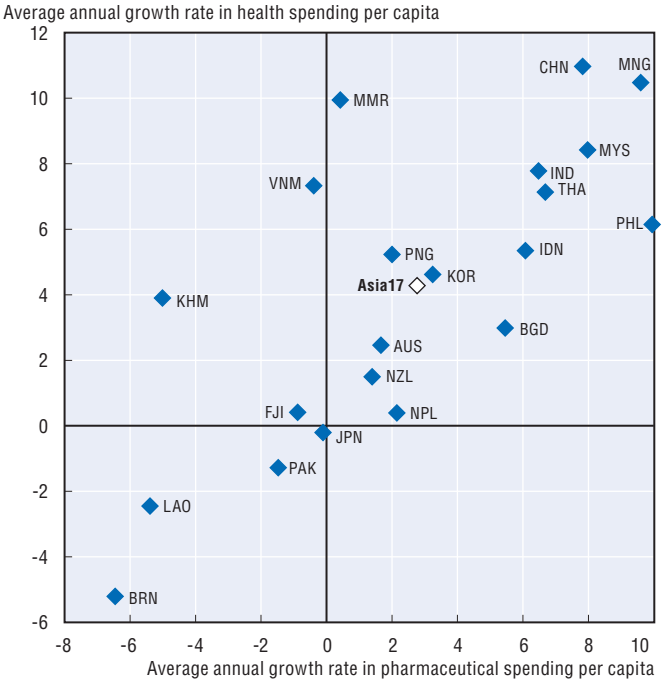
See indicator "Health expenditure per capita and in relation to GDP" in Chapter 4 for the PPP conversion rate and the formula and deflator used to compute annual average growth rate.

Pharmaceutical expenditures include pharmaceuticals, medicinal chemicals and botanical products used for health uses, prescribed or not. They comprise outlays during episodes of hospital care and in out-patient clinics – that is intermediate consumption in national income and product account, as well as over-the-counter sales.

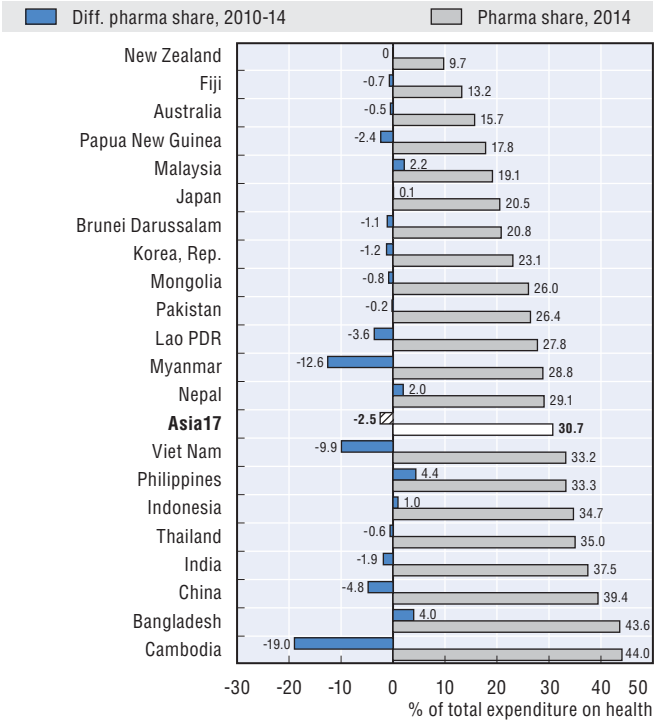
4.11. Pharmaceutical expenditure per capita, international dollars (USD PPP), 2014



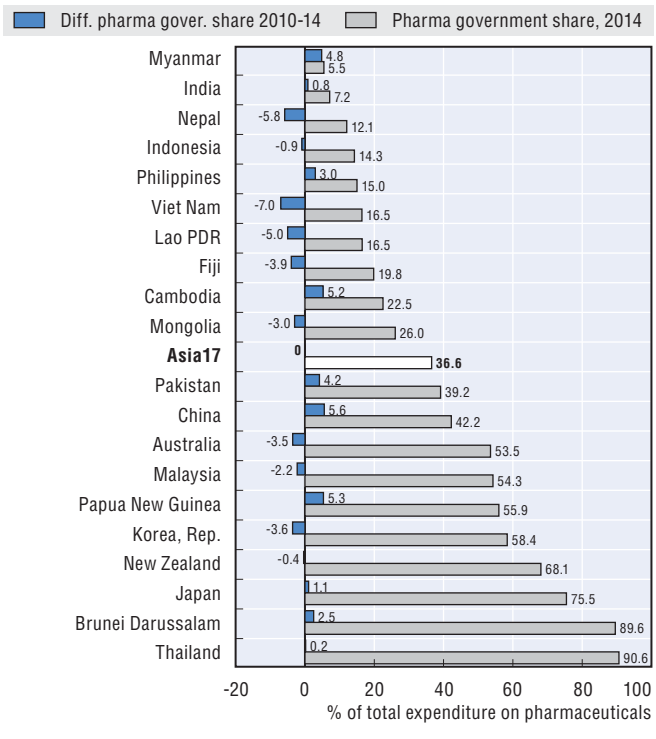
4.12. Average annual growth rate in real pharmaceutical expenditure and total expenditure on health per capita, 2010-14



4.13. Change in pharmaceutical expenditure as a share of total expenditure on health, 2010-14



4.14. Change in government share of pharmaceuticals expenditure, 2010-14



Source: WHO (2016a), *OECD Health Statistics 2016*.

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Chapter 5

Quality of care

Childhood vaccination continues to be one of the most cost-effective health policy interventions. Nearly all countries or, in some cases, sub-national jurisdictions have established vaccination programmes based on their interpretation of the risks and benefits of each vaccine. Coverage of these programmes and reduction of burden of vaccine preventable diseases can be considered as a quality of care indicator. Polio, pertussis, measles and hepatitis B are taken here as examples as they represent, in timing and frequency of vaccination, the full spectrum of organisational challenges related to childhood vaccination.

Vaccination against polio, pertussis (often administered in combination with vaccination against diphtheria and tetanus) and measles is part of almost all programmes, and reviews of the evidence supporting the efficacy of vaccines against these diseases have concluded that they are safe and highly effective.

A vaccination for hepatitis B has been available since 1982 and is considered to be 95% effective in preventing infection and its chronic consequences, such as cirrhosis and liver cancer. More than 780 000 people die every year due to the acute or chronic consequences of hepatitis B (WHO, 2014g). In 2007, more than 170 countries had adopted the WHO recommendation to incorporate hepatitis B vaccine including birth dose as an integral part of their national infant immunisation programme. In countries with low levels of hepatitis B (such as Australia and New Zealand), WHO indicates that routine hepatitis B vaccination should still be given high priority, since a high proportion of chronic infections are acquired during early childhood (WHO, 2004). Recent data revealed that hepatitis B vaccination across the Western Pacific has averted 7 million deaths and 37 million chronic infections that would have occurred among children born between 1990 and 2014 (Wiesen et al., 2016)

Figures 5.1 and 5.2 show that the overall vaccination of children against measles and pertussis (including diphtheria and tetanus) is high in most Asia-Pacific countries. On average, more than 90% of children aged around one year receive the recommended measles and pertussis vaccination, and rates for most countries are above 75%. The exceptions are Pakistan and Papua New Guinea. Figure 5.3 shows that the average percentage of children aged one who are vaccinated for hepatitis B across Asia-Pacific countries is slightly lower than for measles and pertussis, at 91%. Again, rates for most countries are above 75%, with the exception of the Pakistan, India and Papua New Guinea.

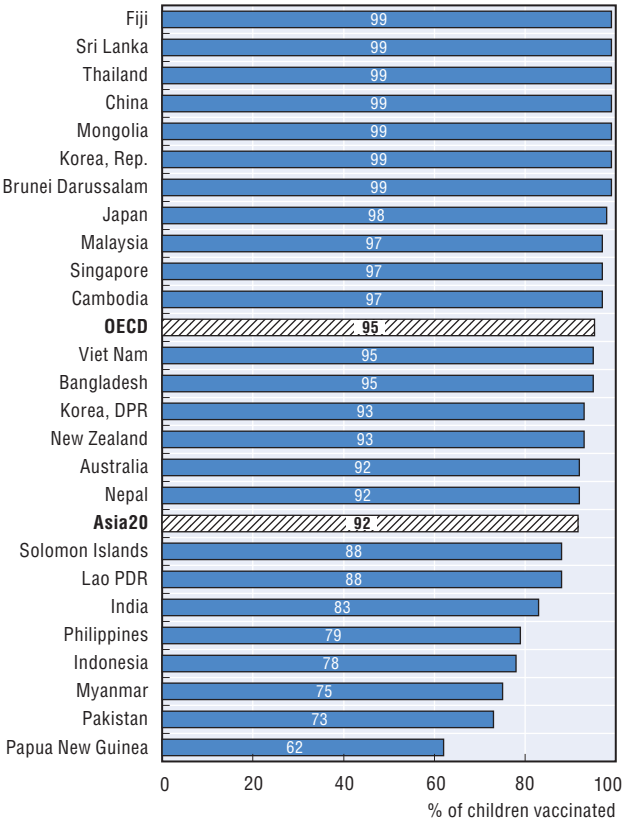
Although vaccination rates have plateaued at a high level in many countries in the Asia-Pacific region, some countries with historically low rates continue to make substantial progress. In 2007, hepatitis B immunisation in India was only 6%, and measles immunisation in the Lao PDR only 40% of the target groups, but as of 2015 their respective vaccine coverage was 70% and 87%, for example (WHO, 2012c). Nevertheless some countries still show slow progress in vaccination rates.

Ensuring safety through surveillance is another indicator of quality of childhood vaccination. Vaccine safety surveillance is progressing in WHO member states and by 2015 85 of 105 countries globally reporting adverse events following immunisation (AEFI) registered 10 or more annual reports per 100 000 surviving infants. Both regions are gradually improving the vaccine safety surveillance, Western Pacific region alone has contributed 74% of AEFI reports globally (WHO, 2015b).

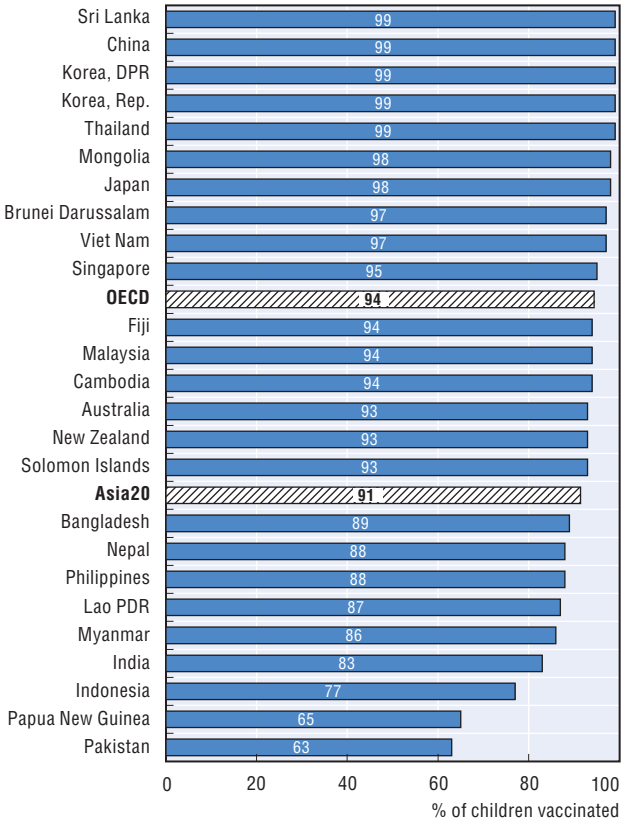
Definition and comparability

Vaccination rates reflect the percentage of children at either age one or two that receives the respective vaccination in the recommended timeframe. Childhood vaccination policies differ slightly across countries. Thus, these indicators are based on the actual policy in a given country. Some countries administer combination vaccines (e.g. DTP for diphtheria, tetanus and pertussis) while others administer the vaccinations separately. Some countries ascertain vaccinations based on surveys and others based on encounter data, which may influence the results.

5.1. Vaccination rates for diphteria tetanus toxoid and pertussis (DTP3), children aged around 1, 2014

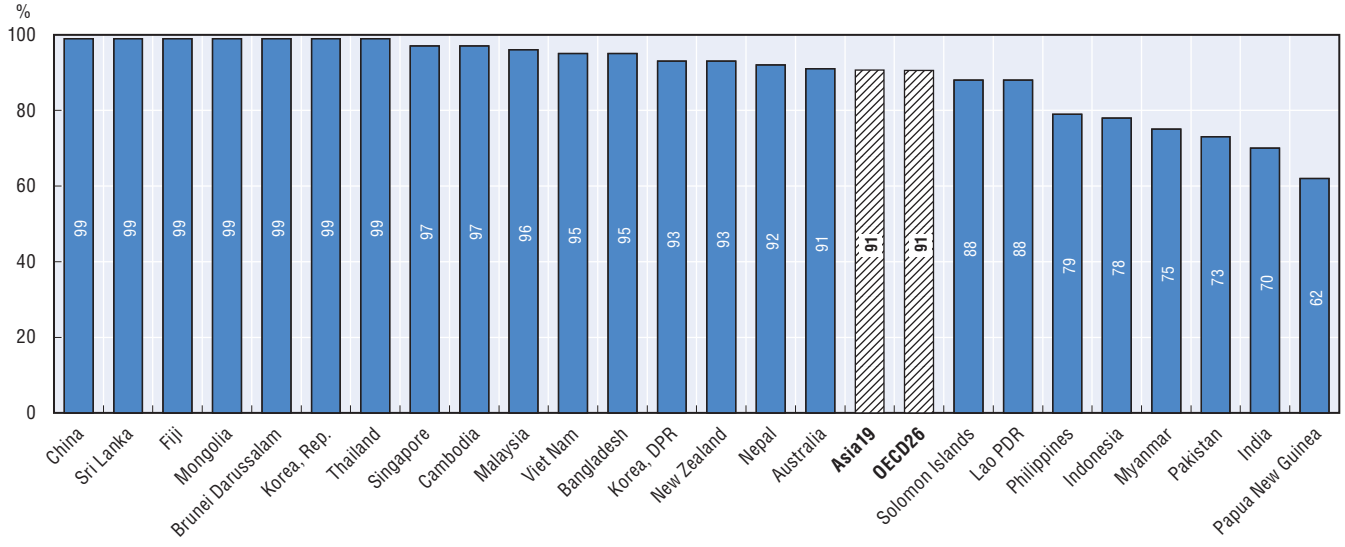


5.2. Vaccination rates for measles (MCV), children aged around 1, 2014



Source: WHO (2016e).

5.3. Vaccination rates for hepatitis B (Hep3), children aged around 1, 2014



Source: WHO (2016e).

StatLink http://dx.doi.org/10.1787/888933413562

Acute myocardial infarction (AMI) and stroke each account for around 3 million deaths a year in the Asia-Pacific region, being two of the major causes of death and disability (WHO, 2014h). Additionally, both are associated with significant health, social and non-financial costs, because of the persistent disabilities suffered by many survivors. Treatment for AMI and stroke has advanced greatly over the past decade. Until the 1990s, treatment focused on prevention of complications and rehabilitation. But following the great improvements in AMI survival rates that were achieved with thrombolysis (Gil et al., 1999), clinical trials also demonstrated the clear benefits of thrombolytic treatment for ischemic stroke (e.g. Mori et al., 1992). Dedicated cardiac care and stroke units offering timely and proactive therapy achieve better survival than conservative care (Seenan et al., 2007), although studies have shown that a considerable number of patients fail to receive high-quality, evidence-based care (Eagle et al., 2005).

For both AMI and stroke, the case-fatality rate is a useful measure of acute care quality. It reflects the processes of care, such as effective medical interventions, including early thrombolysis or treatment with aspirin when appropriate, and co-ordinated and timely transport of patients. For AMI, crude and age-sex standardised in-hospital case-fatality rates within 30 days of admission vary widely, with the lowest rates reported in Australia (4.1%) and New Zealand (6.6%) (Figure 5.4). Japan has the highest reported case-fatality rates of 12.2%. Beyond the quality of care provided in hospitals, differences in hospital transfers, average length of stay, emergency retrieval times and average severity of AMI may influence reported 30 day-case fatality.

For ischemic stroke, the lowest case-fatality rates are reported in Japan (3%) and Korea (3.2%), while Malaysia reports the highest crude rate of 11.7% (Figure 5.5). Fatality rates for haemorrhagic stroke are significantly greater than for ischemic stroke, and countries that achieve better survival for one type of stroke also tend to do well for the other. Again, the lowest case-fatality rates for haemorrhagic stroke are reported in Japan (11.8%) and Korea (14%), with Malaysia reporting the highest crude rate of 27.3% (Figure 5.6). Given the initial steps of care for stroke patients are similar, this suggests that system-based factors play a role in explaining the differences across countries. Other factors such as patterns of hospital transfers, average length of stay, emergency retrieval times and average severity of stroke may also influence the rates.

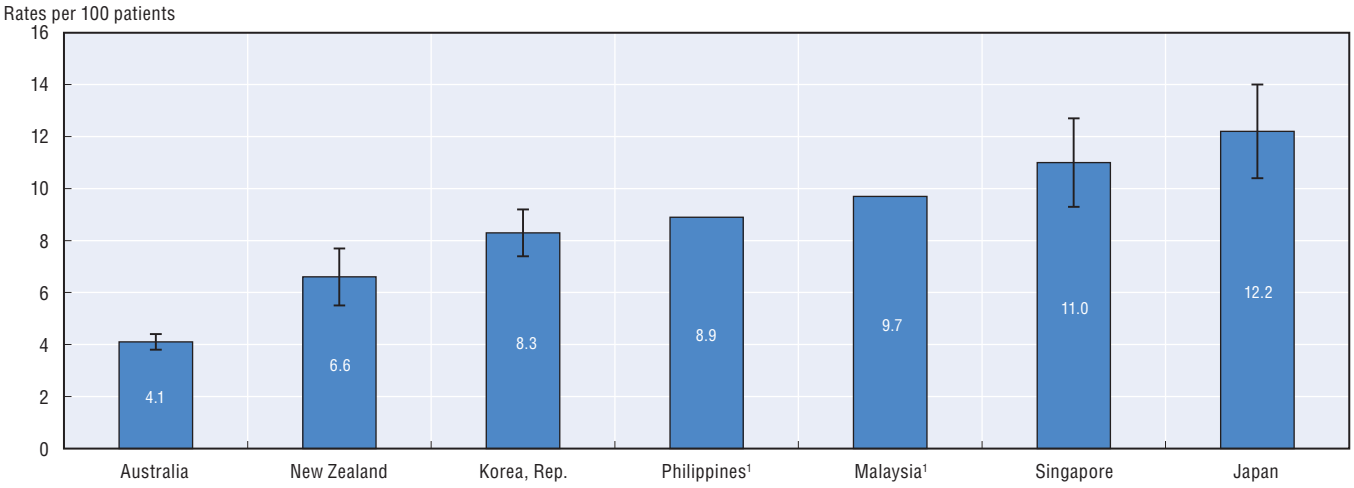
Patient-based data which follows patients in and out of hospital and across hospitals is a more robust (although administratively more complex) indicator for national monitoring and international comparison. This is because admission-based data may bias case-fatality rates downwards if unstable patients are transferred elsewhere, and the transfer is recorded as a live discharge. Currently, very few countries in the Asia-Pacific region are able to track patients hence produce patient-based data, so this indicator is not shown here.

Definitions and comparability

The in-hospital case-fatality rate following AMI, ischemic and hemorrhagic stroke is defined as the number of people who die within 30 days of being admitted (including same day admissions) to hospital. Ideally, rates would be based on individual patients, however not all countries have the ability to track patients in and out of hospital, across hospitals or even within the same hospital because they do not currently use a unique patient identifier. Therefore, since this indicator is based on unique hospital admissions and restricted to mortality within the same hospital, differences in practices in discharging and transferring patients may influence the findings.

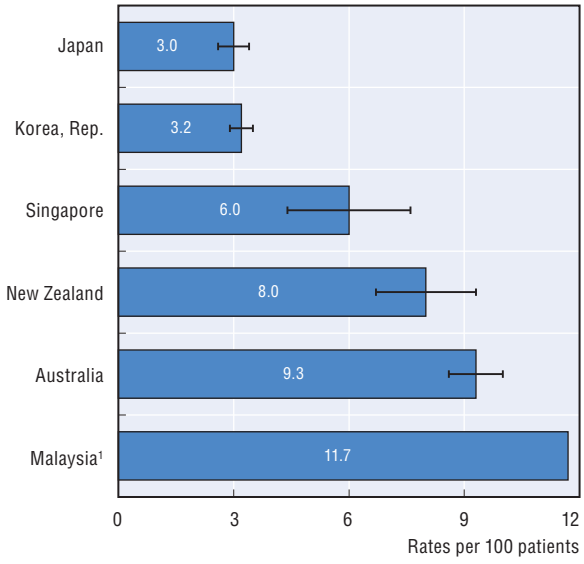
Where available, both crude and age and sex standardised rates are presented. Standardised rates adjust for differences in age (45+ years) and sex, and facilitate more meaningful international comparisons. Crude rates are likely to be more meaningful for internal consideration by individual countries.

5.4. In-hospital case-fatality rates within 30 days after admission for AMI, 2013 (or nearest year)

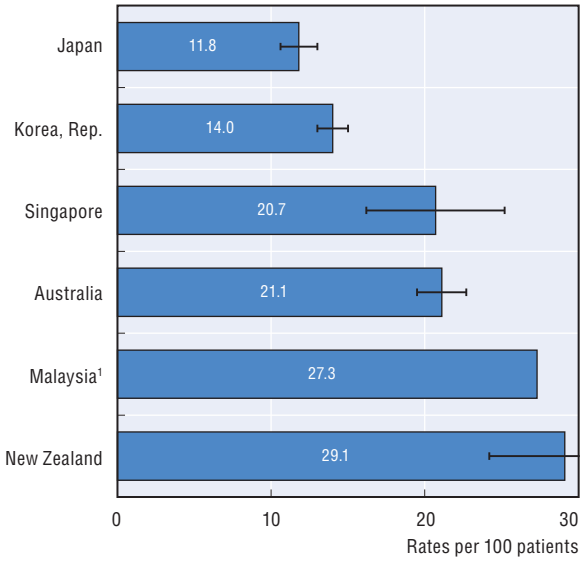


Note: 95% confidence intervals represented by H.
1. Data refer to crude rates.
Source: *OECD Health Statistics 2016.*

5.5. In-hospital case-fatality rates within 30 days after admission for *ischemic stroke*, 2013 (or nearest year)



5.6. In-hospital case-fatality rates within 30 days after admission for *hemorrhagic stroke*, 2013 (or nearest year)



Note: 95% confidence intervals represented by H.
1. Data refer to crude rates.
Source: *OECD Health Statistics 2016.*

StatLink http://dx.doi.org/10.1787/888933413579

Breast cancer accounts for around 187 000 deaths per year in the Asia-Pacific region (WHO, 2014h). There are a number of factors that increase risk, such as age, family history, oestrogen replacement therapy, alcohol use and others. The promotion of screening mammography and self-examination has led to the detection of the disease at earlier stages. Most OECD countries have adopted breast cancer screening programmes as the most effective way for detecting the disease, although periodicity and population target groups vary.

Cervical cancer, which causes 138 000 deaths per year in the region, is also preventable and curable if detected early. The main cause of cervical cancer, which accounts for approximately 95% of all cases, is sexual exposure to the human papilloma virus, HPV (IARC Working Group, 1995; Franco et al., 1999). Pap-smear and HPV DNA testing increases the probability of detecting premalignant lesions which can then be effectively treated. As for breast cancer, population-based cancer screening programmes have been adopted by most high-income countries, but again periodicity and target groups vary. In addition, primary prevention by prophylactic vaccines has been shown to be highly effective and offers new potential in controlling the disease (Shefer et al., 2008; Koulova et al., 2008).

Colorectal cancer is the third most commonly diagnosed form of cancer worldwide, after lung and breast cancers, and causes approximately 250 000 deaths per year in the region (WHO, 2014h). There are several factors that place certain individuals at increased risk including age, the presence of polyps, ulcerative colitis, a diet high in fat, and genetic background. The disease is rare in Asia, although in countries where people have adopted western diets, such as Japan, incidence is increasing (IARC, 2011). The secondary prevention of colorectal cancer by faecal occult blood, sigmoidoscopy or colonoscopy screening is increasingly being adopted (USPSTF, 2008).

Population-based *mortality rates* are one measure of health care quality. As well as reflecting the quality of cancer care, they also reflect improved diagnosis of early-stage cancers with a better prognosis, where screening is available and effective. They also reflect, however, changes in cancer *incidence*, which may have more to do with public health programmes and changing behaviours, than health care quality. A more sensitive marker of health care quality is *relative survival rates*. These estimate the proportion of patients who are still alive after a specified time period (commonly five years) compared to those still alive in the absence of the disease. They capture the excess mortality that can be attributed to the disease and reflect both how early the cancer was detected and the effectiveness of treatment. Another good measure of health care quality, for breast and cervical cancer, is screening coverage.

Few countries in the region are currently able to supply robust relative survival or screening rates, hence the indicators presented here focus on population mortality rates (WHO, 2014h). For the most recent estimations on breast cancer, Mongolia (4.2 per 100 000 females) and China (5.4) reported the lowest mortality rates, and Fiji (28.4) reported the highest (Figure 5.7).

For cervical cancer, New Zealand (1.4 per 100 000) and Australia (1.6) reported the lowest mortality rates, with Papua New Guinea (21.7) and Fiji (20.9) reporting the highest (Figure 5.8). As well as reflecting differences in the effectiveness of population screening programmes and access to high quality treatment, these figures also reflect local incidence rates. Fiji has a relatively high incidence of cervical cancer (37.8 cases per 100 000 females per year), as does Papua New Guinea (34.5), compared to Australia (5.5) and New Zealand (5.3) (Ferlay et al., 2013).

For colorectal cancer, Sri Lanka (2.2 per 100 000 population) and Nepal (2.5) report the lowest mortality rate, while New Zealand (15.1) reports the highest (Figure 5.9). This high rate could also reflect the fact that the incidence of colorectal cancer is high in New Zealand, at 37.27 per 100 000 population (Ferlay et al., 2013).

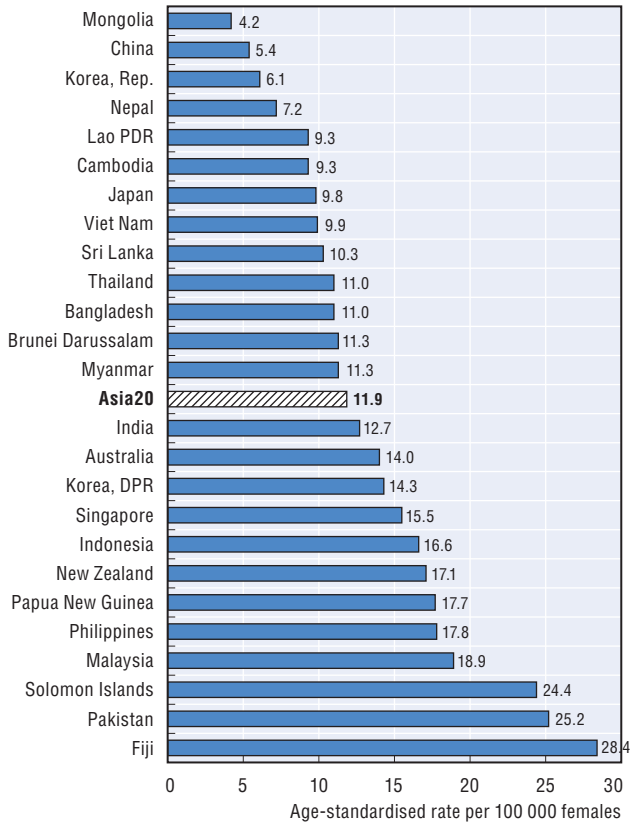
Definitions and comparability

Deaths from all cancers are classified to ICD-10 codes C00-C97, lung cancer to C32-C34, breast cancer to C50 and prostate cancer to C61. Mortality rates are based on estimated numbers of deaths in a country in a year divided by the size of the corresponding population. Incidence rates refer to the number of new cases of a cancer in a given population per year. Both rates are age-standardised.

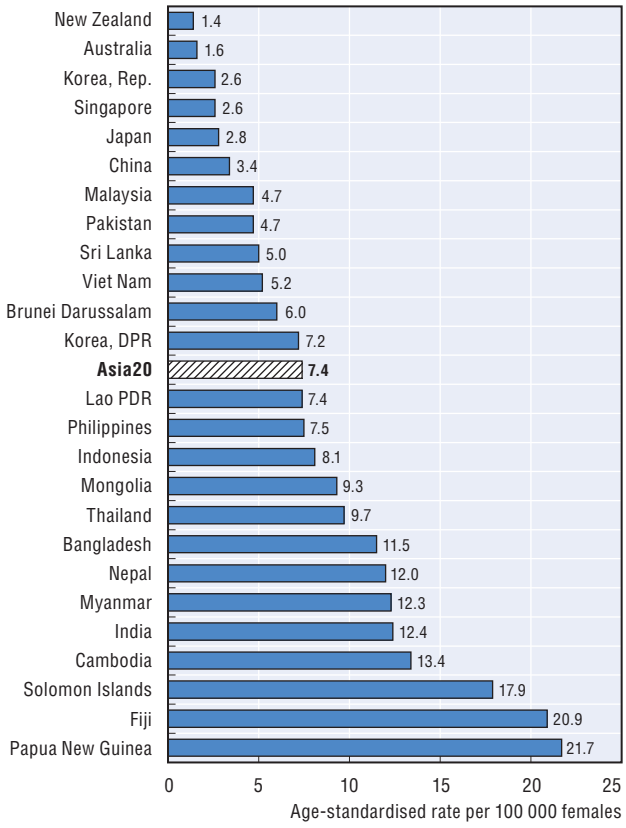
Mortality data are taken from the International Agency for Research on Cancer, GLOBOCAN 2012, available at *http://globocan.iarc.fr/Default.aspx*.

For Bangladesh, Cambodia, Indonesia, Lao PDR, Myanmar, Nepal, Pakistan, Papua New Guinea, Solomon Islands and Sri Lanka mortality rates are estimated from national incidence estimates using modelled survival. For Korea, DPR rates are those of neighbouring countries or registries in the same area.

5.7. Breast cancer mortality, females, 2012

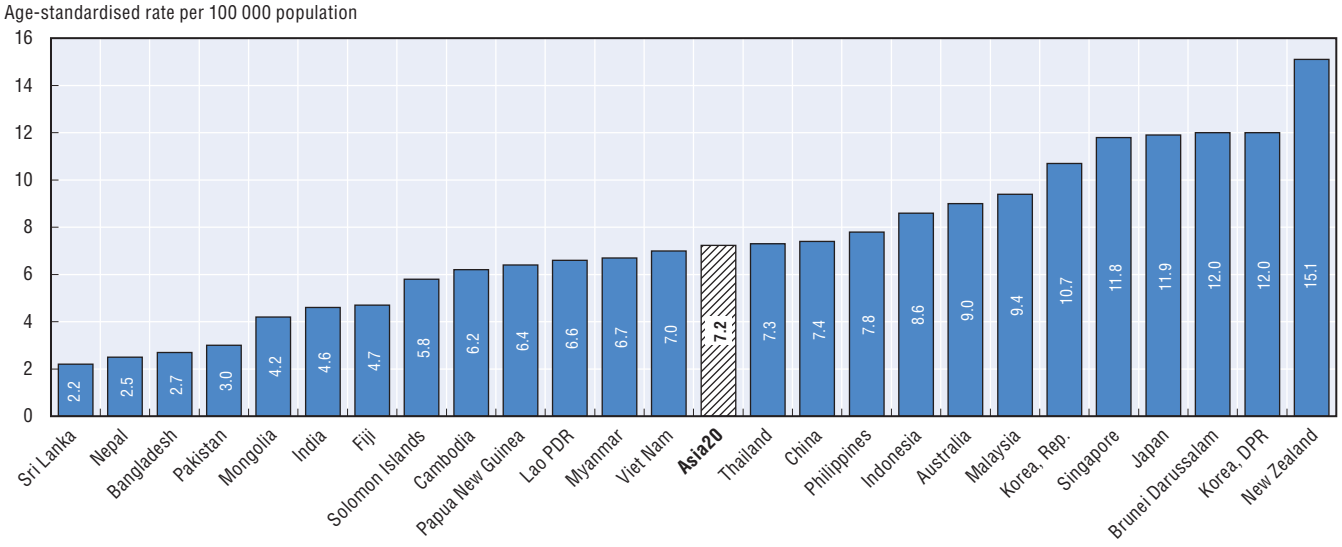


5.8. Cervical cancer mortality, females, 2012



Source: IARC GLOBOCAN 2012.

5.9. Colorectal cancer mortality, 2012



Source: IARC GLOBOCAN 2012.

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ANNEX A

National data sources

Bangladesh

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ANNEX B

Additional information on demographic and economic contexts

Table B.1. **Total mid-year population, thousands, 1960 to 2015**

	1960	1970	1980	1990	2000	2010	2015
Australia	10 292	12 905	14 708	17 097	19 107	22 163	23 969
Bangladesh	48 201	65 049	81 364	105 983	131 281	151 617	160 996
Brunei Darussalam	82	130	193	257	331	393	423
Cambodia	5 722	7 022	6 718	9 009	12 198	14 364	15 578
China	644 450	808 511	977 837	1 154 606	1 269 975	1 340 969	1 376 049
Fiji	393	521	635	729	811	860	892
Hong Kong, China	3 076	3 958	5 054	5 794	6 784	6 994	7 288
India	449 662	553 943	697 230	870 602	1 053 481	1 230 985	1 311 051
Indonesia	87 793	114 835	147 490	181 437	211 540	241 613	257 564
Japan	92 501	103 708	115 912	122 249	125 715	127 320	126 573
Korea, DPR	11 424	14 410	17 372	20 194	22 840	24 501	25 155
Korea, Rep.	25 074	31 437	37 451	42 972	46 206	49 090	50 293
Lao PDR	2 120	2 686	3 253	4 248	5 343	6 261	6 802
Macao, China	171	251	246	360	432	535	588
Malaysia	8 161	10 909	13 834	18 211	23 421	28 120	30 331
Mongolia	956	1 279	1 690	2 184	2 397	2 713	2 959
Myanmar	21 486	27 166	34 471	42 007	47 670	51 733	53 897
Nepal	10 057	11 987	14 890	18 742	23 740	26 876	28 514
New Zealand	2 372	2 820	3 147	3 398	3 858	4 369	4 529
Pakistan	44 912	58 094	78 072	107 608	138 250	170 044	188 925
Papua New Guinea	1 967	2 435	3 215	4 158	5 374	6 848	7 619
Philippines	26 273	35 805	47 397	61 947	77 932	93 039	100 699
Singapore	1 634	2 074	2 415	3 016	3 918	5 079	5 604
Solomon Islands	118	160	231	312	412	526	584
Sri Lanka	9 896	12 487	15 037	17 331	18 784	20 201	20 715
Thailand	27 397	36 885	47 385	56 583	62 693	66 692	67 959
Viet Nam	32 671	43 407	54 373	68 210	80 286	88 358	93 448
Asia-22	**1 553 718**	**1 946 033**	**2 399 683**	**2 913 550**	**3 365 216**	**3 747 493**	**3 931 411**
OECD	**793 318**	**894 887**	**987 261**	**1 069 522**	**1 154 932**	**1 240 770**	**1 278 399**

Source: UNDESA, 2015, World Population Prospects: The 2015 Revision.

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Table B.2. **Share of the population aged 65 and over, 1970 to 2015**

	1970	1980	1990	2000	2010	2015
Australia	8.2	9.6	11.1	12.4	13.5	15.0
Bangladesh	2.7	3.1	3.1	3.8	4.7	5.0
Brunei Darussalam	3.6	2.9	2.7	2.4	3.5	4.4
Cambodia	2.6	2.7	2.9	3.1	3.7	4.1
China	3.7	4.5	5.3	6.7	8.2	9.6
Fiji	2.2	2.6	2.9	3.4	4.8	5.8
Hong Kong, China	3.9	5.9	8.7	11.0	12.9	15.1
India	3.3	3.6	3.8	4.4	5.1	5.6
Indonesia	3.3	3.6	3.8	4.7	4.9	5.2
Japan	7.0	9.0	11.9	17.2	22.9	26.3
Korea, DPR	3.2	3.6	4.4	5.9	8.8	9.5
Korea, Rep.	3.3	3.9	5.0	7.3	11.1	13.1
Lao PDR	3.1	3.5	3.5	3.6	3.7	3.8
Macao, China	6.4	8.6	6.7	7.4	7.2	9.0
Malaysia	3.3	3.6	3.6	3.8	4.9	5.9
Mongolia	4.8	4.5	4.1	3.7	3.8	4.0
Myanmar	3.7	3.9	4.2	4.8	5.0	5.4
Nepal	2.9	3.3	3.5	3.8	5.0	5.5
New Zealand	8.5	9.8	11.1	11.8	13.0	14.9
Pakistan	3.8	3.8	3.9	4.1	4.4	4.5
Papua New Guinea	2.1	2.2	2.3	2.5	2.8	3.0
Philippines	3.0	3.2	3.1	3.2	4.2	4.6
Singapore	3.3	4.7	5.6	7.3	9.0	11.7
Solomon Islands	3.5	3.1	2.8	2.8	3.3	3.4
Sri Lanka	3.7	4.4	5.5	6.2	7.3	9.3
Thailand	3.5	3.7	4.5	6.6	8.9	10.5
Viet Nam	5.4	5.3	5.7	6.4	6.5	6.7

Source: UNDESA, 2015, World Population Prospects: The 2015 Revision.

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Table B.3. **Crude birth rate, per 1 000 population, 1970-75 to 2010-15**

	1970-75	1980-85	1990-95	2000-05	2005-10	2010-15
Australia	19.1	15.5	14.7	12.8	13.8	13.5
Bangladesh	46.8	42.2	33.0	26.0	22.5	20.4
Brunei Darussalam	37.8	31.4	30.1	19.6	18.4	16.6
Cambodia	42.1	50.6	38.0	26.5	26.3	24.5
China	32.2	21.4	19.0	12.1	12.2	12.4
Fiji	33.0	33.1	28.1	24.0	22.4	20.7
Hong Kong, China	20.4	15.4	12.0	8.4	8.9	10.1
India	38.4	35.5	30.0	25.3	22.9	20.4
Indonesia	38.3	31.7	24.4	21.6	21.3	20.5
Japan	19.0	12.8	9.9	8.9	8.7	8.3
Korea, DPR	32.6	21.8	20.8	16.7	14.7	14.4
Korea, Rep.	30.3	20.4	16.0	10.2	9.6	9.2
Lao PDR	43.1	42.8	41.6	29.8	29.0	27.2
Macao, China	10.0	19.9	15.7	7.7	8.8	11.2
Malaysia	31.4	29.5	27.5	19.7	17.0	16.9
Mongolia	48.2	48.4	35.9	21.1	20.9	21.7
Myanmar	43.1	38.2	27.5	18.9	22.2	24.6
Nepal	38.7	34.5	25.5	24.0	21.2	18.2
New Zealand	42.5	41.2	37.3	29.7	25.3	21.0
Pakistan	21.0	15.9	16.6	14.2	14.9	13.7
Papua New Guinea	42.6	42.1	38.2	30.3	30.3	29.8
Philippines	45.4	38.0	35.2	33.6	31.5	29.1
Singapore	38.3	35.7	31.9	28.8	25.6	24.0
Solomon Islands	22.1	17.0	17.6	11.3	10.1	9.3
Sri Lanka	28.8	25.8	19.8	18.6	18.4	16.4
Thailand	34.7	24.2	18.1	13.5	12.2	11.2
Viet Nam	35.6	31.4	26.7	16.9	17.3	17.4

Source: UNDESA, 2015, World Population Prospects: The 2015 Revision.

StatLink http://dx.doi.org/10.1787/888933413619

Table B.4. **Fertility rate, number of children per women aged 15-49, 1970-75 to 2010-15**

	1970-75	1980-85	1990-95	2000-05	2005-10	2010-15
Australia	2.5	1.9	1.9	1.8	2.0	1.9
Bangladesh	6.9	6.0	4.1	2.9	2.5	2.2
Brunei Darussalam	5.9	3.9	3.3	2.1	2.0	1.9
Cambodia	6.2	6.4	5.1	3.4	3.1	2.7
China	4.9	2.5	2.0	1.5	1.5	1.6
Fiji	4.2	3.8	3.4	3.0	2.8	2.6
Hong Kong, China	3.3	1.7	1.2	1.0	1.0	1.2
India	5.4	4.7	3.8	3.1	2.8	2.5
Indonesia	5.3	4.1	2.9	2.5	2.5	2.5
Japan	4.0	2.8	2.3	2.0	2.0	2.0
Korea, DPR	4.3	2.2	1.7	1.2	1.2	1.3
Korea, Rep.	2.1	1.8	1.5	1.3	1.3	1.4
Lao PDR	6.0	6.4	5.9	3.9	3.5	3.1
Macao, China	1.8	2.0	1.4	0.8	0.9	1.2
Malaysia	4.6	3.7	3.4	2.5	2.1	2.0
Mongolia	7.5	5.8	3.3	2.1	2.4	2.7
Myanmar	5.7	4.7	3.2	2.9	2.6	2.3
Nepal	5.9	5.6	5.0	3.6	3.0	2.3
New Zealand	2.8	2.0	2.1	1.9	2.1	2.1
Pakistan	6.6	6.4	5.7	4.2	4.0	3.7
Papua New Guinea	6.1	5.5	4.7	4.4	4.1	3.8
Philippines	6.0	4.9	4.1	3.7	3.3	3.0
Singapore	2.8	1.7	1.7	1.3	1.3	1.2
Solomon Islands	7.2	6.4	5.5	4.6	4.4	4.1
Sri Lanka	4.0	3.2	2.4	2.3	2.3	2.1
Thailand	5.1	2.9	2.0	1.6	1.6	1.5
Viet Nam	6.3	4.6	3.2	1.9	1.9	2.0

Source: UNDESA, 2015, World Population Prospects: The 2015 Revision.

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Table B5. **GDP per capita in 2010 and average annual growth rates, 1980 to 2015**

	GDP per capita in USD at PPPs	Average annual growth rate (in real terms)			
	2015	1980-90	1990-2000	2000-10	2010-15
Australia	47 389	1.8	2.3	1.6	1.0
Bangladesh	3 607	1.0	2.7	4.4	5.1
Brunei Darussalam	79 587		-0.3	-0.4	-1.5
Cambodia	3 487		2.5	6.3	5.5
China	14 107	7.7	9.3	9.9	7.3
Fiji	9 044	1.3	1.5	1.2	3.0
Hong Kong, China	56 701	5.4	2.4	3.6	2.2
India	6 162	3.3	3.5	5.9	5.0
Indonesia	11 126	4.4	2.8	3.9	4.0
Japan	38 054	4.1	0.9	0.7	0.7
Korea, Rep.	36 511	8.6	6.0	3.9	2.5
Lao PDR	5 309	2.8	3.6	5.3	5.7
Macao, China	98 135				-0.7
Malaysia	26 315	3.1	4.4	2.6	3.6
Mongolia	12 147		-1.5	4.8	8.5
Myanmar	5 469			9.5	6.5
Nepal	2 465	2.4	2.4	2.5	3.0
New Zealand	36 172	1.2	1.8	1.5	1.3
Pakistan	5 000	3.2	1.7	2.1	1.9
Papua New Guinea	2 652	-0.9	1.4	1.4	5.0
Philippines	7 254	-0.7	0.5	2.8	3.8
Singapore	85 253	5.2	4.2	3.4	2.2
Solomon Islands	1 950	-1.7	-0.3	0.9	2.8
Sri Lanka	10 566	3.1	4.7	4.1	5.4
Thailand	16 097	5.8	3.5	3.8	2.4
Vietnam	6 024	3.8	5.8	5.6	4.8

Source: International Monetary Fund, World Economic Outlook Database, January 2016.

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