

LONDON  
SCHOOL of  
HYGIENE  
& TROPICAL  
MEDICINE



LSHTM Research Online

Tangcharoensathien, V; Witthayapipopsakul, W; Panichkriangkrai, W; Patcharanarumol, W; Mills, A; (2018) Health systems development in Thailand: a solid platform for successful implementation of universal health coverage. *Lancet*. ISSN 0140-6736 DOI: [https://doi.org/10.1016/S0140-6736\(18\)30198-3](https://doi.org/10.1016/S0140-6736(18)30198-3)

Downloaded from: <http://researchonline.lshtm.ac.uk/4646912/>

DOI: [https://doi.org/10.1016/S0140-6736\(18\)30198-3](https://doi.org/10.1016/S0140-6736(18)30198-3)

**Usage Guidelines:**

Please refer to usage guidelines at <http://researchonline.lshtm.ac.uk/policies.html> or alternatively contact [researchonline@lshtm.ac.uk](mailto:researchonline@lshtm.ac.uk).

Available under license: <http://creativecommons.org/licenses/by-nc-nd/2.5/>

<https://researchonline.lshtm.ac.uk>

**Table 1** At a glance, Thailand and five upper-middle income peers

	China	Malaysia	Mexico	South Africa	Thailand	Turkey
Economic and fiscal space						
• GDP per capita (current US\$), 2016	8,123	9,503	8,201	5,274	5,908	10,788
• GDP growth (annual %), 2016	6.7	4.2	2.3	0.3	3.2	2.9
• Revenue, excluding grants (% of GDP)	15.8 (2014)	18.9 (2015)	..	31.5 (2015)	20.7 (2015)	32.4 (2015)
• Tax revenue (% of GDP)	9.7 (2014)	14.3 (2015)	..	27.3 (2015)	16.3 (2015)	18.2 (2015)
Demography						
• Population, total (millions), 2016	1,379	31	128	56	69	80
• Population growth (annual %), 2016	0.5	1.5	1.3	1.6	0.3	1.6
• Poverty headcount ratio, \$1.90 a day (2011 PPP) (% of population)	1.9 (2013)	..	3 (2014)	..	0 (2013)	0.3 (2013)
• Urban population (% of total), 2016	57	75	80	65	52	74
Health expenditure						
• Health expenditure per capita (current US\$), 2014	420	456	677	570	228	568
• Health expenditure, total (% of GDP), 2014	5.5	4.2	6.3	8.8	4.1	5.4
• Health expenditure, public (% of total health expenditure), 2014	55.8	55.2	51.8	48.2	77.8	77.4
• Health expenditure, public (% of government expenditure), 2014	10.4	6.4	11.6	14.2	13.3	10.5
• Out-of-pocket health expenditure (% of total expenditure on health), 2014	32.0	35.3	44.0	6.5	11.9	17.8
Health						
• Life expectancy at birth, total (years), 2015	76	75	77	57	75	75
• Fertility rate, total (births per woman), 2015	1.6	1.9	2.2	2.5	1.5	2.1
• Mortality rate, under-5 (per 1,000 live births), 2015	11	7	13	41	12	14
• Births attended by skilled health staff (% of total)	100 (2013)	99 (2013)	96 (2012)	..	100 (2012)	97 (2013)
• Immunization, DPT (% of children ages 12-23 months), 2016	99	98	97	66	99	98
• Prevalence of HIV, total (% of population ages 15-49), 2015	..	0.4	0.2	19.2	1.1	..
• Improved water source (% of population with access), 2015	96	98	96	93	98	100
• Improved sanitation facilities (% of population with access), 2015	77	96	85	66	93	95
Education						
• Literacy rate, adult total (% of people ages 15 and above), 2015	96	95	95	95	94	96
• School enrolment, primary (% gross)	104.1 (2015)	101.8 (2015)	103.4 (2014)	99.7 (2014)	102.7 (2015)	102.5 (2015)
• Primary completion rate, total (% of relevant age group)	92 (2015)	101 (2015)	105 (2014)	..	93 (2015)	92 (2015)
• School enrolment, secondary (% gross)	94 (2015)	78 (2015)	91 (2014)	99 (2014)	129 (2015)	102 (2015)

Source: World Development Indicators database (retrieved August, 2017)

**Table 2** Thailand mortality and disease statistics, 1990-2015

<b>Key indicators</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>
Life expectancy at birth, (years)	67.2	74.8	69.2	76.2	70.5	77.3
Mortality rate, adult, male (per 1,000 male adults)	228	254	258	234	216	205
Mortality rate, adult, female (per 1,000 female adults)	136	135	137	124	111	104
Cause of death, by communicable diseases and maternal, prenatal and nutrition conditions (% of total)	..	..	26.1	24.3	20.7	18.3
Cause of death, by non-communicable diseases (% of total)	..	..	64.0	64.6	67.7	71.3
Cause of death, by injury (% of total)	..	..	9.9	11.0	11.6	10.4
Mortality caused by road traffic injury (per 100,000 people)	..	..	26.5	29.8	32.7	31.7
Prevalence of HIV, total (% of population ages 15-49)	0.5	1.9	1.7	1.4	1.3	1.1

Source: World Development Indicators database (retrieved August, 2017)

**Table 3** Characteristics of the three public health insurance schemes in Thailand, 2017

	<b>Civil Servant Medical Benefit Scheme</b>	<b>Social Health Insurance</b>	<b>Universal Coverage Scheme</b>
Legislation	Royal Decree 1980	Social Security Act 1990	National Health Security Act 2002
Purchaser	Comptroller General Department, Ministry of Finance	Social Security Office, Ministry of Labour	National Health Security Office
Population coverage, million	4.4	10.6	48
Source of finance	Tax based, non-contributory	Tripartite contribution by employer, employee and government	Tax based, non-contributory
Budgeting	Open ended budget	Closed ended budget	Closed ended budget
Expenditure, 2016, Thai Baht	71.02 billion	37.7 billion	109.3 billion
Payment method	OP: Fee-for-service, IP: DRG with multiple cost bands	OP: Capitation, IP: DRG within global budget	OP and prevention and health promotion: Capitation, IP: DRG with global budget; fee schedule for specific high cost procedures

Source: Thai National Health Accounts 2013, International Health Policy Program, MOPH

Note: OP = Out-patient, IP = In-patient, PP = health promotion and prevention

**Table 4** Chronology of UCS benefit package extension

<b>Year</b>	<b>Benefit package</b>
2002	<ul style="list-style-type: none"> <li>• Outpatient and Inpatient services, high cost care, accident and emergency, personal prevention and health promotion services, rehabilitation services, pre-hospital care</li> </ul>
2006	<ul style="list-style-type: none"> <li>• Universal Anti Retroviral Therapy including provision of medicines, voluntary counselling and testing, monitoring CD4 count, viral load testing and condoms distribution</li> </ul>
2008-2009	<ul style="list-style-type: none"> <li>• Thai Traditional Medicine</li> <li>• Renal replacement therapy: Peritoneal Dialysis First policy, haemodialysis, kidney transplants inclusive of all related medicines</li> <li>• Voluntary methadone replacement therapy for drug addictions</li> <li>• Access to expensive medicines in the national list of essential medicines, e.g. linezolid for methicillin resistant staphylococcus aureus, Botulinum A toxin for idiopathic cervical dystonia</li> <li>• Seasonal Influenza vaccination in at-risk groups</li> </ul>
2010	<ul style="list-style-type: none"> <li>• Access to all orphan medicines and antidotes</li> <li>• Treatment of psychiatric patients as inpatient without length of stay limits.</li> </ul>
2011	<ul style="list-style-type: none"> <li>• Secondary prevention for diabetes and hypertension</li> <li>• Specific medicines for psychiatric patients</li> </ul>
2012	<ul style="list-style-type: none"> <li>• Liver transplantation for hepatic failure in patients &lt;18 years</li> <li>• Heart transplantation</li> </ul>
2013	<ul style="list-style-type: none"> <li>• Extension of seasonal influenza vaccine to more target groups</li> <li>• Stem cell transplantation in leukaemia and lymphoma with specific indications</li> </ul>
2014	<ul style="list-style-type: none"> <li>• Special earmarked budget for hard-to-reach areas</li> </ul>
2015 2016	<ul style="list-style-type: none"> <li>• Detect and treat policy for HIV, with any level of CD4 count</li> <li>• Long term home and community care for frail elderly</li> <li>• Home and community based psychiatric care</li> </ul>

**Table 5** Cost savings from central negotiation by NHSO for medical supplies and medicines, various years, US \$

	<b>Market price per unit US\$</b>	<b>Negotiated price per unit US\$</b>	<b>Units purchased</b>	<b>Cost difference US\$</b>	<b>Cost savings US\$</b>
Medical supplies					
• Folding lens (2011-2012)	133	93	64,100	40	2,564,000
• Unfolding lens (2011-2012)	133	23	7,197	110	791,670
• Balloon stent (2009-2012)	667	23	26,655	334	8,902,770
• Coronary stent (2009-2012)	1,000	167	10,575	833	8,808,975
• Drug-coated stent (2009-2012)	2,833	567	33,794	2,266	76,577,204
• Drug eluting alloy stent (2012)	1,833	833	343	1,000	343,000
Medicines					
• ARV (2010-2012)	747	658	29,973	89	2,667,597
• High cost drug (2010-2012)	4,508	3,197	4,674	1,311	6,127,614
• Influenza vaccine (2010-2012)	7	5	643,319	2	1,286,638
• Erythropoietin (2009-2012)	22	8	1,634,239	14	22,879,346
• Continuous ambulatory peritoneal dialysis solution (2010-2012)	7	4	19,095,657	3	57,286,971
Total cost saving to UCS					188,235,785

Source: NHSO 2012