

Choosing Health

An Entitlement for all Indians

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Ramanan Laxminarayan, Resources for the
Future

Table S1 Total Additional Costs for Entitlement Package and System Reforms, First Decade, Per Year

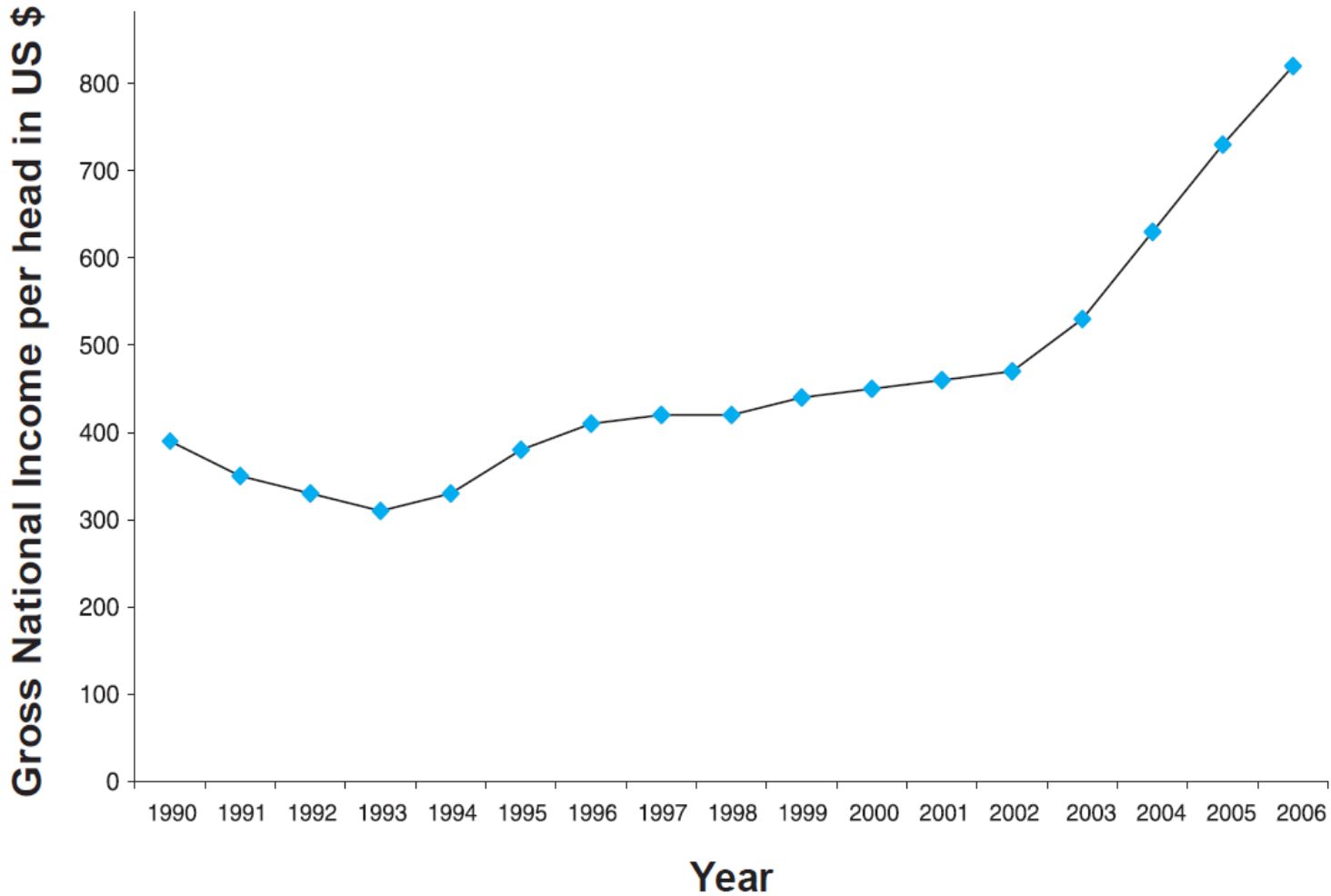
<i>Component</i>	<i>Price per person (Rs)</i>	<i>Percentage of GDP at current prices</i>
Entitlement Package	280	0.8
Catalytic system reforms	120	0.4
Total	400	1.2

Table S2 Timeline For Action

<i>By this date</i>	<i>Action</i>	<i>Government health spending as a share of GDP (%)</i>	<i>Private health spending as a share of GDP (%)</i>
August 15, 2012 (65th Anniversary of Independence)	1) Publicly financed Entitlement Package introduced in all states, with independent monitoring for outcomes and performance 2) First phase of system reforms: register and accredit all health providers	2.4	4.5
August 15, 2017 (70th Anniversary of Independence)	3) Entitlement Package expanded in pilot states to cover wider range of affordable interventions, including major surgery for cancers	4	3
August 15, 2022 (75th anniversary of Independence)	4) Full implementation in all states of expanded Entitlement Package providing most evidence-based clinical services	7	1 - 2

**SOURCE: Choosing Health - An Entitlement for all Indians
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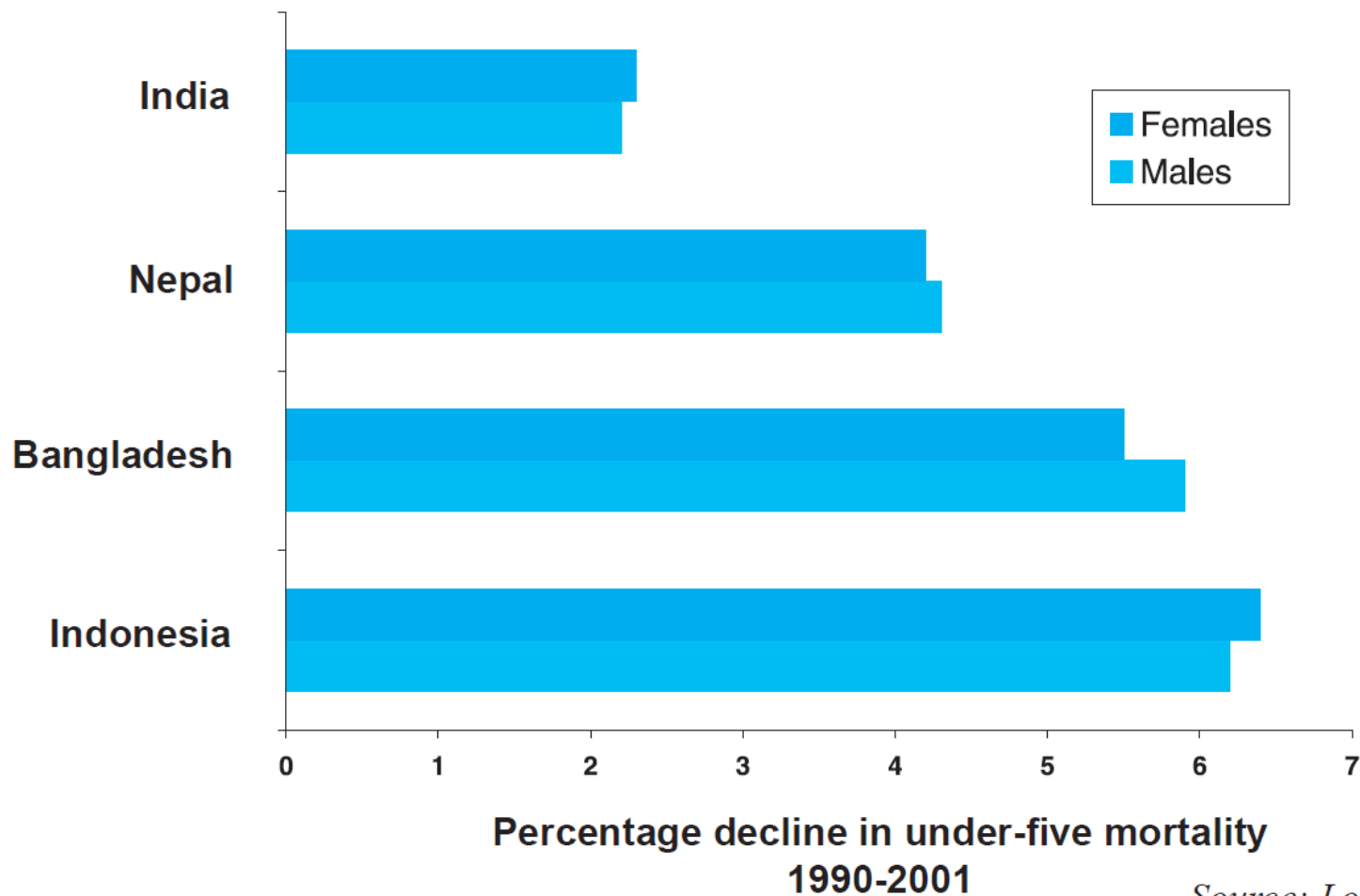
Figure 1.1 Income Per Head in India



Source: World Bank 2007

**SOURCE: Choosing Health - An Entitlement for all Indians
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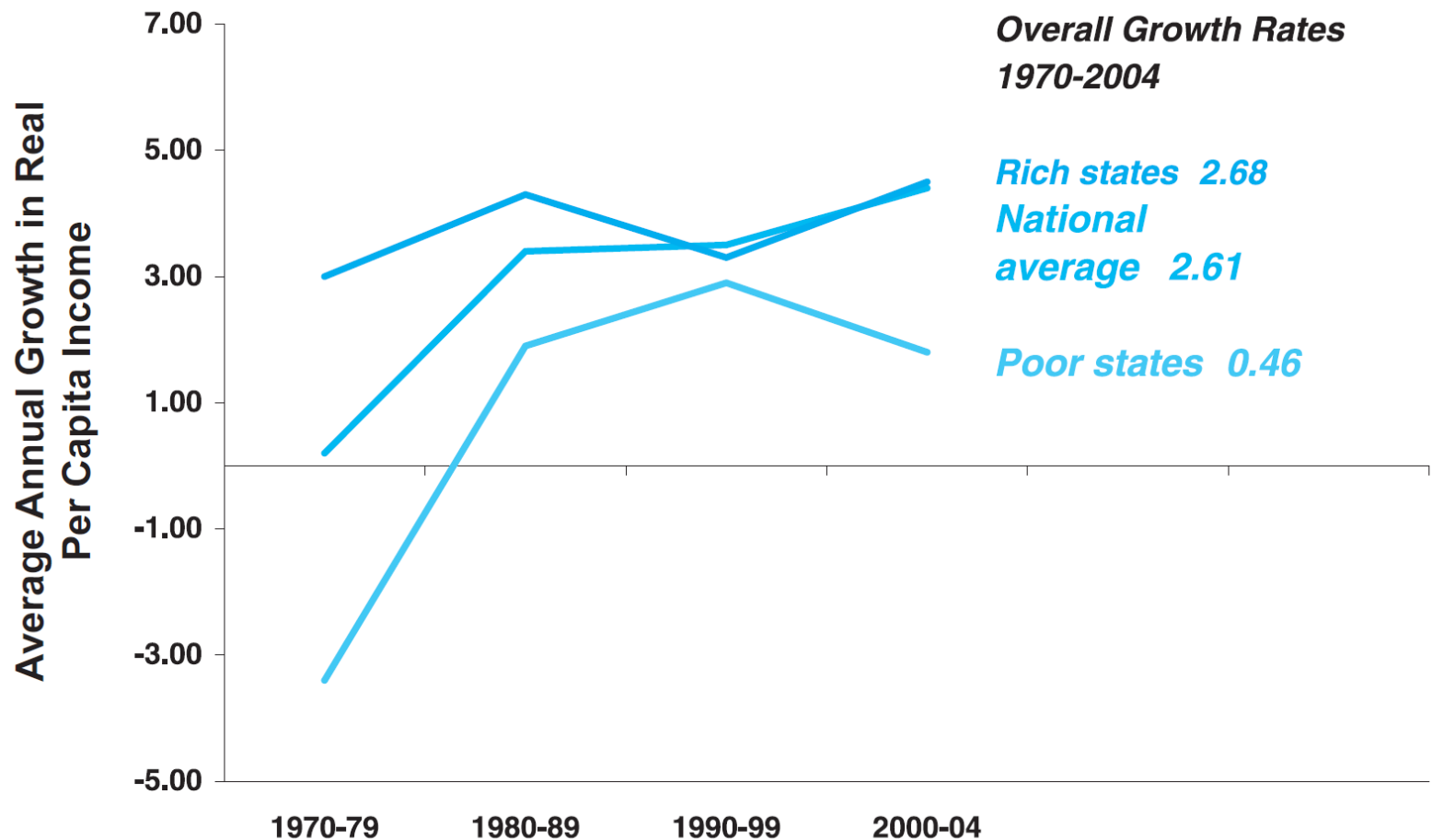
Figure 1.2 Child Survival: India Lags Behind



SOURCE: Choosing Health - An Entitlement for all Indians
Jha and Laxminarayan

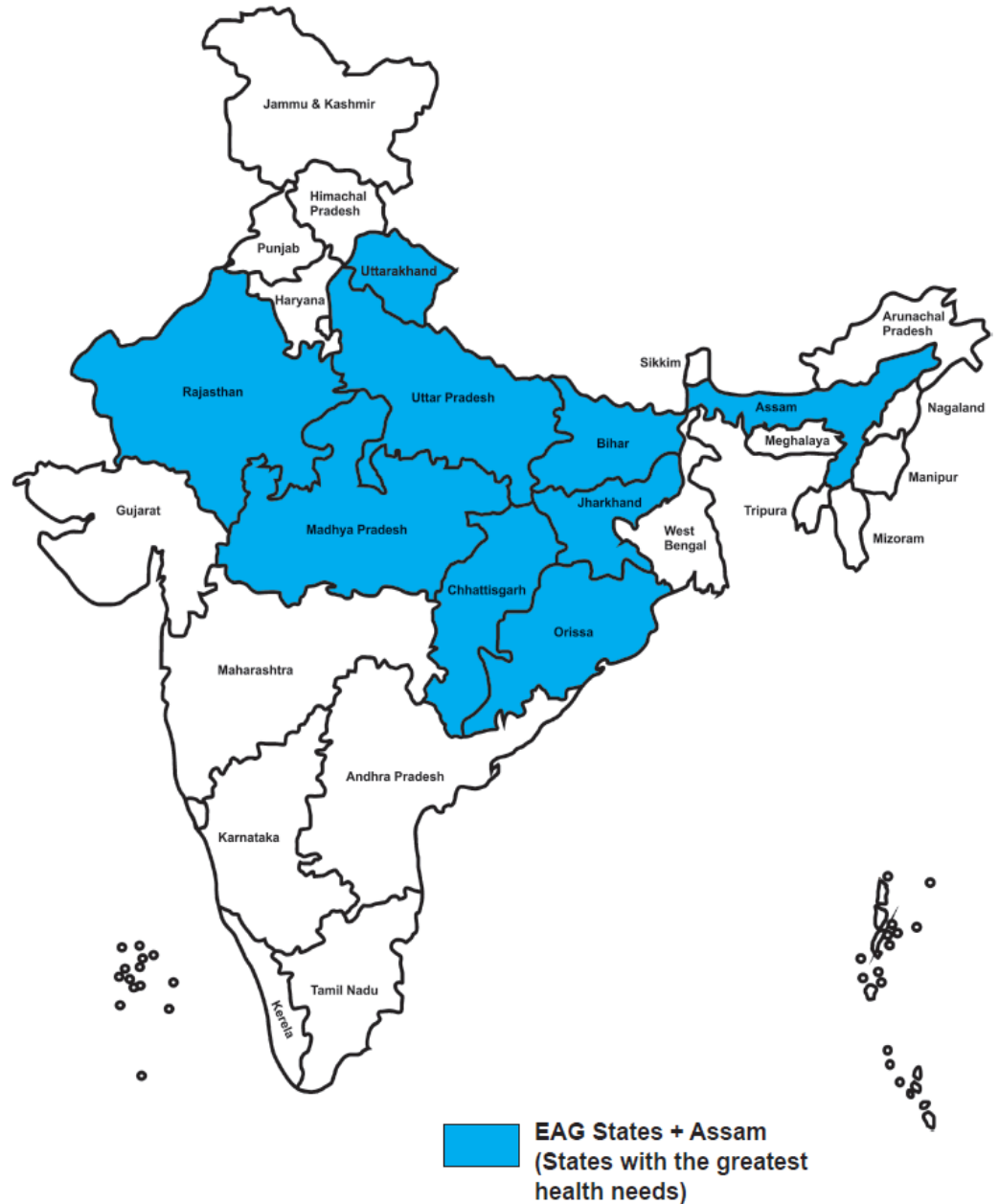
Source: Lopez et al. 2006

Figure 1.3 Divergence in Income Growth Rates Among States



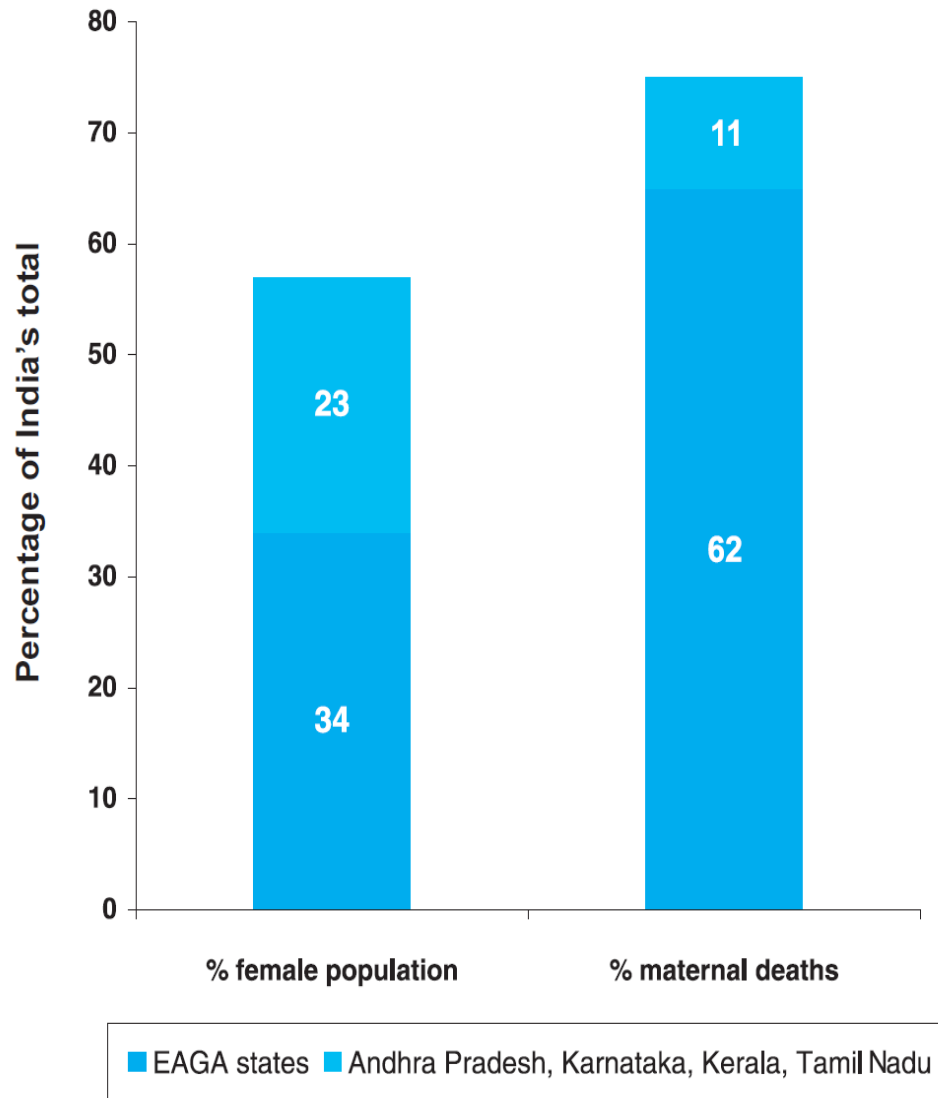
Source: Purfield 2006

Map 1.1 Empowered Action Group States Plus Assam (EAGA States)



SOURCE: Choosing Health - An Entitlement for all Indians
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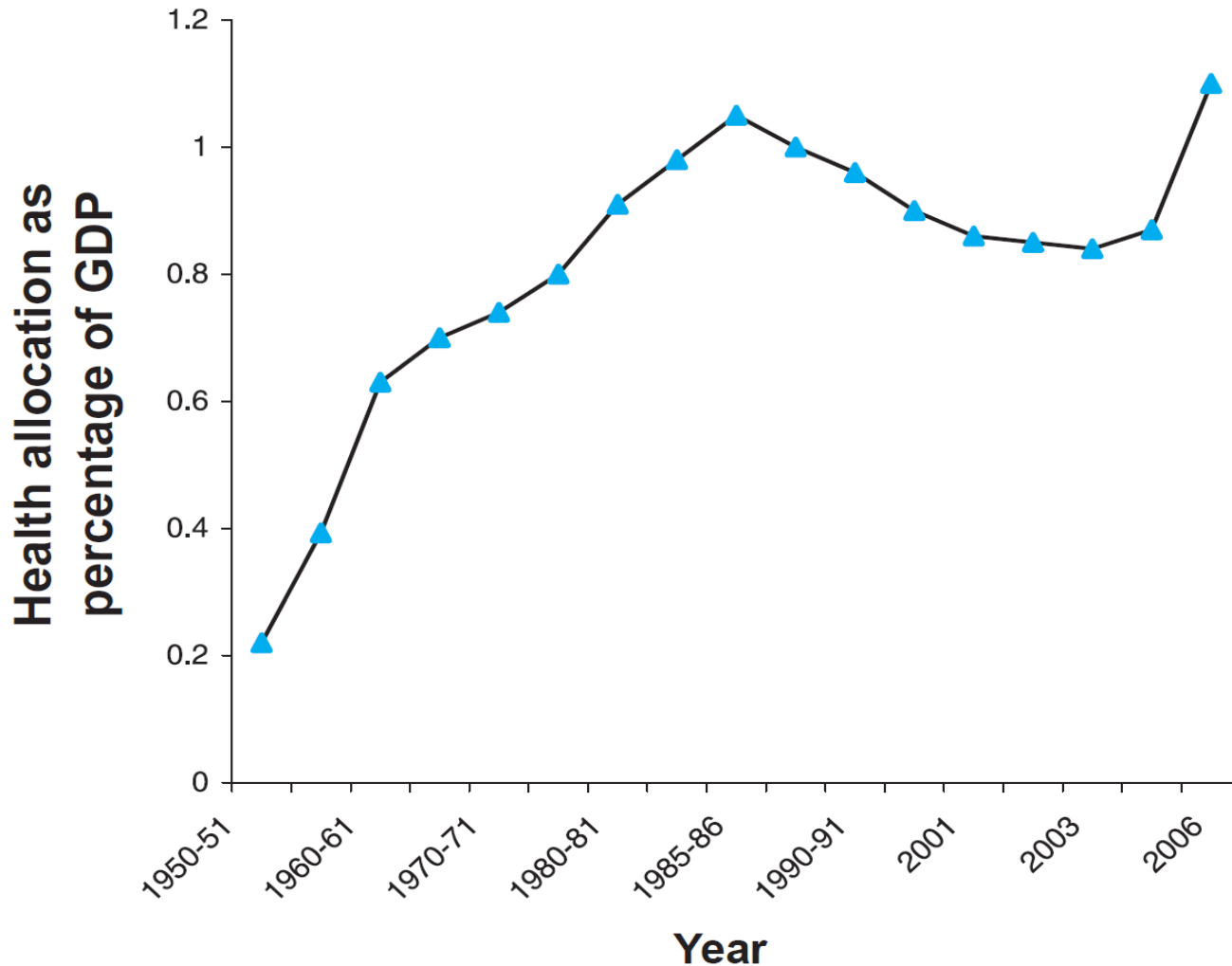
Figure 1.4 Life Lottery: Death in Childbirth is More Likely in the Poor States



SOURCE: Choosing Health - An Entitlement for all Indians
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Source: RGI 2009

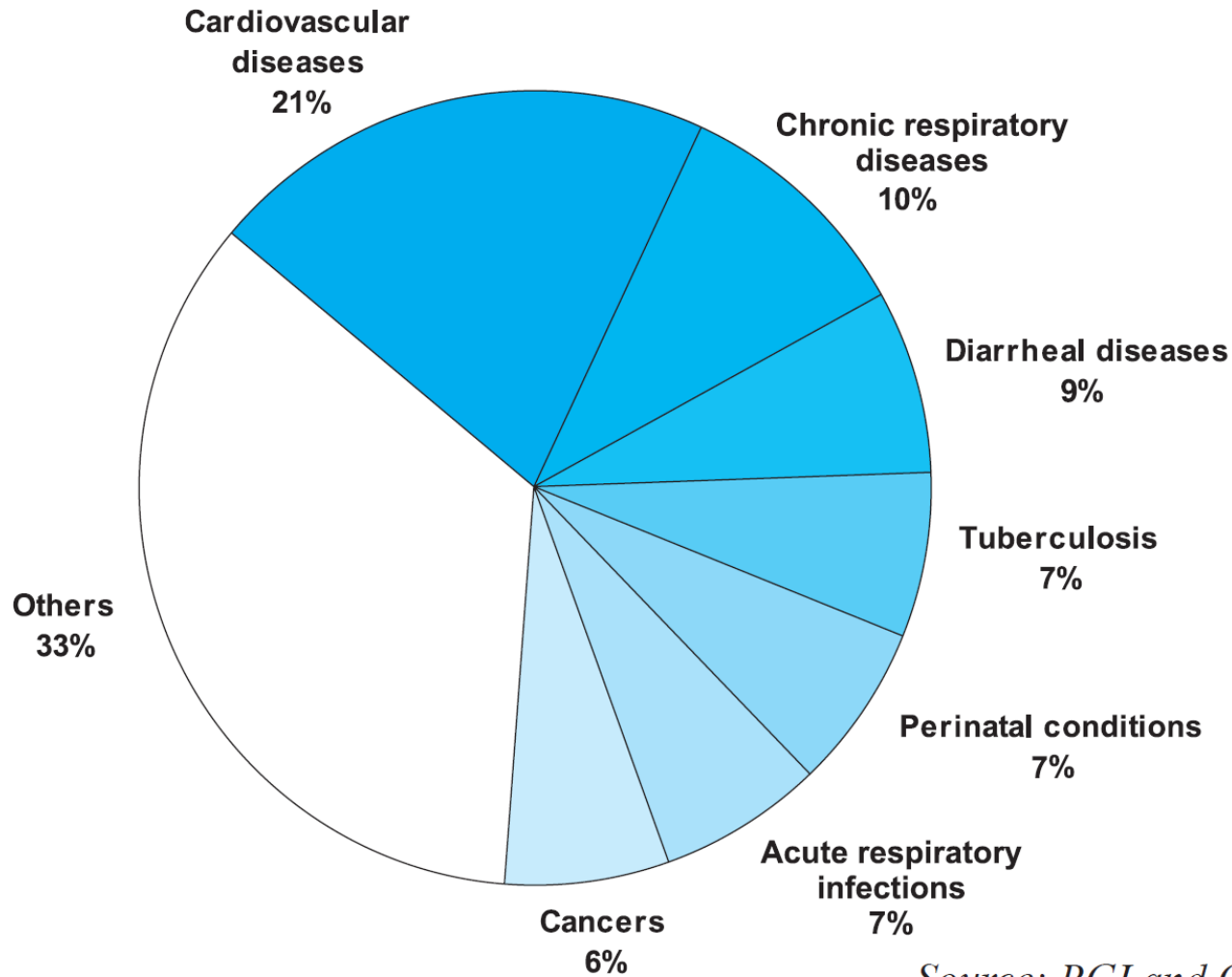
Figure 1.5 Indian Government Spending on Health



Source: RGI 2006b

SOURCE: Choosing Health - An Entitlement for all Indians
Jha and Laxminarayan

Figure 2.1 The Leading Causes of Death, All India, All Ages, 2004



SOURCE: Choosing Health - An Entitlement for all Indians
Jha and Laxminarayan

Source: RGI and CGHR 2009

Table 2.1 Top 10 Causes of Death in India, All Ages, 2004

<i>EAGA States</i>	<i>Rank</i>	<i>Percentage of all deaths</i>	<i>Other states</i>	<i>Rank</i>	<i>Percentage of all deaths</i>
Cardiovascular disease	1	14	Cardiovascular disease	1	27
Diarrheal diseases	2	12	Chronic respiratory diseases	2	10
Acute respiratory infections	3	10	Cancers	3	8
Chronic respiratory diseases	4	10	Acute respiratory infections	4	7
Perinatal conditions	5	9	Diarrheal diseases	5	6
Tuberculosis	6	7	Tuberculosis	6	6
Unintentional injuries	7	7	Unintentional injuries	7	6
Unintentional injuries	8	6	Perinatal conditions	8	5
Unintentional injuries	9	5	Digestive diseases	9	4
Cancers	10	4	Suicides	10	3
Total as a percentage of all deaths		84	Total as a percentage of all deaths		82

Note: Deaths attributed to the categories of "senility" and "ill-defined" are excluded.

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Source: RGI and CGHR 2009

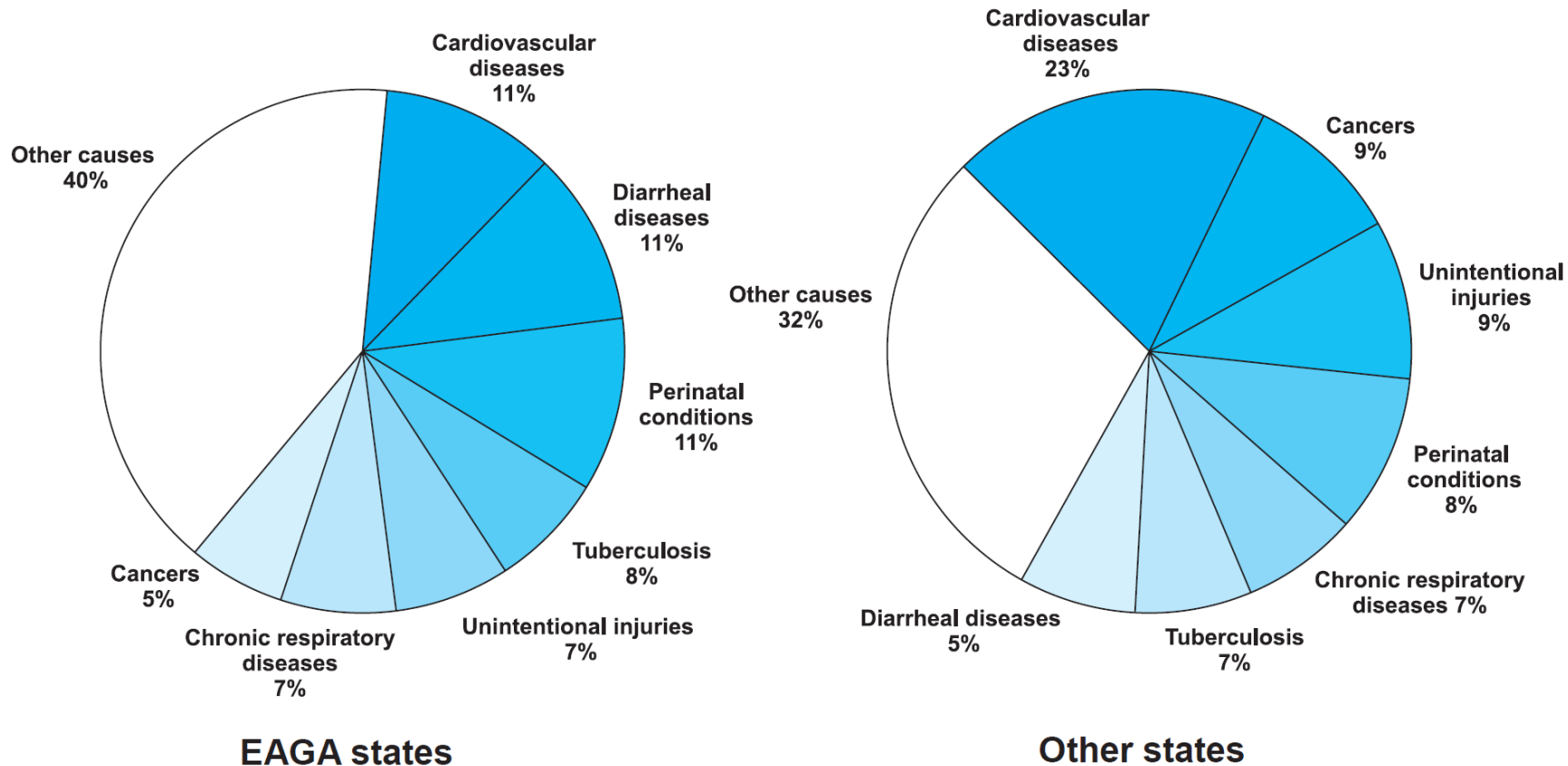
Table 2.2 Broad Causes of Death in People Under Age 70, by State Group, 2004

<i>Cause group</i>	<i>EAGA states (%)</i>	<i>Other states (%)</i>
I. Communicable, maternal, perinatal, and nutritional	59	34
II. Noncommunicable	31	51
III. Injuries	10	15

Note: Deaths attributed to the categories of “senility” and “ill-defined” are excluded.

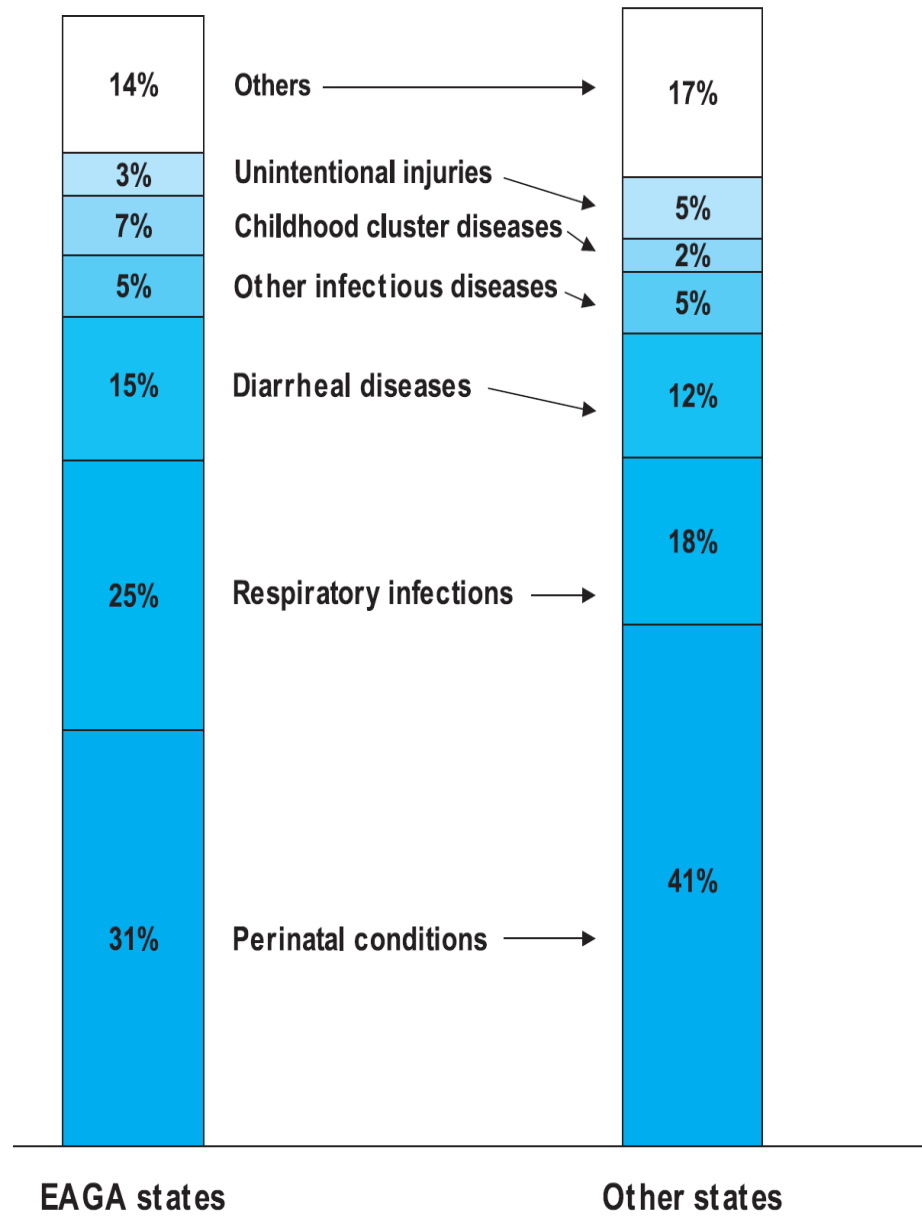
Source: RGI and CGHR 2009

Figure 2.2 Premature Deaths (Under Age 70) by State Group, 2004



Source: RGI and CGHR 2009

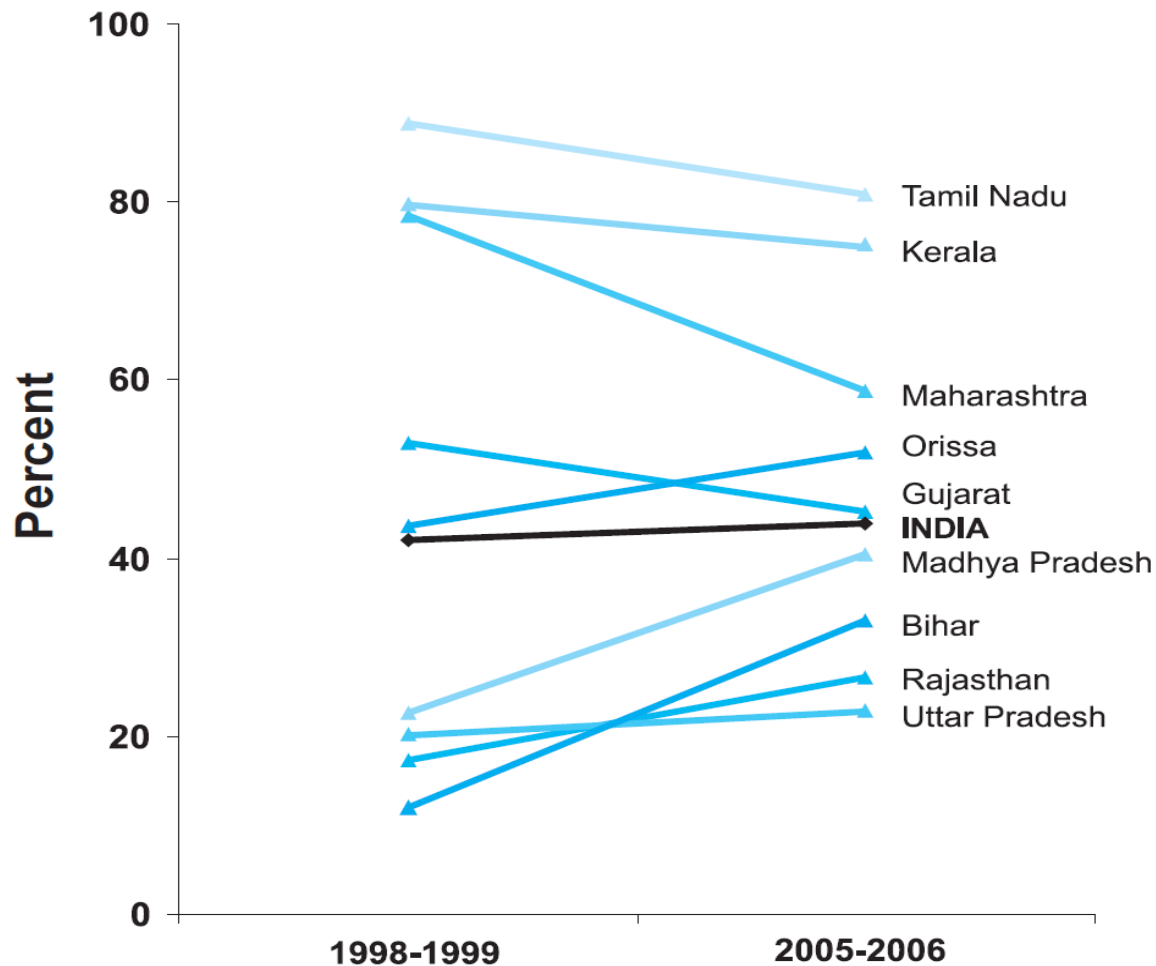
Figure 2.3
 Causes of Death for
 2 Million Children
 Under Age 5, by
 State Group, 2004



SOURCE: Choosing Health - An Entitlement for all Indians
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Source: RGI and CGHR, 2009

Figure 2.4 Immunisation Trends, 1998 – 2006



Source: NFHS 1999 and 2006

SOURCE: Choosing Health - An Entitlement for all Indians
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Figure 2.5 Percent of Undernourished Children Under Age 3, 1998 and 2006

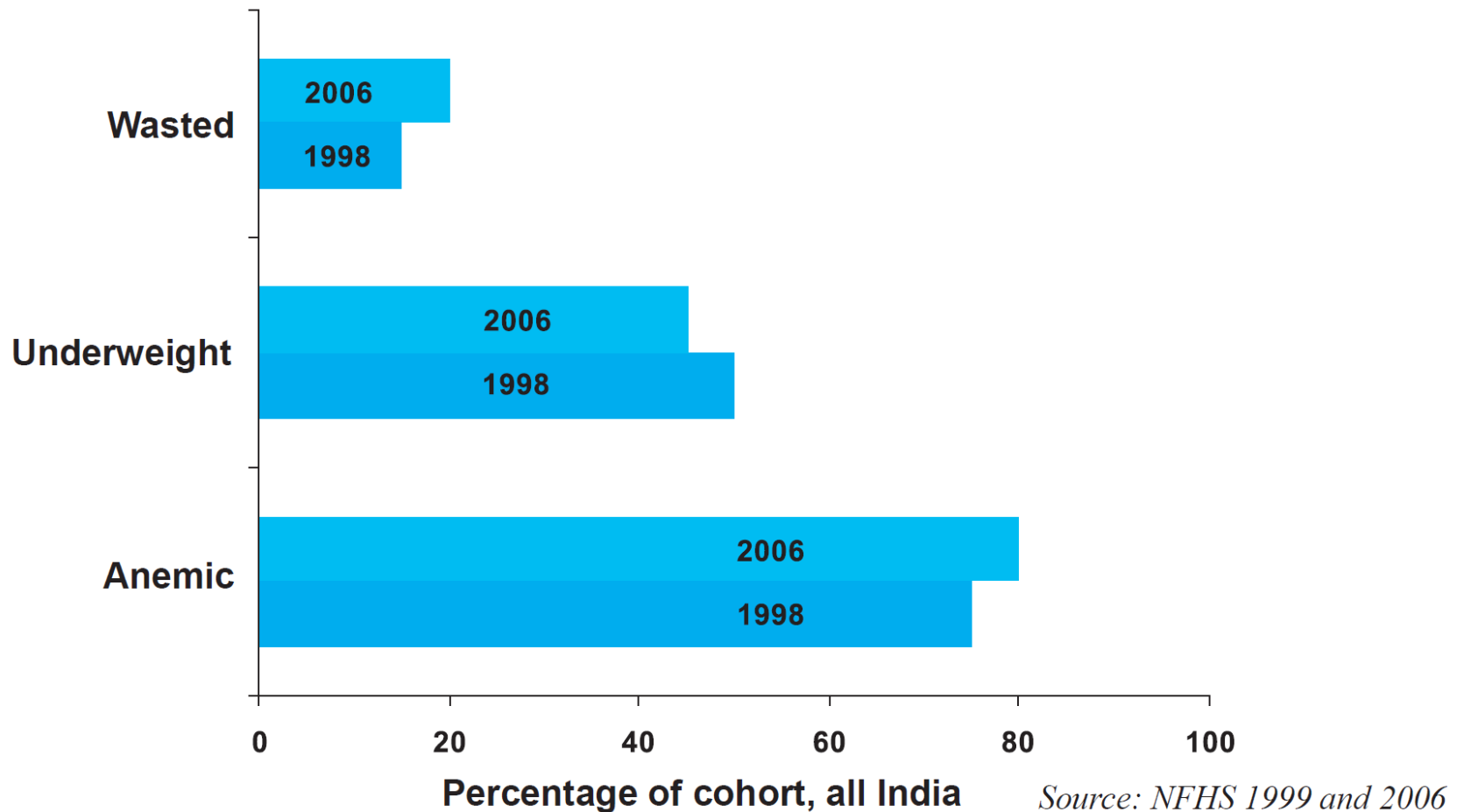
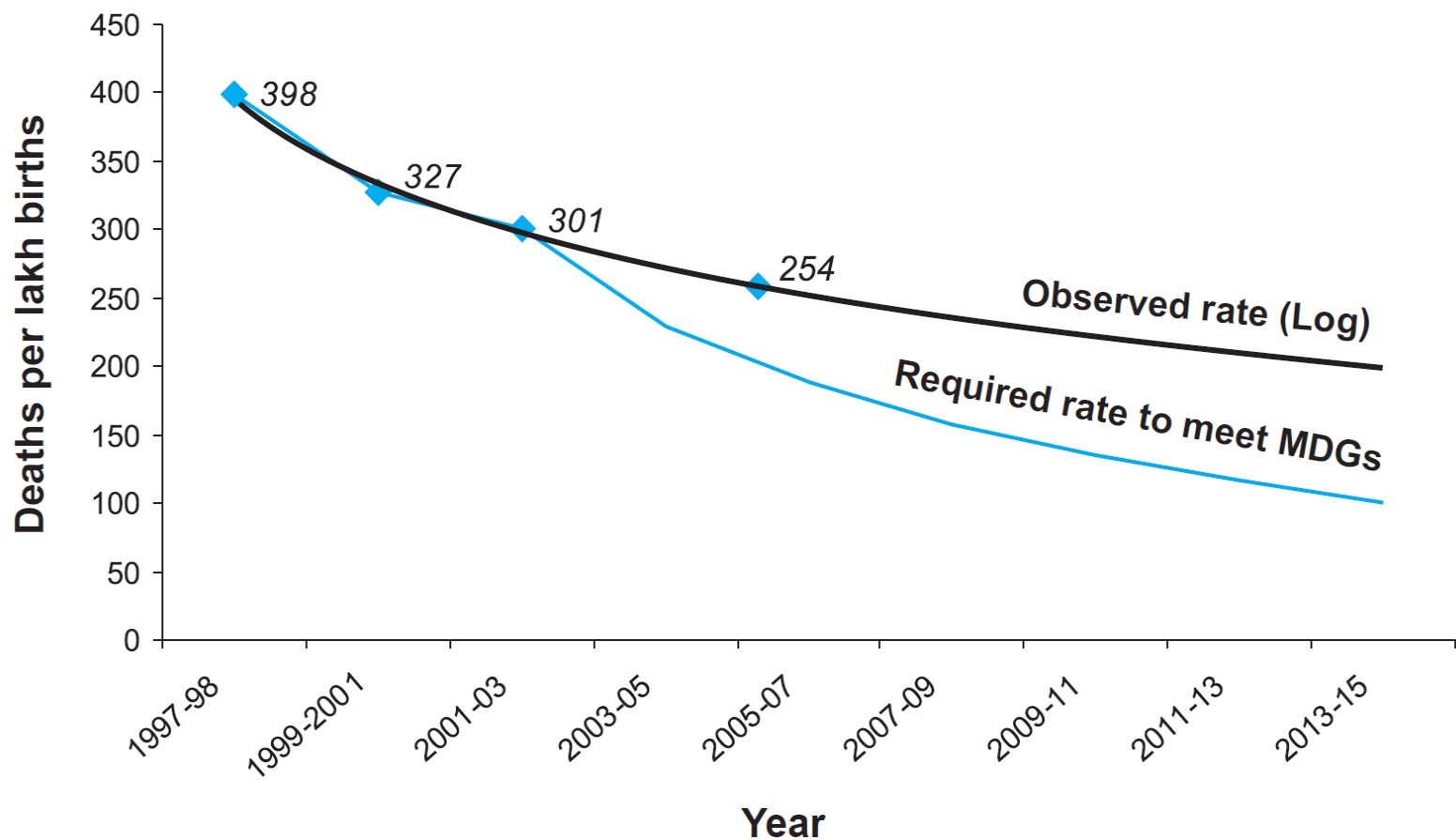
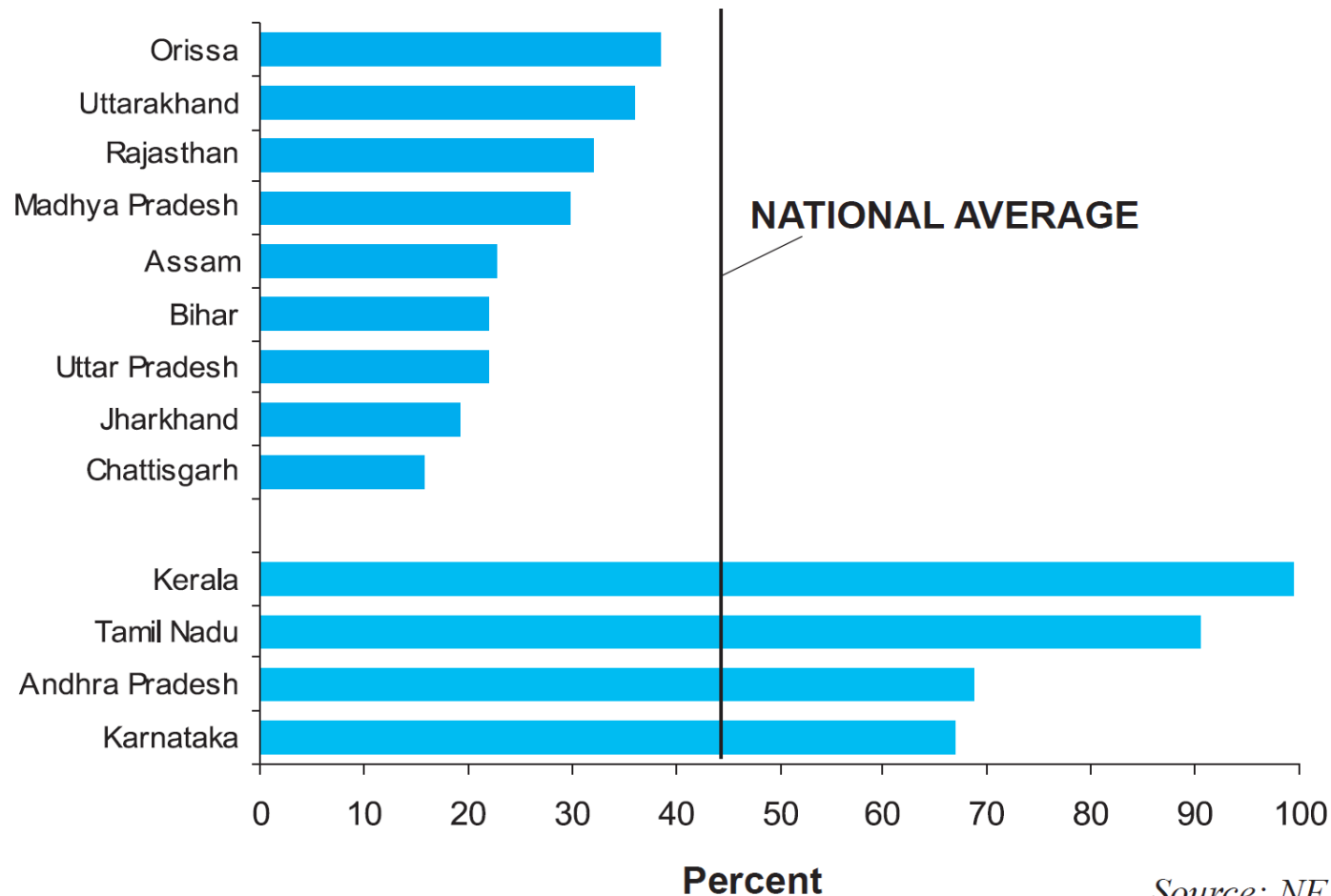


Figure 2.6 Maternal Deaths Per 100,000 Live Births,
Actual Trends 1997 – 2006,



Source: RGI 2006b

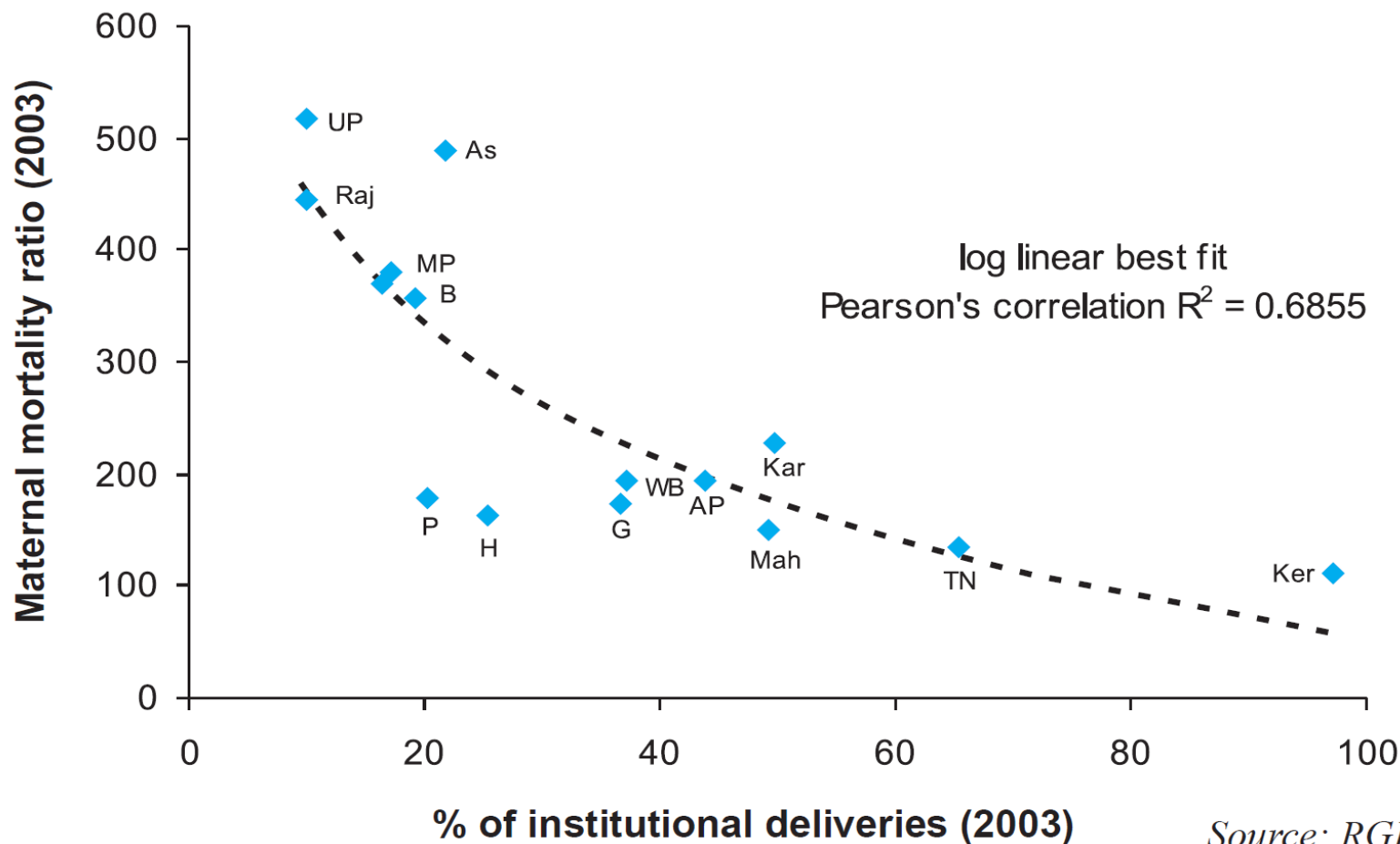
Figure 2.7 Institutional Deliveries in EAGA and Selected Other States, 2005 – 2006



Source: NFHS (2006)

SOURCE: Choosing Health - An Entitlement for all Indians
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Figure 2.8 The More Babies Delivered in Institutions With Skilled Care, the Lower the Maternal Death Rate



Source: RGI 2006b

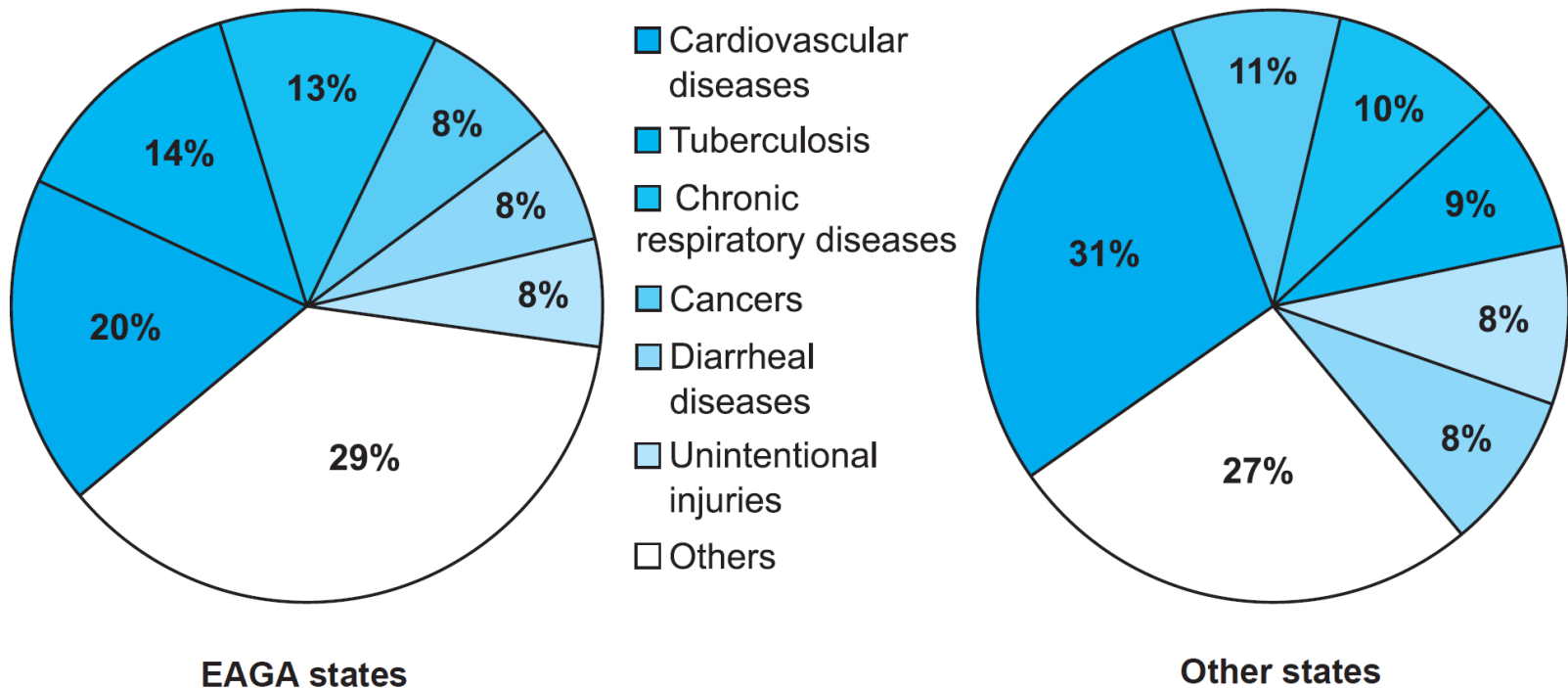
Table 2.3 Ratio of Females to Males Per 1000, Aged 0 to 6

<i>Year</i>	<i>Ratio</i>
1981	962
1991	945
2001	927

Source: Jha et al. 2006a

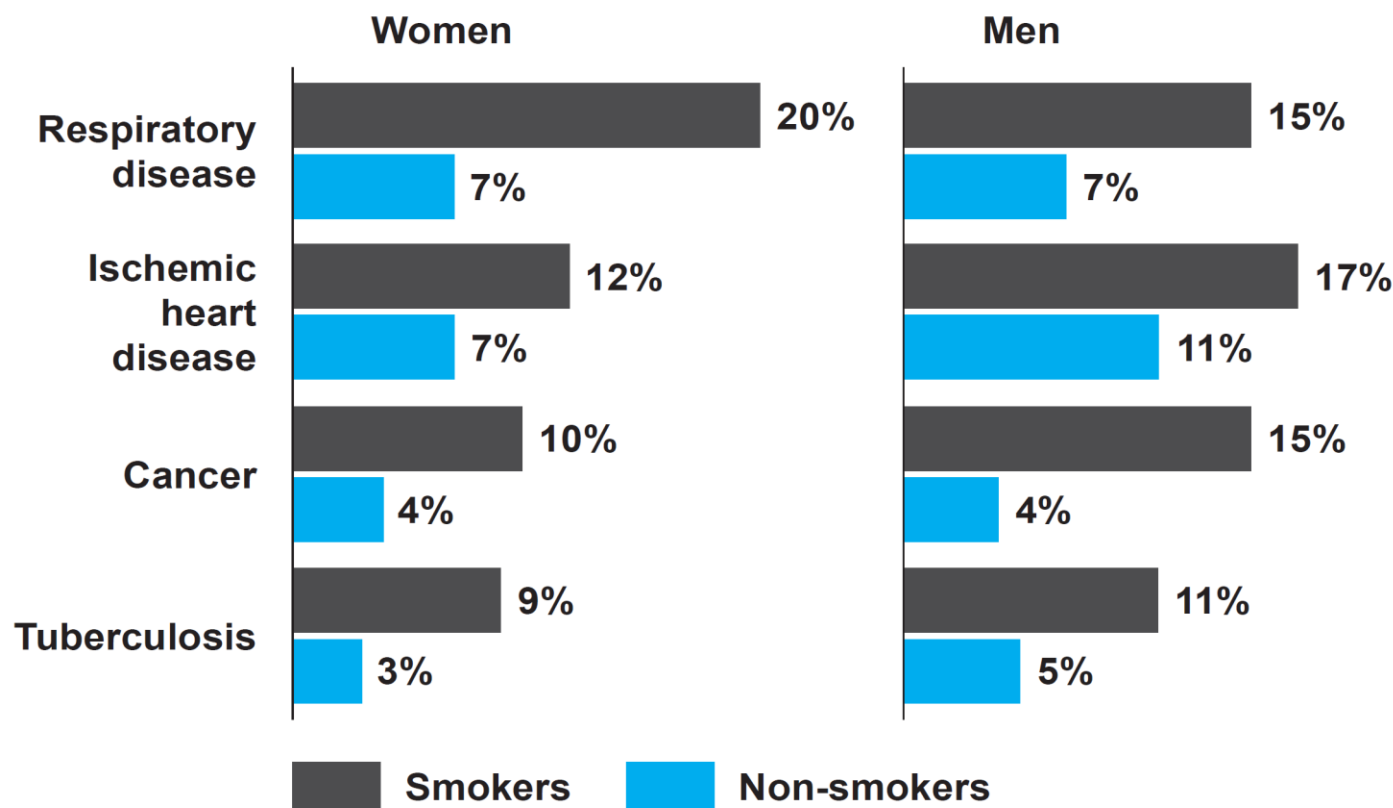
Figure 2.9 The Top Six Causes of Adult Deaths in Middle Age (Age 25-69 Years), 2004

FIGURE 2.9 THE TOP SIX CAUSES OF ADULT DEATHS IN MIDDLE AGE (AGE 25-69 YEARS), 2004



Source: RGI and CGHR 2009

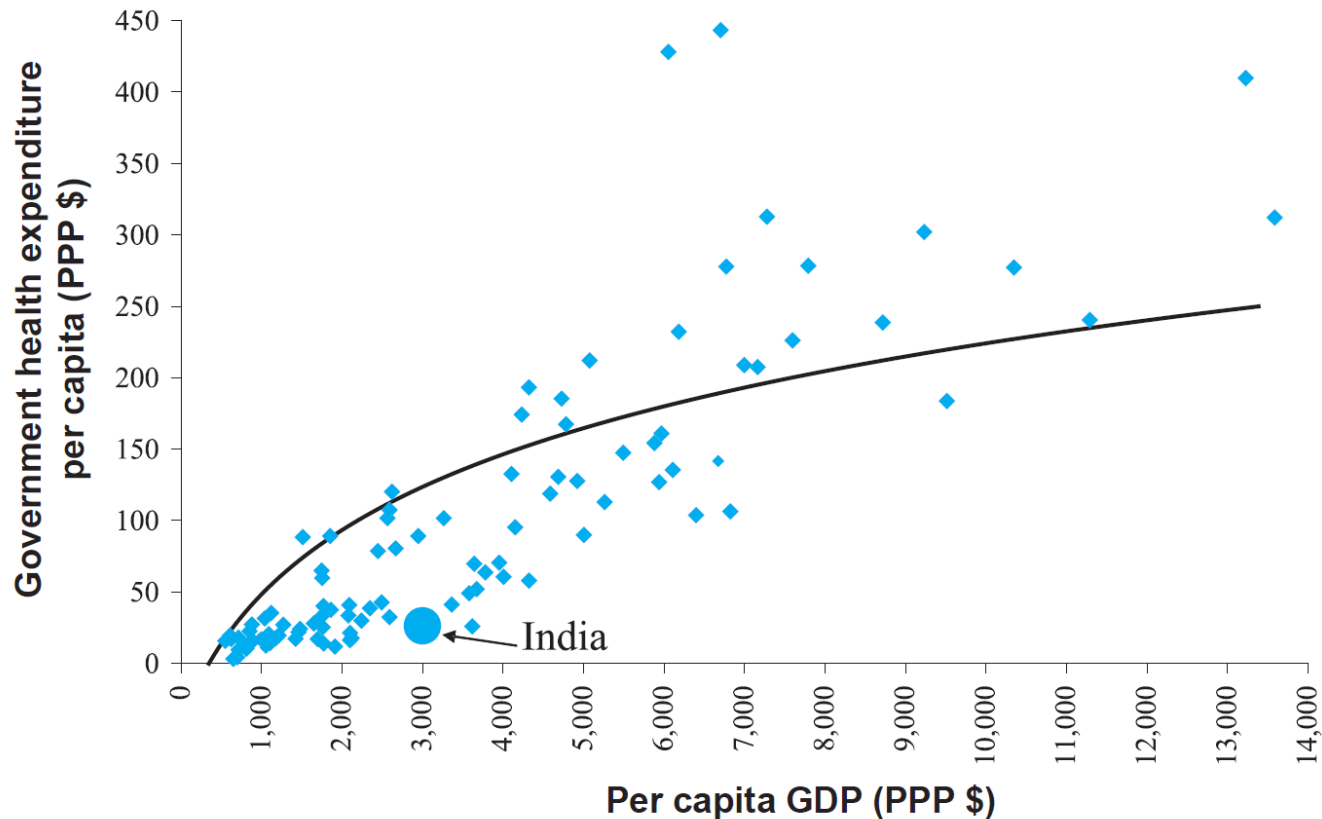
Figure 2.10 Risks of Death at Ages 30-69 Among Smokers and Non-Smokers by Disease in India, 2010, by Gender



Note: Risks are in the hypothetical absence of competing causes of death.

Source: Jha et al, 2008 (NEJM)

Figure 3.1 Per Capita Public Spending on Health in Relation to GDP in Countries With Low and Medium Development, 2003



PPP (purchasing power parity) equalizes the purchasing power of different currencies in their home countries for a given basket of goods.

Source: Deolalikar et al. 2008

Table 3.1 Shortfall in Public Health Service Facilities, 2004

<i>Level</i>	<i>Target ratio</i>	<i>Required additional facilities</i>
Community health centres	1 per 100,000 population	7,096
Primary health centres	1 per 30,000 population	11,598
Health subcentres	1 per 3,000 population	64,325

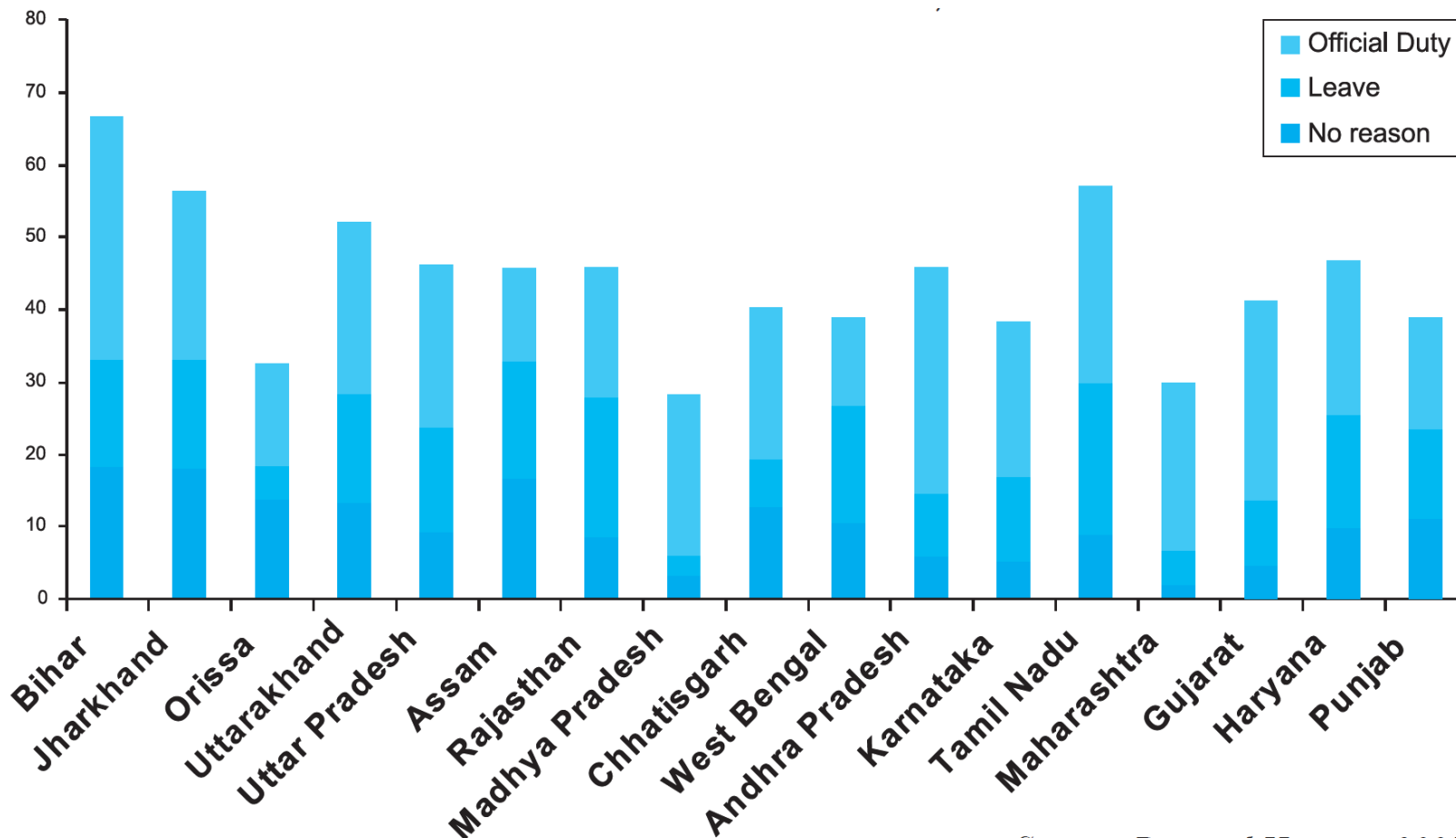
Source: Chow et al. 2007

Table 3.2 Percentage of Inadequate Public Health Facilities, 2004

	<i>India</i>	<i>EAGA states</i>	<i>Other states</i>
<i>District hospitals</i>			
Inadequate infrastructure	7.3	9.3	4.2
Inadequate equipment	15.9	15.5	16.7
<i>Community health centres</i>			
Inadequate infrastructure	37.2	46.8	29.9
Inadequate equipment	55.5	56.7	54.0
<i>Primary health centres</i>			
Inadequate infrastructure	68.2	85.1	39.1
Inadequate equipment	58.7	74.6	40.3
<i>Health subcentres</i>			
Without electricity	57.9	76.7	40.4
Without tap water	81.1	95.2	68.0
Without toilet	29.4	35.8	23.4

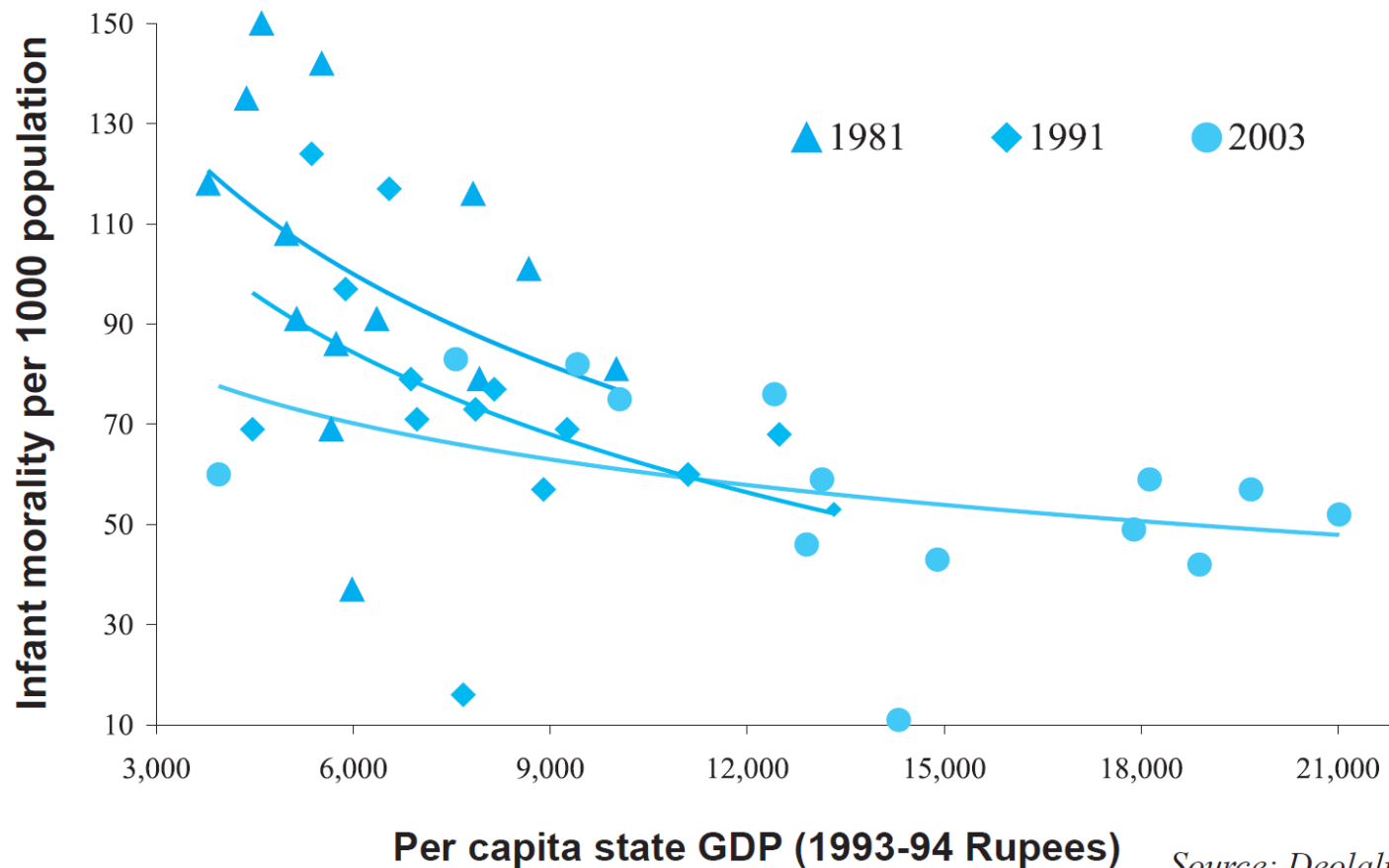
Source: Chow et al. 2007

Figure 3.2 Absenteeism Among Doctors by State & Reasons for Absence, 2003



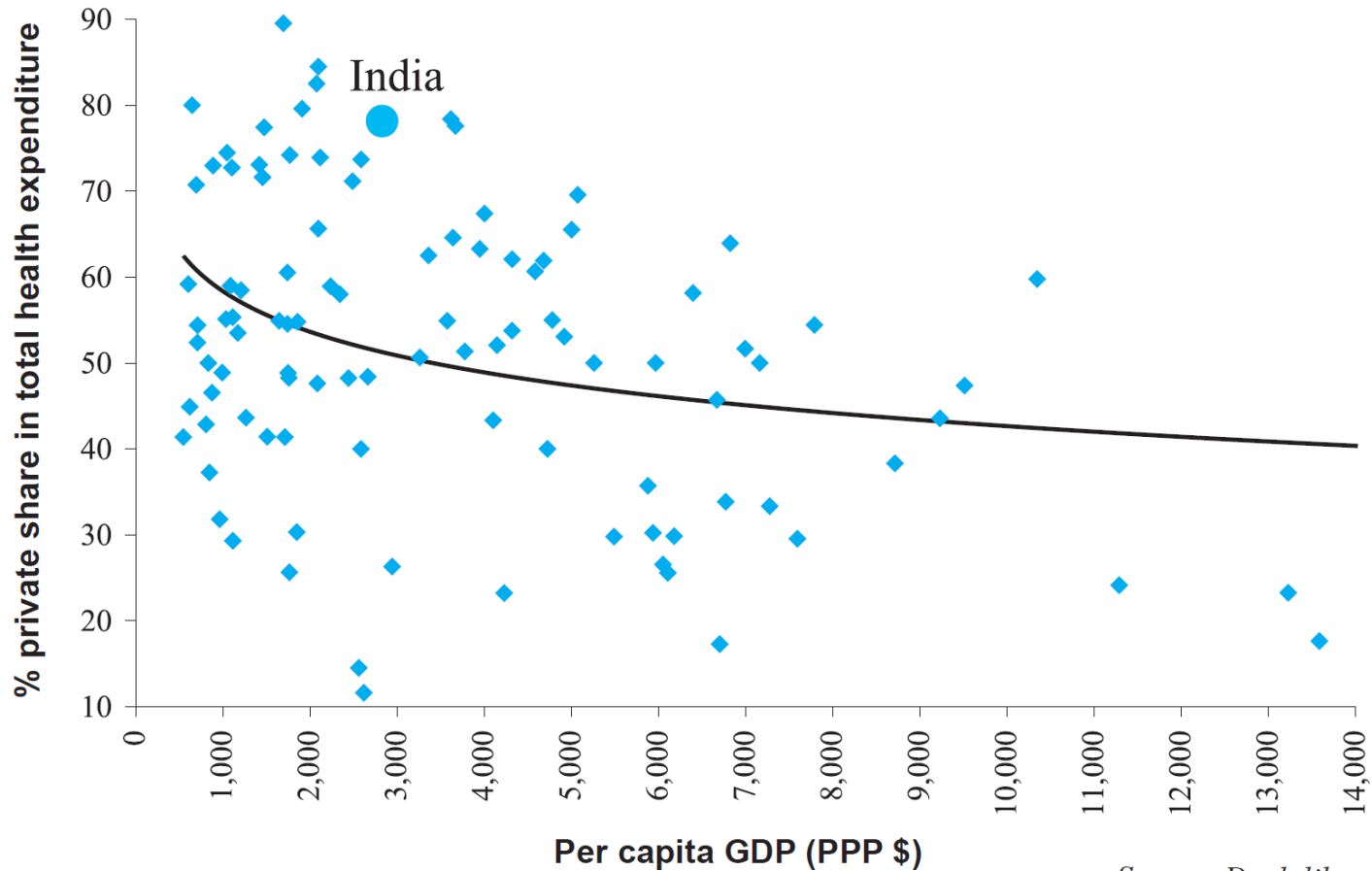
Source: Das and Hammer 2005

Figure 4.1 Relationship Between Infant Mortality Rate and Real GDP Per Capita Across States, 1981, 1991 and 2003



Source: Deolalikar et al. 2008

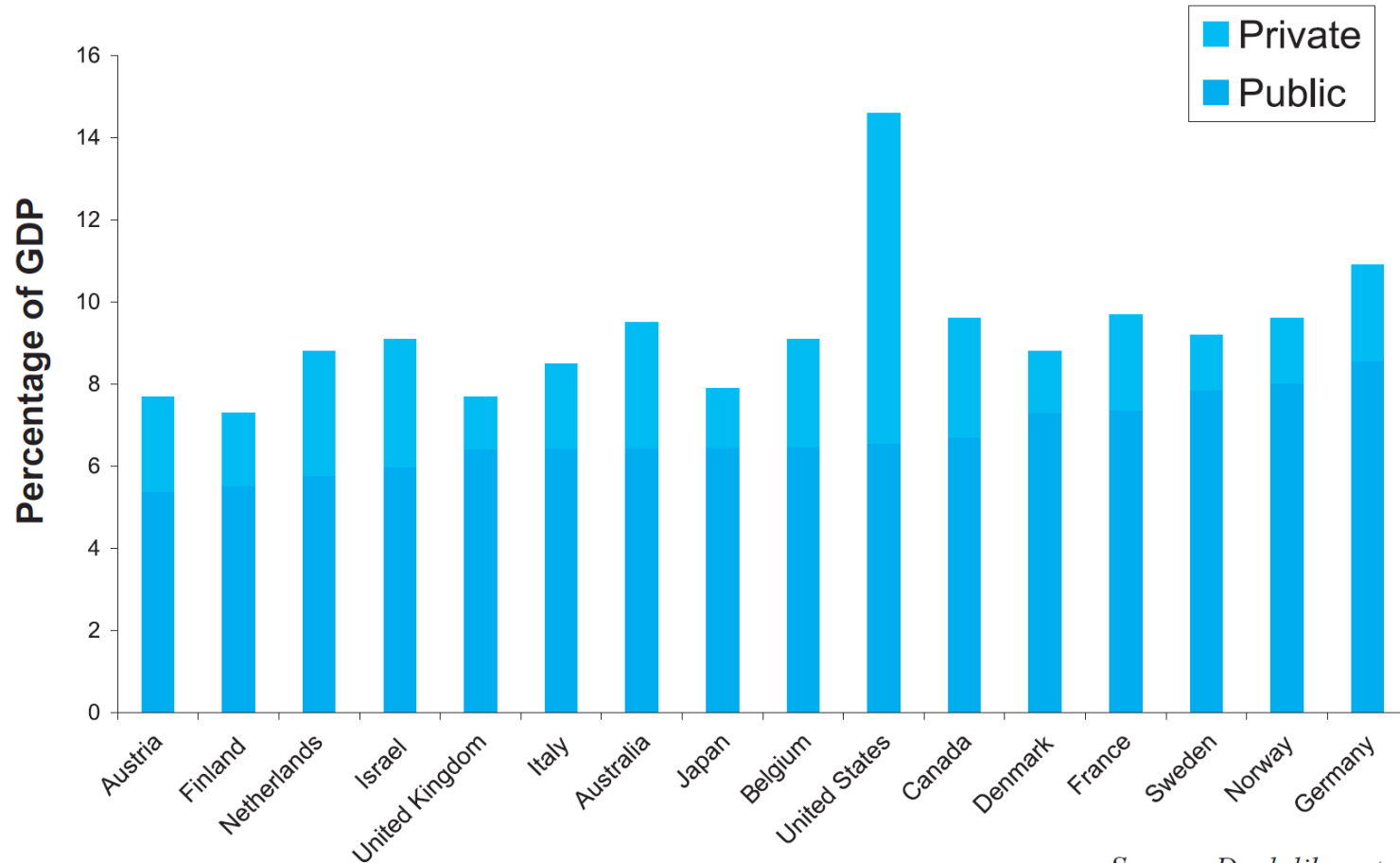
Figure 4.2 Percentage of Private Health Spending in Relation to Per Capita Income, Low and Medium Human Development Countries, 2003



Source: Deolalikar et al. 2008

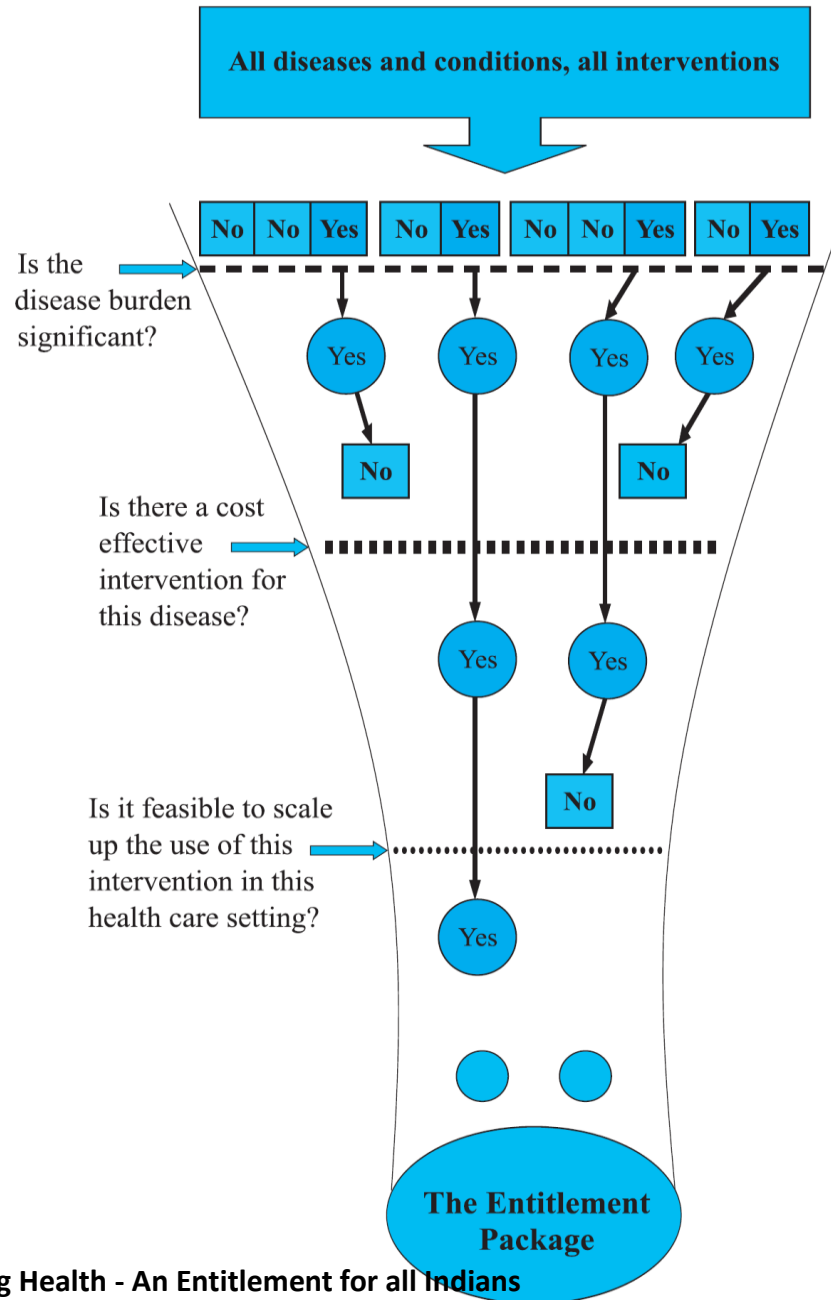
SOURCE: Choosing Health - An Entitlement for all Indians
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Figure 4.3 Public and Private Health Spending in Selected Higher Income Countries % of GDP, 2002



Source: Deolalikar et al. 2008

Figure 4.4
 A Three-Step Process
 for Prioritising Health
 Interventions



SOURCE: Choosing Health - An Entitlement for all Indians
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Table 5.1 The Entitlement Package in Summary

<i>Diseases and interventions</i>	<i>Annual cost per person (Rs)</i>			<i>Estimated number of deaths in 2004 (in 000's)</i>	<i>*Average number of deaths averted per year (in 000's)</i>
	<i>EAGA</i>	<i>Other States</i>	<i>Total</i>		
A. Maternal and neonatal deaths					
<i>Maternal</i>				65	34
A1: Institutional delivery at CHCs & expanded contraception	26.0	12.0	19.0		
<i>Neonatal intervention</i>				1,312	347
A2: All newborns receive postnatal care in institutions	19.0	10.0	15.0		
B. Deaths in children < 5 years					
<i>B1: Vaccine-preventable childhood diseases (milliary TB, polio, diphtheria, tetanus, pertussis, measles)</i>					
B1.1: 90% EPI coverage	2.7	0.5	1.5		
B1.2: 2nd measles dose	1.1	1.4	1.3		
B1.3: Add antigens to EPI:					
- Hepatitis B	1.6	2.0	1.8		
- Hemophilus influenza type B	6.6	8.6	7.8		
- Rotavirus	6.4	8.3	7.5		
- Pneumococcus	2.9	3.8	3.4		
<i>B2: Undernutrition</i>					
B2.1: Vitamin A and albendazole	0.7	0.5	0.6		
B2.2: Salt iodization	0.4	0.4	0.4		
<i>B3: Diarrheal diseases</i>					
B3.1: Oral rehydration therapy	1.6	0.9	1.2		
B3.2: Promote breastfeeding	0.5	0.3	0.4		
<i>B4: Acute pneumonia</i>					
B4.1: Improved case management	1.4	0.9	1.1		
C. Selected infectious diseases > 5 years					
<i>C1: Malaria</i>	11.0	5.5	8.0	284	142
C1.1: Chloroquine for P. vivax cases					
C1.2: Artemisinin-combination therapy for P. falciparum cases					
C1.3: Indoor residual spraying					
<i>C2: Tuberculosis</i>				590	64
C2.1: DOTS for sputum + cases	7.4	8.0	7.7		
C2.2: DOTS for sputum - cases	9.9	10.2	10.1		
<i>C3: HIV/AIDS</i>				80	261
C3.1: 80% condom use by sex workers	1.1	4.3	2.8		
C3.2: Voluntary counseling/testing to 1/3 of sexually active adults	2.9	11.0	7.3		
C3.3: Prevent mother-to-child transmission	3.4	13.0	8.4		
C3.4: Manage STIs	2.9	11.0	7.3		
C3.5: Antiretroviral treatment for 40% of symptomatic adults	6.7	26.0	17.0		
Subtotal of communicable, maternal and neonatal deaths			130	4,497	1,220

SOURCE: Choosing Health: An Entitlement for all Indians
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Table 5.1

The Entitlement Package in Summary (continued)

<i>Diseases and interventions</i>	<i>Annual cost per person (Rs)</i>			<i>Estimated number of deaths in 2004 (in 000's)</i>	<i>*Average number of deaths averted per year (in 000's)</i>
	<i>EAGA</i>	<i>Other States</i>	<i>Total</i>		
D. Selected noncommunicable diseases					
<i>D1: Cardiovascular disease</i>				1,983	587
D1.1: Aspirin, blood-pressure drugs, cholesterol lowering drugs for those with heart attacks or strokes	7.0	10.8	9.0		
D1.2: 33% increase in price of tobacco, warning labels, clean air laws, and mass information on risks	2.9	2.4	2.6		
<i>D2: Other (diabetes, cancers, respiratory disease)</i>				2,226	443
D2.1: Metformin treatment for diabetes for average of 3 years	1.4	2.8	2.2		
D2.2: 33% increase in price of tobacco, warning labels, clean air laws, and mass information on risks		included in above			
<i>D3: Cervical cancer</i>				4	1
D3.1: Once-lifetime screening for adult women using acetic acid and visual inspection	2.1	2.6	2.4		
<i>D4: Blindness</i>				-	-
D4.1: Cataract surgery	8.0	8.0	8.0		
<i>D5: Epilepsy</i>				-	-
D5.1: Phenobarbital treatment	16.0	11.0	13.0		
Subtotal of noncommunicable diseases	37	38	37	4,213	1,031
<i>E. **Other medical diseases affected by this package of intervention</i>				677	448
<i>F. Local priority cost</i>	100	100	100		
Total deaths addressed in Entitlement Package	253	277	267	9,387	2,699

* Premature deaths averted below 70 years. Annual average based on 30- year projections

** Chiefly infectious diseases in children over age 5, but excluding injury

Table 5.2 Priority Reforms: Selected Actions to Improve Health Outcomes

<i>Problem</i>	<i>Selected actions</i>	<i>Outcomes</i>
Poor allocation of resources	Focus resource allocation for maximum health gain	- Better health and macroeconomic gains
Underinvestment in public sector	<ul style="list-style-type: none"> - Increase government spending on health at central and state level to roll out Entitlement Package - Create incentives for state governments to improve service delivery by rewarding outcomes, financially compensating states that achieve reductions in mortality - Publicise clearly what is and is not covered by Entitlement Package - Building on National Rural Health Mission, invest in infrastructure, skilled staff, equipment, and supplies to deliver Entitlement Package, including urban areas 	<ul style="list-style-type: none"> - State budgets for health increase - Public demand for Entitlement Package services increases - Public knowledge of Entitlement Package creates demand for best value and rejection of overpriced services - Effective coverage of Entitlement Package services increases - Quit rates for tobacco smoking rise - Mortality declines for all conditions covered by Entitlement Package
Heavy reliance on private finance and out-of-pocket payments for unregulated services, leading to inefficiency, waste, and impoverishment	<ul style="list-style-type: none"> - Deliver Entitlement Package of universal services, financed through income tax or other social prepayment system, based on WHO principle of "coverage for all, not coverage of everything" - Control cost escalation by regulating private and public providers' services 	<ul style="list-style-type: none"> - Mortality declines for all conditions covered by Entitlement Package - Number of people impoverished by catastrophic health spending is reduced
Management failures linked to capacity	- Invest in capacity of managers to focus on achieving health outcomes	- Better cadre of managers
Lack of capacity for strategic planning and evaluation of health objectives	<ul style="list-style-type: none"> - Extend National Rural Health Mission - Develop state strategic planning units to focus on health objectives, initially through the Entitlement Package - Use planning units to advocate for investment in skilled staff, training, monitoring, infrastructure - Invest in training limited number of public health managers 	<ul style="list-style-type: none"> - States take ownership of health objectives - States invest more in health and demand additional funding from central government, private finance, etc.
Management failures linked to inadequate information	- Improve flow of information to purchasers and users of services, driving demand for quality	- Better efficiency
Lack of accountability of health providers to government	<ul style="list-style-type: none"> - Extend National Rural Health Mission, set and enforce national regulatory frameworks for care and treatment standards, applied to both private and public providers - Purchase services only from quality- 	<ul style="list-style-type: none"> - Purchasers and public gain access to information about standards and performance of health providers, public and private - Quality, effectiveness, and efficiency of health services rise

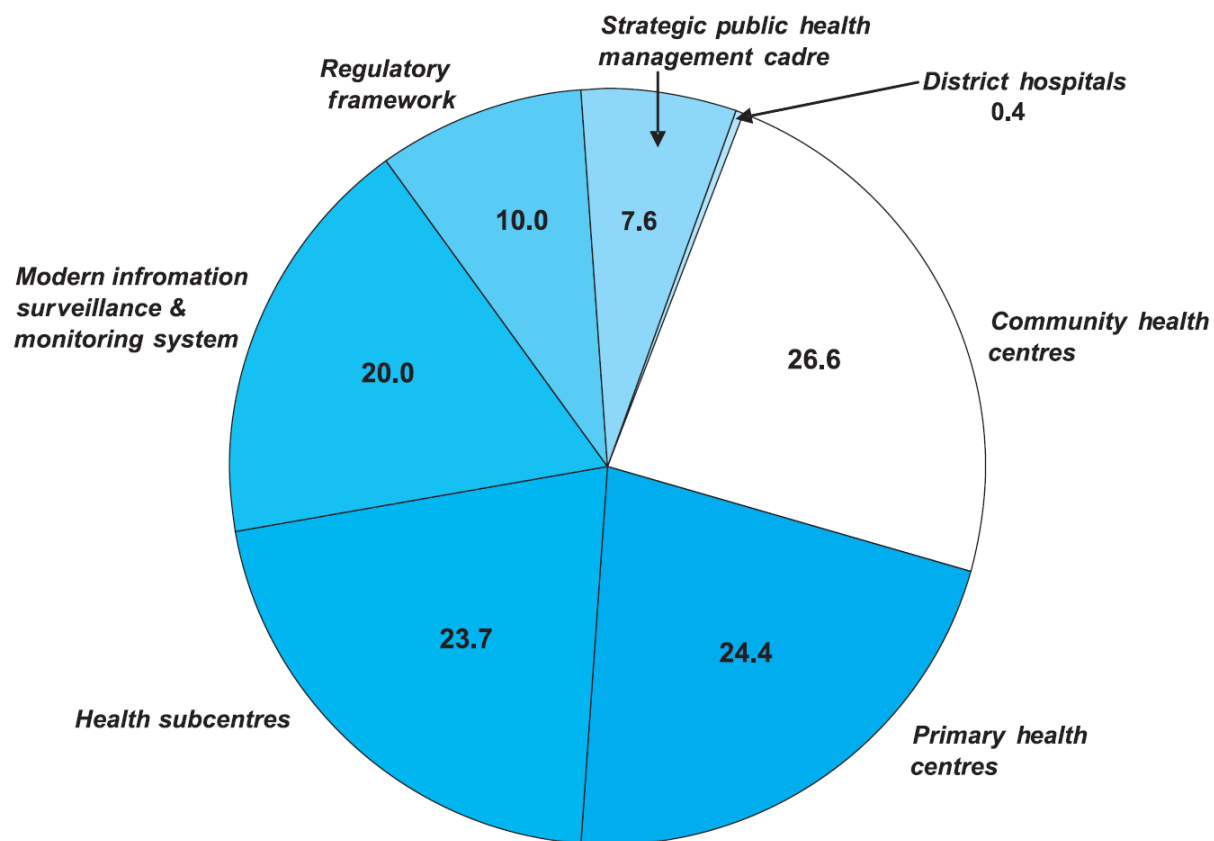
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Table 5.2 Priority Reforms: Selected Actions to Improve Health Outcomes (continued)

<i>Problem</i>	<i>Selected actions</i>	<i>Outcomes</i>
	<ul style="list-style-type: none"> - Close down any provider that fails to meet standards within reasonable timeframe and with reasonable technical support - Regulate services in Entitlement Package, extend as budget grows - Invest in developing management information system to track providers and compare performance and outcomes across states - Conduct independent audits of data quality 	<ul style="list-style-type: none"> - Reduce wastage by private sector - Better choice for consumers using public or private sector
Lack of accountability of health providers to politicians and public	<ul style="list-style-type: none"> - Publish annual report cards on a set of key health indicators - Engage panchayati raj institutions to act as advocates for citizens' entitlement to health services, raising awareness of entitlement and provider performance 	<ul style="list-style-type: none"> - State politicians are held to account for outcomes and compared with neighbours, fuelling their demand for better performance and increased resources for health services - Public demands better services - Demand is linked directly to outcomes
Poor human resource management: lack of job descriptions, contracts, accountability structures, incentives for performance	<ul style="list-style-type: none"> - Require publication of job descriptions for all posts - Specify minimum standards for performance, regular reviews, and rewards for professional development in contracts - Reward providers for evidence of improved performance - Reward providers for increasing demand for Entitlement Package services (funding follows patients) 	<ul style="list-style-type: none"> - Vacant posts and absenteeism fall, service gains efficiencies - Higher user numbers increase providers' income, permitting better staffing and remuneration - Use of services covered by Entitlement Package increases
Governance failures due to wider climate of corruption	<ul style="list-style-type: none"> - Increase transparency of resource flows, recruitment, and promotion 	<ul style="list-style-type: none"> - "E-governance" climate creates greater transparency and exposes politically motivated or corrupt appointments, promotions, procurement, and contract awards
	<ul style="list-style-type: none"> - Depoliticize recruitment, promotion, and transfers of medical staff by online advertising and application system - Procure supplies only from agreed essential drugs and equipment list, based on published prices and quality standards - Publish tenders and awards for contracts for building, maintenance, etc. 	

SOURCE: Choosing Health - An Entitlement for all Indians
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Figure 5.1 Annual Estimated Per Capita Costs (Rs) for Addressing Shortfalls in Public Health System Over a Decade



* The total per capita cost for all of India is Rs 112.7 per year.
The total for the EAGA states is Rs 121.9 per year and for Non-EAGA States is Rs 104.2 per year.

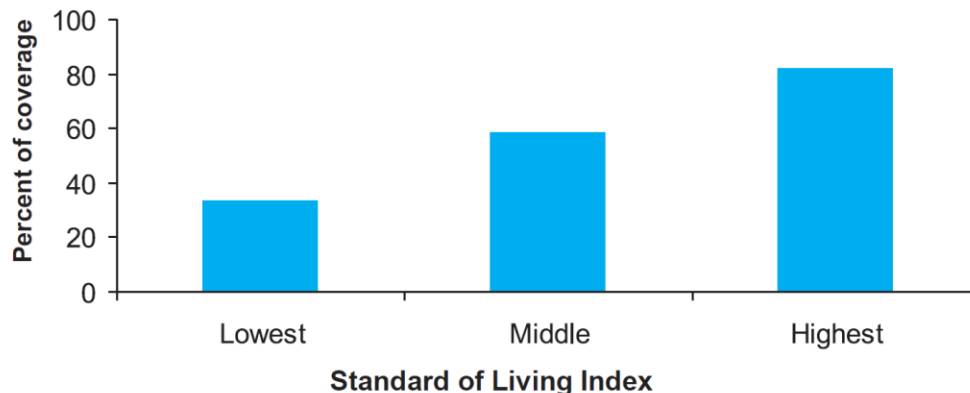
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Table 5.3 Total Additional Costs for Entitlement Package and System Reforms, 1st Decade, Per Year

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Catalytic system reforms	120	0.4
Total	400	1.2

Figure 6.1 Why the Poor Gain Most From Services Made Available to All

Panel A. Current beneficiaries: DPT-3 coverage in India, 2005-2006



Panel B. Equity implications of universalizing immunisation coverage (90% coverage in each tertile)



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Table 6.1 Timeline For Action

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Appendix A: Major Indian States by Income Group

	Empowered Action Group (EAG) States* + Assam	South	Others
LOW INCOME	Bihar Uttar Pradesh Rajasthan Madhya Pradesh Orissa Uttarakhand Chhattisgarh Jharkhand Assam		
MIDDLE INCOME		Karnataka Tamil Nadu Kerala Andhra Pradesh	West Bengal
HIGH INCOME			Punjab Delhi Haryana Gujarat Maharashtra

* The Empowered Action Group (EAG) States are those with high fertility rates and low socio-demographic indicators.

Source: Ministry of Health & Family Welfare, Govt. of India. Empowered Action Group (EAG). Available at URL: <http://mohfw.nic.in/EAG.pdf>. (Accessed on 3/05/07).