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Assam: Health Policy Note

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Acknowledgements

The team that developed this policy note consists of Paolo Belli, Yi-Kyoung Lee, Peter Heywood, and Himani Pruthi. The team was supported in Delhi by Nina Anand, and in Washington by Mohammad Khalid Khan.

During the last months, the mission team visited Assam twice (in June 2003, and in February 2004). During the missions, the team met with a broad range of health sector stakeholders including government officials, public and private health providers, representatives of the private sector, and external donors. This report would not have been possible were it not for their remarkable support. During the mission the team also had the opportunity to conduct a field visit to the Districts of Nalbari and Darrang, and to see a few public and private health facilities.

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Table of Contents

Assam Health Policy Note

BACKGROUND AND OBJECTIVES

1. As preparatory work for a possible future state health systems project in the state of Assam, the World Bank has decided to develop a Policy Note, in collaboration with the Government of Assam (GoA). The decision to write the Note follows a request from the Government of India, Department of Economic Affairs (DEA), dated 02/04/2003, for the World Bank's assistance to the Government of Assam in developing a health sector project.

2. This Policy Note is meant to be a discussion document, to be used to set out the options for future development of the health system together with our counterparts, based on an analysis of existing data on health outcomes, health financing, utilization of current health infrastructure in the public and private sector, as well as on the description and assessment of the GoA's current policy developments, and of donors' recent investments and plans for the future. The purpose of this Note would be to set the evidence basis for identifying key strategic directions for reform of the health sector.

3. The specific objectives of this policy note are as follows:

   - to analyze existing evidence on health outcomes, health financing, utilization of current health infrastructure in the public and private sector,
   - to identify the health system's strengths and weaknesses,
   - to review recent innovations in the health sector,
   - to outline key strategic options and policy recommendations that would improve the health outcomes in the State.

4. In the course of drafting this note, the team had extensive discussions with various health sector stakeholders in Assam, and visited several facilities in and around Guwahati. Information gathered from the field visit is supported with an analysis of data from the National Family Health Surveys I and II, the Reproductive and Child Health Survey (RCH) and the National Sample Survey 52nd round (NSS).

5. The structure of the report is as follows:

   I Current Health Status and Health System Performance
   II Health Care Financing
   III Public and Private Health Delivery Systems
   IV Health Seeking Behaviour
   V Recent Initiatives
   VI The Way Forward

Executive Summary

WHAT DO WE HAVE?

I. The state:

6. The population of Assam is 26.64 million (2001), more than 85% of which live in rural areas. The state is one of the poorer states in the country, with an estimated GDP per capita equal to Rs. 12,163, which is less than two thirds of the national average (2001-02). Growth in the 1980-90s has been one of the lowest in the country (just above 1 percent real per capita growth), although the economic situation is reported to have improved in more recent years. The economy is predominantly rural (40 percent of Net State Domestic Product is from agriculture, and 74 percent of the population is engaged in agriculture), and it is heavily dependent on the tea estate sector (800 tea gardens that produce 15% of the world tea). The non-agricultural principal activity is oil and gas extraction and transformation (there are two oil refineries in the North-Eastern part of the state, plus a third one is under construction). Population below poverty line is estimated to be 36 percent, scheduled caste 7.4 percent and scheduled tribe 12.8 percent of the total population.

7. In terms of socio-economic indicators, Assam ranks among the poorer states in the country. In 2001, the Human Development Index was estimated to be equal to 0.386 (National average equal to 0.472). In 1998, 40.9% of the female population was illiterate (India average is 48.6) [1], only 26.4% of households had access to electricity (India average is 60.1%), and 60.1% had access to safe drinking water (India average is 77.9%).

8. In terms of security, the situation has been improving over the last 7-8 years, after a long period of continuous insurgency and social strife. The last time a government official was attacked and killed was in 1996. However, there is still some lingering social unrest in the more peripheral parts of the state, with sporadic acts of violence, particularly in the tea plantations.

II. Health status and health system performance

9. Assam is below the National average in terms of priority health indicators:

   (i) IMR – 69.5 per 1000 (National average 67.6). It was 97.3 in 1985. U5MR is equal to 89.7

   (ii) MMR – Estimated at around 400-450 per 100,000 (409 according to SRS 2001, and 450 according to a 1995 UNICEF study). Though no precise data is available, MMR is probably very high given the low levels of supervised deliveries (see below).

[1] Population 6 and above

(iii) Life expectancy is approximately 56.2 years (National average is 60.7 years)

(iv) Fully immunized children 12-23 months, 17.0% (India average is equal to 42%).

(v) Institutional deliveries are only 17.6% of the total (India average is 33.6 %). Only 21.4% of home deliveries are estimated to be assisted by a health professional (National average is 42.3%).

10. In fiscal year 1999/00 the total per capita expenditure on health was estimated to be Rs. 415 or US$ 8.7 which is equal to 3.69 percent of per capita Gross State Domestic Product (see Chapter 2). More than 68 percent of the money for health comes from private sources (mainly out-of-pocket expenditure by households) and the rest 32 percent from public sources, mainly funds channeled through the Department of Health and Family Welfare, and the Centrally Sponsored Schemes.

11. The performance of the health system in terms of coverage of the population and quality of care is problematic (see Chapter 1,3 and 4), particularly in the rural areas. So far, the main intervention by the state government to reduce morbidity and mortality seems to have been the establishment, maintenance and staffing of a publicly funded network of health facilities. Coverage by the public sector is incomplete, and several parts of the state are still without essential services. Moreover, the public health sector seems to be poorly functioning to a large extent, for the following reasons:

- essential services are chronically under-funded;
- qualified human resources are lacking, and absenteeism especially of doctors is high.
- hospitals, concentrated in the urban areas, are difficult to reach, and are used more by the upper income groups than by the poor; in the more remote parts of the state facilities at all levels lack basic equipment, medicines, and are short of staff;
- any public health, disease prevention and health promotion activity is hardly been performed/undertaken;
- the existing numerous initiatives and programs are fragmented between different government departments, there is lack of intersectoral collaboration, skill miss-match, and activities are frequently discontinued whenever key personnel is transferred;
- management at all levels is poor; there is a lack of managerial capacity, and frequently undue political pressure determines decisions of a technical nature;
- no effort is made to engage private providers, which could play an important role in delivering essential services more effectively.

12. The above reasons can all be summarized as insufficient spending, poor allocation of public spending, and lack of sound management.

13. Assam is characterized by a vast network of private sector health facilities, mainly associated with the tea estates. The private sector has the dominant position in ambulatory care. It also includes voluntary and mission hospitals and clinics, and a large force of less than fully qualified health providers, active particularly in the rural areas (see Chapter 3 and 6). However, the state does not take into account the private sector at all when it sets the vision for the future, or when it plans and operates its health programs. There is little information concerning the precise capacity, nature, and quality of these providers.

WHERE TO GO FROM HERE?

14. The Government of Assam needs to step up its effort to improve the health of its population, focusing on some priority health goals. Given the current level of disease burden, which is still dominated by communicable diseases, particularly in children, and unacceptably high maternal mortality, these priority goals should include:

    a. decrease infant and child mortality

    b. decrease maternal mortality and

    c. control and reduce infectious diseases.

15. In the past decade some improvement in goals a) and c) has been achieved mainly due to the improved economic situation. However, still much needs to be done. To make further progress with respect to the aforementioned key indicators, there is a need to significantly improve the quality and coverage of essential services which would include: increased coverage of immunization, increased coverage of supervised deliveries, improved neonatal care, enhanced prevention of diseases for which there are already good preventive interventions, early recognition and prompt and effective treatment of life threatening illnesses (especially ARI, diarrhea and malaria), and improvement in child feeding practices to prevent malnutrition.

16. The Government of Assam is in a very difficult fiscal situation (see Chapter 2). In our opinion, there is still scope for increasing expenditure on essential health care services, and more priority and funds should indeed be given for health and other social services [2]. However, it is unrealistic to expect that significant additional resources will be available for the sector in the near future. Thus, in order to increase expenditure on essential services, the Government needs to create some fiscal space also by reallocating resources away from non-strategic programs and activities with less potential health impact.

17. At the same time, there is a need to improve the "value" for the money spent on health. Just trying "more of the same" will not guarantee the achievement of improved health outcomes. Two issues stand out as critical in primary care: 1) how to engage private providers (formal and informal, particularly rural medical practitioners or RMPs in remote, poor areas) so that they can enhance the quality of their services; 2) how to change the incentive structure/accountability mechanisms so that the public sector, particularly at the CHC, PHC and subcentre level, becomes more effective/less dysfunctional. In this respect, we do think that the current reform and capacity strengthening effort at the district level initiated through the EU sponsored program is in the right direction. However, the Government should also consider experimenting with the more innovative delivery mechanisms, such as strengthening

[2] The Department of Health and Family Welfare should also agree with the Department of Finance on a financing plan for the health sector for the next decade linked to the priority health outcomes. It will need to:

a) Recognize that there are real fiscal constraints.
b) Set priorities for public expenditure on health based on priority outcomes.
c) Emphasize that achieving the priority health outcomes requires that more resources be allocated to them.
d) Identify the sources from where the funds for these high priority activities will come and ensure that they are protected over the next decade.

the role of nurses/ANMs, promoting demand-side financing, team work, outreach activities, accountability based on results.

18. In conclusion, Assam is certainly one of the poorest and neediest states in India, and has suffered on account of the continuous period of social unrest and insecurity experienced in the past. External donor's support for the state's health system development is currently much needed.

19. However, any new investment project must contain a strong policy and reform component to achieve the desired improvements in priority health outcomes. Exclusively focusing on strengthening secondary care infrastructure, as suggested in the original proposal for support received from the Government (see Chapter 5), would not achieve the desired priority goals unless the new investments are accompanied by structural reforms. These issues are being discussed with GoA.

20. In the meantime, the Department of Health and Family Welfare and the World Bank team have agreed that there is a need to improve our information basis, and to initially focus on a survey of the private sector, with support from the Indian Medical Association, and on collecting more disaggregated information at the district level on health and health system performance. This information is being collected and will be further analyzed. As we gain a better understanding of how the health system operates in Assam, we can be in a better position to talk about the details of reform options, and possibly the design of a new operation/system.

POLICY RECOMMENDATIONS

21. Policy recommendations are summarized in the Policy Matrix at the end of the Note, and include:

- Strengthening delivery of maternal and child services
- Improving stewardship and management.
- Engaging the private sector.
- Reforming the organization of primary health care services, taking advantage of contracting out to private sector providers, and of the ongoing decentralization process to improve accountability.
- Strengthening health care financing, by making allocation criteria more transparent and equitable.

Health status and health system's performance in Assam

22. Health indicators in Assam are generally below the National average, reflecting the relative poorer socio-economic condition of the state relative to the rest of the country. However, some of the priority health outcomes targeted for improvement by 2015 (the Millennium Development Goals, MDGs. See Chapter 5) are close to the National average.

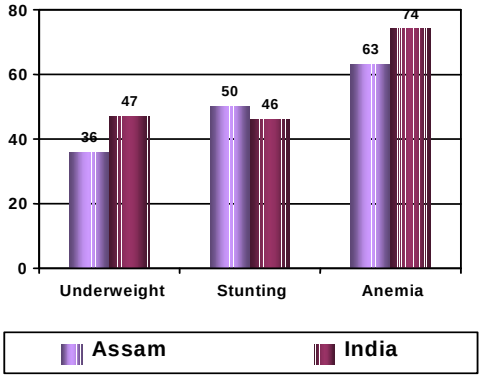
Table 1.1: Key Development and Health Outcome Indicators (1995-1998)

	Per capita income (Rs current prices 2001/02)	**Poverty Headcount Ratio- (1999/00)**	**Infant Mortality Rate- (per 1,000)**	**U5 Mortality Rate (per 1,000)**	**Maternal mortality rate (per 100,000)**
All India Average	20,198	26.1	67.6	94.9	453
Assam	**12,163**	**36.0**	**69.5 (78 according to SRS)**	**89.5**	**436**
West Bengal	20,039	27.0	48.7	67.6	389
Rajasthan	15,650	15.3	80.4	114.9	550
Uttar Pradesh	11,130 (1999-00)	31.2	86.7	122.5	624
Orissa	11,710	47.2	72.9	105.1	470
Bihar	6,052	42.6	81.0	104.4	738
Marahastra	29,873	25.0	43.78	58.1	336
Kerala	26,603	12.7	16.3	18.8	87

State GNP and poverty count: WDI,2002; IMR, U5M,: NFHS- II, 1998/99; MMR, The progress of Indian states, UNICEF, 1995

23. **As in other parts of India, women and children disproportionately suffer from poor health outcomes**. A high percentage of mothers and their children are still malnourished, which contributes to explain the high morbidity and mortality rates . In 1998, 69.7 percent of women were reported as anemic, which is one of the highest proportions in the country. For children, the proportion is 63 percent, as indicated in Figure 1.1 below.

Figure 1.1: Key nutrition indicators for children (under age 3), 1998



Note: % Underweight = % Weight for age <– 2SD; % Stunted = % Height for age <– 2SD.
Source: NFHS II 1998-1999

MAIN CAUSES OF DEATH

24. Focusing first on **maternal, infant, and child mortality,** we note that most deaths are for preventable causes, and could be avoided with better nutrition and a better functioning health system.

    - A survey conducted in 1997 (source: Assam Medical College) noted that maternal mortality accounts for 16.29 % of the total number of female deaths in the 15-44 age group. The same study group investigated the cause of 150 maternal deaths. The four major causes were identified as: anemia (29.3%), bleeding (20.3%), abortion (18.14), and toxemia (13.5%). **The proximate causes of the high number of maternal deaths in Assam are malnutrition, anemia, and the lack of prenatal care and appropriate care during and immediately after birth**, which are particularly severe among the poor (see next section, on health system's performance)**.**

    - **Infant and Child Mortality are also largely due to preventable and curable causes**. Poor maternal health and education result in poor child health. Approximately 63 percent of infant deaths occur in the neonatal period (first month), and the rest in the post-neonatal period (1month-1year). Low birth-weight, poor nutrition, and post-birth infectious diseases are the main proximate causes of neonatal deaths. According to a 1994 Survey of the Causes of Death, neonatal and post-neonatal causes together account for 12.9% of total mortality in the state (SRS, 1994). Note that only 43 percent of children are exclusively breastfed during the first three months (Indian average is equal to 55 percent). A 1997 survey of 93 infant deaths (source: Assam Medical College) showed that the three principal causes were: diarrhea (35.8%), prematurity (33%), respiratory infections (8.9%). For 1-5 year-old (which account for another 1/3 of the total under 5 mortality rate), a study of 450 deaths showed that the three main causes were ARI (38%), gastroenteritis (30%), and Malaria, Meningitis and Viral Infections (22%).

25. **Communicable diseases are still a major public health issue among adults.** Although we lack accurate data on burden of disease, the evidence available indicates that prevalence and

incidence of several communicable and parasitic diseases, including malaria, TB[3], Japanese encephalitis, gastroenteritis, and leprosy, remain extremely high. Tackling communicable diseases needs to become a state's priority. According to a 1997 facility survey mainly in district and subdistrict hospitals by the Department of Community Medicine, Assam Medical college, among adults infectious and parasitic (I&P) disease is still the leading cause of death among adults, accounting for 21% of the total. Deaths from digestive system diseases and from respiratory diseases are also significant (respectively, 12.3% and 10.5% of the total). These findings are partially in line with the 1994 Survey of the Causes of Death, which indicated that one in four deaths is due to I&P diseases. These includes deaths due to malaria (7%), influenza (6.9%), gastroenteritis (5.5%), tuberculosis (4.2%), typhoid (0.8%) and rabies (0.5%).

26. **Deaths from injury, suicide, poisoning and road accident are also significant**, 11.3 of the total. A study reports that in 1994 826 people were killed and 2,922 were injured in road accidents in the state, 84 percent of which occurred on the national highway cross-cutting the state.

HEALTH SYSTEM'S PERFORMANCE

27. Health system performance leaves much to be desired in Assam. **The utilization of health facilities and fully qualified providers for curative care is very limited**. Less than half of children with diarrhea or ARI resorted to medical help, a third of children aged 12-23 months never received any vaccination, and only 17% of them were fully immunized (NFHS- II, 1998-99). Similarly, only half of people suffering from TB were medically treated; the underutilization of TB treatment was equally low in both urban (59%) and rural (50%) areas.

28. **The use of health care services during pregnancy and delivery also remains extremely limited due possibly to lack of awareness or malfunctioning of MCH network.** In 1998-99, according to NFHS-II, 60% of pregnant women had at least one visit for ante-natal care, but only 30% had it in the first trimester, and only 16% received all recommended types of antenatal care. More than 82 percent delivered at home -94 percent among illiterate women, and only one in five births was assisted by a health professional[4]. Only 0.5 percent received a post-partum check-up within 2 days of birth, and only 25 percent within two months of birth.

[3] According to the NFHS-II, prevalence of tuberculosis in the state was 710 (of which 357 were medically treated) per 100,000 people in 1998, higher than the National estimate of 544 per 100,000 (of which 432 were medically treated), and for jaundice it was 2,768 per 100,000, higher than the National estimate equal to 1,361 per 100,000.

[4] According to the RCH-RHS data 1998-99 coverage of deliveries by health professionals is even worse. Of those who delivered at home (76 percent according to RCH-RHS), 9.2 percent reported to have been assisted by doctors or nurses-ANMs, 5.3 percent by TBA, and the rest by "others".

Table 1.2: Comparative Health Service Coverage and Access Indicators

	% Children Receiving All vaccinations (1-2y)	% of Pregnant Women Receiving at least 1 Ante-Natal Check Up	% of Pregnant Women Receiving at least 2 Tetanus Toxoid Injections	% Pregnant Women Receiving iron and folic acid tablet or syrup	% Institution. Deliveries	% of Births Attended by Health Profess-ional	% Married Women Using any Contra-ceptive Method
All India	42.0	65.4	66.8	57.6	33.6	42.3	48.2
Assam	**17.0**	**60.1**	**51.7**	**55.0**	**17.6**	**21.4**	**43.3**
Rajasthan	17.3	47.5	52.1	39.3	21.5	35.8	40.3
Uttar Pradesh	21.2	34.6	51.4	32.4	15.5	22.4	28.1
Bihar	43.7	36.3	57.8	24.1	14.6	23.4	24.5
Orissa	11.0	79.5	74.3	67.6	22.6	33.4	46.8
West Bengal	43.8	90.0	82.4	71.6	40.1	44.2	66.6
Kerala	79.7	98.8	86.4	95.2	93.0	94.0	63.7

Source: NFHS- II, 1998/99

29. The state is also characterized by strong disparities across districts. While 82 percent of pregnant women receive full antenatal care and 76 percent deliver in institutions in the best performing district, only, respectively, 4 and 6 percent do in the worst performing district. While 95 percent of children receive full immunization in the best performing district, only 4 percent in the worst performing district.

30. The urban-rural disparities and the inequalities across socio-economic groups are also extremely severe, as indicated by the Table 1.3 :

Table 1.3: Maternal and Child Health and Service Performance Indicators by Socio-economic group, and Region-1998

	Quintile					Region		Total
	Lowest	Q2	Q3	Q4	Highest	Rural	Urban	
Malnutrition (%)	41.5	39.1	35.0	32.6	22.5	36.7	26.8	**36.0**
No antenatal checkup (%)	57.1	51.7	36.3	21.2	9.8	41.0	9.5	**38.9**
Institutional deliveries (%)	6.7	7.1	11.8	26.8	55.2	15.0	59.9	**17.6**
Children 12-23 months fully immunized (%)	12.4	8.6	12.8	24.9	38.0	15.1	45.3	**17.0**
Children with ARI to health care provider (%)	36.0	41.1	51.0	40.2	43.5	41.4	49.1	**41.7**

31. **Progress over the last decade has been uneven,** with some marked improvements in key child health indicators, but with only marginal improvements in health system performance indicators.

Table 1.4 Evolution of Maternal and Child Health, and Service Performance Indicators in Assam during the '90s

	ASSAM 1992	ASSAM 1998	India 1998
Malnutrition (WAZ<- 2sd) (%)	50.4	36.0	47.0
TFR	3.53	2.31	2.85
IMR	88.7	69.5	67.6
No antenatal checkup (%)	50.7	38.9	34.0
Institutional deliveries (%)	11.1	17.6	33.6
Children 12-23 months fully immunized (%)	19.4	17.0	42.0
Children with ARI to health care provider (%)	40.7	41.7	64.0

Note: NFHS I (1992) indicators are for children under 4 years of age while the indicators from NFHS II (1998) are for children under 3 years of age.

32. **Nutrition indicators have remained stagnant over the 1990s**. If one looks at only the prevalence of underweight, it seems that the nutritional status of children in Assam has been improving significantly. However, 33% of children were still "severely" stunted in 1998 (compared to 26% in 1992), and additional 16.5% were "moderately" stunted (25.8% in 1992). Hence, overall there is almost no change in the prevalence of stunting

Health Financing

TOTAL HEALTH EXPENDITURE

33. It is difficult to put an accurate figure on total health expenditure in Assam, as households out-of-pocket expenditure (OOP) on health care is not well documented. On the basis of NSS data 1995-96, we estimate that total per capita health expenditure **for the fiscal year 1999/00 was approx. Rs. 415, or US$ 8.7 which is equal to 3.69 percent of per capita Gross State Domestic Product (GSDP)**.

WHERE DOES THE MONEY COME FROM?

34. **The two main sources of health financing are i) households' out-of-pocket (OOP) expenditure, and ii) government expenditure**.

    i. **Out-of-pocket expenditure and total private health expenditure**. According to NSS estimates (1995-96), **households total OOP health spending was equal to Rs 156.4 per capita in 1995**. This was less than the all India average of Rs. 222 per capita per

year, reflecting the lower GDP per capita in the state[5]. Our estimate is that total private health expenditure accounts for over 68 percent of total health expenditure[6].

ii. The second source of financing is government, and within the public sources the most important sources are **the state, the central government, and the state enterprises**. In fiscal year 1999-00 (the last year for which we have precise figures) the State of Assam was spending 4.38% of its total (revenue plus capital) actual expenditure on health and family welfare, which in per capita terms is approx equal to Rs. 90. In real terms, the total allocation to health and family welfare remained constant over the period 1980-81-1995-96. In 1999-00 the central government support to the Centrally sponsored schemes was contributing an additional Rs. 30 per capita.

Assam State Expenditure on Health and Family Welfare (million Rs.)

	Yearly Expenditures		
	1999-00 (actual)	**2000-01**	**2001-02**
II - Revenue Expenditure			
a. Medical and Public Health	2,558	2,765	2,809
b. Family Welfare	512	697	640
Sub-total-revenue exp.	**3,070**	**3,462**	**3,449**
I – Capital Expenditure			
a. Medical and Public Health	26.8	91.3	152
b. Family Welfare	4	2	0.8
Sub-total-cap. exp.	**30,8**	**93,3**	**152.8**
Total Expenditures (I+II)	**3,101**	**3,555**	**3,602**
Percent of MPH+FW to Total Exp.	**4.38%**	**4.66%**	**4.21%**

Source: Bank of India Data

35. Other public sources of financing for health include the **local governments, and the state enterprises.** There is no information about the total contribution to financing from these two sources [7].

36. **Additional private sources of financing** are contributions and user fees under the Employee State Insurance Scheme (**ESI),** and user-fees in secondary and tertiary health care public

[5] Projecting the above estimate to fiscal year 1999-00, under the assumptions of an income elasticity of demand for health services equal to 1.2, would give an OOP health expenditure equal to Rs. 257 per capita in 1999-00. GSDP per capita in Assam was equal to Rs. 7,298 in fiscal year 1994-95, when the NSS data was collected, and to Rs. 11,228 in fiscal year 1999-00.

6 The estimate is that total private health expenditure (TPHE) is equal to 68.6 percent of total health expenditure. TPHE is calculated by adding to households out-of-pocket expenditure: (ii) the amount spent by private firms on their own facilities (or health insurance) which approximately account for 10 % t of total private health expenditure (large tea estates with health establishments), (ii) NGO financing, which is estimated to be equal to 0.5% of total health expenditure, and (iii) the amount spent by individuals on insurance premiums, estimated to be negligible in Assam.

[7] We assume that the state enterprises contribute to 10% of total public expenditure, while local governments' contribution is negligible.

facilities. The ESI scheme covers only 32,000 employees in the state, and in 2002-03 collected Rs. 43 million in contributions (1.75% of the wages from employees, and 4.75% from employers). The ceiling for sharing of medical expenditures has been set at Rs. 700 per family unit for fiscal year 2003-04, and no information is available on the revenue from user charges paid in ESI facilities. In other secondary and tertiary facilities, official user charges are modest: patients are reported to pay on average Rs. 25 for outpatient treatment, and Rs. 25-150 for inpatient treatment (source: Government of Assam). No information is available on informal charges. A survey by the Assam Medical college shows that currently 52 percent of inpatients pay for services attended in government health facilities, and that 45 percent of outpatient and 62% of inpatient service users would be willing to pay more in order to have better services (see Chapter 4).

PROSPECTS FOR THE FUTURE

37. **Assam is facing a fiscal crisis which will impose severe constraint on the plans to increase the state government's health expenditure in the near future .** Between 1990-91 and 2001-02, the fiscal deficit rose from 4.9 to 6.7 percent of GSDP. As a result, debt has increased from 35.2 to 40.5 of GSDP from 1998-99 to 2001-02. The GoA is trying to respond to a deteriorating fiscal situation, and has thus agreed to a Medium Term Fiscal Reform Programme (MTFRP) with the Government of India. Note that in Assam approximately 90% of the overall state funding comes from the center rather than from state's own fiscal sources, due to which the central scrutiny on all state expenditure is likely to be stronger than in most other states. The implementation of the MTFRP may produce negative consequences for social sector and health expenditures, although there is no evidence of its impact so far.

WHERE DOES THE MONEY GO?

38. **The majority of private spending is directed to private providers**. The only source of information on the type of facilities and the services where private health expenditure is directed is a study based on the NSS data 1995-96 . This study grouped Assam with the other neighboring states ("North-East" States). In 1995, as Table 2.1 indicate, 54 percent of out-of-pocket expenditure was spent on private facilities or providers.

Table 2.1 Total Per Capita Out-of-Pocket Expenditure (Rs. 1995/6) (NORTH EAST)

		Outpatient	Inpatient	Total	Share
Northeast	Public	53.1	18.3	71.4	45.7%
	Private	76.9	8.1	85.0	54.3%
	Total	130.0	26.4	156.4	100.0%
India	Public	24.1	13.3	37.4	16.8%
	Private	146.1	39.1	185.3	83.2%
	Total	170.2	52.5	222.7	100.0%

Source: Mahal, 2001; based on NSS 1995-96

39. **Public expenditure finances almost exclusively public facilities.** By contrast, almost all public or government expenditure is directed to public facilities and services. Contracting out to private providers, or purchasing of services from the private sector are negligible.

40. **Financial allocations within the public sector tend to be non-transparent**. It is virtually impossible from the analysis of budgetary information to know which activities or services public expenditure is funding. **There is no mechanism to track the link between the funds received and the performance at all levels, including the district, in providing services and achieving health goals.** Budgeting tends to be exclusively based on inputs, and allocations decided on an incremental and not strategic basis. There is little flexibility for budget holders to reallocate expenditure on the basis of local needs. Although a precise estimate is not available, salary expenditure seems to account for a large share of total government expenditure, up to 77.29 percent (1995-96), while expenditure on drugs, other supplies and maintenance is extremely low. Thus, the public delivery system is similar to a "black box": the amount of resources it absorbs is known; however, there is almost no information available on activities and on the results achieved.

Delivery system and health seeking behavior

41. Health care in Assam is provided by the public and the private sector. The public health care system has the standard structure, and is composed of sub-centers, primary health centers (PHCs), community health centers (CHCs) in rural areas, and postpartum centers and multiple layers of hospitals in urban areas. A large number of private health institutions, mainly tea hospitals, provide health care in rural areas as well (Table 3.1). Public sector delivers both inpatient and outpatient services for curative and preventive care, while private institutions are mainly focused on ambulatory and curative health services as well as reproductive health care in urban areas.

Table 3.1: Health institutions (fully constructed as of 3.3.97)

Public sector		No fully constructed	Under construction	Number according to planning norms
A	Sub-centers		5,109	4,366
B	PHCs	610		
C	Subsidiary health centre	99		
D	State dispensary	323		B+C+D=960
E	CHCs	100	55	226
F	Rural family welfare centers	146		
G	Urban family welfare centers	10		
H	Postpartum and MCH centers	41		
I	Sub-district hospitals	18		
J	District hospitals	21		
K	Specialist college hospitals (TB, Mental, Cancer, leprosy, ID)	6		
L	Medical college hospitals	3		
M	State enterprise hospitals (OIL, CIL, ONGC, etc)	14		
Private sector				
	Tea garden hospitals	650		
	NGO hospitals	18		
	Nursing homes & private hospitals	196		

Source: Government of Assam, Assam vision 2025, India-health.info, MOHFW annual report 2001-02

42. Overall, in 1997 the state had total of 26,335 hospital beds (12,179 in public, 14,156 in private sector), with 1.17 beds for every 1,000 population. Of these, 0.54 hospital beds were in the public sector, almost equally distributed among primary, secondary, and tertiary, and 0.63 beds belonged to the private sector. **Public sector facilities and beds are concentrated in urban areas**. Almost 90 % of population is in rural areas, yet only 56% of the government hospitals and 31% of hospital beds are located in rural areas.

43. **Human resources**. In 1998, there were about 14,000 registered practitioners (13,293 allopathic, 250 ayurvedic, 464 homeopathic) in the state of Assam. There is also a much greater number of practitioners of alternative and traditional medicine and not-fully qualified providers administering allopathic treatment, including rural medical practitioners and drug sellers, as well as a large number of traditional birth attendants. (the precise number is not known)

GOVERNMENT HEALTH SECTOR

44. The main intervention by the state government to reduce morbidity and mortality seem to have been the establishment, maintenance and staffing of a publicly funded network of health facilities and staff**. Despite the government's focus on the expansion of the public sector physical infrastructure over the last decades, the public delivery system is still not very developed.** Physical infrastructure is least developed for primary care in the rural areas. For example, as of December 1995, only 55% of PHCs and 61% of sub-centers sanctioned in tribal areas were in place (source: India-health.info: Tribal Development Planning cell). 100 CHCs were in place, with a target of 226. In general for secondary care, out of the total recommended beds of 0.47 per 1,000, only 0.18 were in place in 1997. In some districts, particularly North of the river Brahmaputra, and far away from the capital Guwahati, the

government delivery system at all levels is almost non-existent, including higher-level facilities.

45. **In the peripheral areas, even where facilities are physically present, they are frequently in an abysmal status, with empty, dilapidated buildings, no equipment, no medicines, where hardly any health professional shows up**. Thus, as in other states in India, in Assam there is a big gap between the coverage achieved "on paper" and that achieved in reality. As Table 3.2 indicates, "on paper" Assam has succeeded in providing reasonably good access to its population: a subcenter on average can be reached within 2.2 km., more than a third of rural residents live within 1 km from a government health care provider, and 75% of them within 5 km from a health institution (Gopakumar et al 2002[8]). According to official statistics, there is a PHC for every 32,200 population, close to the National norm of one per 30,000, and the overall number of beds per population is actually higher than the number recommended by the Planning Commission (1.17 available per 1,000 population vis-à-vis 1 per 1,000 recommended) and by the Assam Plantation Act for the private sector. The state government also plans to construct about 3,000 new institutions (2,733 Sub-centers, 245 PHCs, 110 CHCs) by year 2025 (Assam Vision 2025).

Table 3.2. Access to public health care

	Average radial distance covered, 1996 (km)		Average number of villages covered, 1997	
	Assam	**India**	**Assam**	**India**
Sub-center	2.2	2.7	4.68	4.4
PHC	6.3	6.8	39.88	26.83
CHC	15.3	20.3	235.1	241.36

46. **Qualified human resources are insufficient and poorly distributed.** The physical expansion of medical facilities in the state has left a large gap between the number of medical staff required, and those in position in various public institutions, especially in the remote rural areas. The majority of CHCs and PHCs run without an adequate number of doctors or other medical staff. The public sector has a total of 3,133 qualified health personnel, and only 558 specialists. Of these, 746 are posted in urban areas under Medical Colleges, and only a few in the more remote districts, such as Dhemaji, Lakhimour, and Nalbari. There are about 2,270 registered nurses, 2,054 auxiliary nurses, and 46 health visitors (Health information of India, 1997-98, Director of Medical and Health Service, Assam, MOHWF Annual report 2001-02). Another 220 doctors hold an administrative post. Even though the central government has provided support for additional 30% in all category C districts to improve delivery of health care services for obstetric cases , almost a quarter of sub-centers operate without even one HW/ANM. More than 20% of PHCs also run without either a lab technician or a pharmacist (Table 3.3) (MOHWF, Annual plan 2000-01).

[8] Source: Gopakumar et al (2002). The state of India's public service: benchmarks for the new millennium

Table 3.3. Health manpower working in rural areas on 1998 (date of latest QPR on 1991)

	Required	In Position	Vacant*	Shortfall
Specialist for CHC	420	12	12	408
Physician	105	2	6	103
Pediatrician	105	0	0	105
Obstetricians and Gynecologists	105	6	2	99
Surgeon	105	4	4	101
Physician for PHC	619	584	0	35
LHV/Health assistant (F) for CHC	619	310	247	309
Nurse midwife [a]	1354	38	0	1316
Lab technician [b]	724	225	51	469
Pharmacist [b]	724	950	132	0
HW/ANM (F) [c]	5,899	4,037	0	1862
HW/MPW (M) for sub-center	5280	0	0	5280

Source: Government of Assam
* Vacant=sanctioned – in position
[a] 7/CHC, 1/PHC
[b] 1/CHC, 1/PHC
[c] 1/PHC+1/sub-center

47. **Moreover, absenteeism appears to be quite high, particularly in remote and poor areas.** Even where doctors and nurses are officially in position, they are frequently absent from their post. A recent study commissioned as a part of the World Bank World Development Report 2003 (Chaudhury et al, 2003, Habyarimana et al., 2003, and NRI and World Bank, 2003) found absenteeism rates equal to 58 percent in primary care centres (the National average was 43 percent[9]. There is a need to improve accountability for results, to link merit to performance and career progress, and to reduce premature or politically-driven transfers, and skill mismatch.

48. **The problem of unwillingness of doctors to move to rural areas is likely to persist unless the government takes some action to address it.** The state has three medical colleges (and a dental college) with a combined potential of producing approximately 400 doctors per year, and other training institutions that can produce about 550 nurses and 1,165 ANMs annually. Thus, the state is not likely to face the problem of overall shortage of human resources in the medium term. However, ensuring the availability of qualified medical officers in public institutions in remote areas continues to pose a challenge in Assam due to the several disadvantages of working in remote areas, which include lack of learning opportunities, or of additional earning possibilities. The problem will not be solved, unless the government provides promotion or greater explicit recognition (financial and non-financial) to those who accept rural postings, or finds alternative models for service delivery in rural areas (see Chapter 5). Recently, the government has proposed the creation of a new three-year degree to become Rural Doctors. The objective is to create a cadre of doctors, less qualified than MBBS doctors but still able to provide essential services, and more willing to cover the poorer rural areas of the state.

[9] Absenteeism is measured as the percentage of staff who are supposed to be present but are not on the day of an unannounced visit. It includes staff whose absence is "excused" and "not excused". The percentage of absenteeism of teachers in government schools in Assam was 34 percent (WDR, 2004, p. 24).

49. **As a result of all the above weaknesses, the public primary health care sector is poorly utilized**. As the health system performance indicators presented in Chapter 1 indicate, coverage of essential services is extremely low. Subcentres, PHCs, and CHCs are severely underutilized. The population is left with no services, or seeks care from private providers (frequently unqualified ones in the rural areas), or refers directly to higher level facilities in urban areas for more severe cases and when it can afford it. Almost all outpatients self-select the medical facility, and only an estimated 11% of inpatients are referred. As a consequence, sub-district and district hospitals are overcrowded as the following table shows[10].

Table 3.4 Public sector hospitals activity indicators

	CHC	Sub-district hospital	District hospital	State enterprises hospital
Bed occupancy rate (%)	51.2	106.6	92.5	57.7
Bed turn over rate (pt/bed)	42.4	32.4	29.5	-
Average length of stay (d)	1.9	3.7	5.9	5.4
Leave against medical advice (%)	14.9	17.1	4.4	-
Gross death rate (%)	0.5	1.1	2.1	1.4
Out-patient/Inpatient	8.0	6.5	2.2	1.9
Major surgeries perform/100 inpatient	0.0	-	7.8	4.2
Delivery/100 patient	7.4	8.0	16.2	10.0
LSCS/100 delivery	-	-	12.2	18.5
Electro medical test/100 outpatient	2.1	4.2	6.9	15.0

Source: Government of Assam

50. **However, also for district and sub-district hospitals activity indicators present a marked geographical variation**. Average daily outpatient attendance per district hospital is 346, but there is a huge variation across districts (min=112 in Sibsagar; max=858 in Nagaon). The bed occupancy rate (BOR) in the district hospitals is over 90% on average, but also BOR varies from 49% in Kailakandi and 57% in Sibsagar to 147% in Barrang and 158% in Golaghat. These data suggest that even higher level hospitals are dysfunctional in the more remote areas because they lack basic equipment and facilities (running water, electricity, waste management system, etc.). A personal visit to a district hospital and to the annexed mortuary was shocking (see next Chapter, Quality of Care). Several Districts with already poor coverage get flooded and totally isolated during the rainy season.

PRIVATE SECTOR

51. There is a broad range of private providers, including solo practitioners, operators of small nursing homes, of polyclinics and medical diagnostic centers, providers of Indian systems of medicine, TBAs, not-fully qualified providers (e.g. rural medical practitioners, or RMPs), faith healers, pharmacists and pharmacy assistants. The not-for profit private sector is also present, with activities ranging from tertiary care services in mission hospitals to basic community health awareness and promotion activities in rural areas and urban slums. It is important to understand that the private sector does not represent a homogeneous group.

[10] The information is originally from a facility survey conducted by a study team from the Assam Medical College in 1997.

52. **Three quarters of officially registered private facilities in the state are tea garden "hospitals" and dispensaries** (n. "hospitals"=398; n. dispensaries=349), which were built under the Plantations Labour Act to serve the plantation workers and their families. Most of the tea garden hospitals are ambulatories, with little or no inpatient capacity. 380 doctors and 643 nurses are employed in these facilities. There are also 5 secondary and specialized hospitals for tea plantation workers[11]. The remaining quarter of registered private sector facilities is voluntary agencies such as NGO hospitals (n=18) and nursing home and private hospitals (n=196).

53. **Even though the data on tea garden hospitals and dispensaries are difficult to come by, the limited information available shows that the condition of these facilities is far below the minimum requirement**. Due to the continuous recession in the tea industry for the last several years, tea garden hospital facilities have remained grossly inadequate and doctors have been often hired on a part-time basis without offering specialized treatment. In addition, there has been a chronic shortage of life saving drugs and other medical staff such as nurses and paramedics. On average, about half of the garden dispensaries in Northeastern region do not have qualified doctors and stock of life saving drugs (Bhowmik 2002[12]).

54. Although the Assam Health Establishment Act regulates the establishment, standard, and quality of private health care facilities, there is very little information on the type and the extent of the services actually provided by tea garden hospitals. There is also dearth of information on voluntary private hospitals, and the rest of the private sector, because the government has little to do with it and has never rigorously surveyed it, despite its importance in service delivery. For example, we don't have any evidence on the prices charged for different services by different types of providers.

Table 3.5 Private Sector Hospital activity indicators

	Private hospital
Bed occupancy rate (BOR) (%)	69.2
Average length of stay (d)	5.4
Gross death rate (%)	1.7
Out-patient/Inpatient	2.8
Delivery/100 patient	35.8
Electro medical test/100 outpatient	35.8

Source; Government of Assam, from a study done by the Assam medical College, 1997

55. From the limited information we have on private institutions with inpatient facilities (Table 3.5), it appears that private nursing homes are characterized by relatively low BOR (average 69.2%, with high variation between 40.2 and 86.3%), which may indicate the existence of overcapacity. The data also show a high variability in the average length of stay (3.4-9.0 days). Note the high utilization rates for deliveries, and, unlike the public sector (Table 3.4), the extremely high utilization of medical tests in the private sector.

56. A study by the Assam Medical College which compared budget allocations across different items in a few government district and voluntary hospitals, showed that the government hospitals spent much more on salaries (87% vis-à-vis 43%), and much less on non-salary

[11] They are at Bessakopie, Panitola, Dhoidam, Phulbari, and Labac.

[12] Source: Bhowmik SK (2002). Productivity and labour standards in tea plantation sector in India. In: Role of social dialogue (Eds: Sivananthiran A & Verkata Ratnam CS). ILO

items, such as drugs and consumables. These findings would indicate that the level of efficiency in voluntary hospitals is higher than in government hospitals.

57. Finally, there is the issue of quality of care provided by not-fully qualified providers[13]. Again, the empirical evidence on this issue is very limited. Whatever little evidence we have suggest that informal providers continue to practice irrational medicine, and can harm their patients health by unnecessary and often unsanitary injections, over-prescription or under-prescription of antibiotics (often prescribing an incomplete course for TB or other patients that cannot afford a full course of treatment), and dangerous interventions such as intravenous drips for minor dehydrations.

Health seeking behavior

UTILIZATION

58. It is important to distinguish between the situation in rural and urban areas. In the rural areas, where more than 85 percent of the total population lives, people have limited access to public sector subcentres, or primary health centres or community health centres's services, due to which they rely heavily on services offered by Rural Medical Practitioners, or if they work in tea gardens, on the limited services provided by tea garden "hospitals". For major health concerns people need to reach the nearest district hospital, which is usually several hours' away from where they live. Only the better off can afford to travel, and that also becomes prohibitively difficult in rainy season. The situation is completely different in urban areas, where only 11-12 percent of the population still lives and where a considerable expansion of hospital based services has taken place in the last few years. Particularly in Guwahati, the state capital, people tend to use private practitioners for ambulatory care, and private nursing homes and other private facilities for major ailments. The wealthiest households are even willing to travel outside the state, for instance to Calcutta, to seek care in the high specialty tertiary hospitals for major ailments.

Table 4.1: ASSAM 1998 – Source of Health Care – Rural +Urban (Percent distribution of households by main source of health care, according to wealth quintile, and region)

	Quintile					Region		
Source	**Lowest**	**Q2**	**Q3**	**Q4**	**Highest**	**Rural**	**Urban**	**Total**
Public medical sector	79.2	78.6	78.0	77.7	59.8	78.0	43.4	74.7
Govt./municipal Hospital	7.9	7.5	9.7	16.3	18.2	10.2	26.1	11.7
NGO or trust	0.0	0.0	0.4	0.1	0.1	0.0	0.7	0.1
Pvt. Medical sector	20.5	21.4	21.6	21.8	39.2	21.7	54.9	24.9
Pvt. Hospital/ clinic	8.7	9.1	8.1	8.5	12.9	9.1	13.0	9.5
Other sources	0.4	0.0	0.0	0.4	0.9	0.3	1.1	0.3

[13] There are several types of not-fully qualified providers, including practitioners of traditional forms of medicine who also administer allopathic treatment, faith healers, assistant pharmacists and drug sellers, etc.

Number of HHs	680	652	607	560	623	2821	300	3121

Source: NFHS-II, 1998

59. Overall, in 1995-96 the public and private sector providers had an almost equal share of outpatient services, while the public sector was prevalent for inpatient services (77 % of all inpatient days, according to NSS 1995-96). It is likely that during the last decade the private sector has become more predominant, although we lack precise evidence.

60. Note that in Assam, unlike most other states, the share of patients who seek care from the private sector over the total seem to be larger for the poor. In 1995-96, while the private sector accounted for only ¼ of the total number of inpatient days, it accounted for 48 percent of the total for those below the poverty line. The large network of private tea garden hospitals in rural areas where principally poor tea workers seek care is probably one of the reasons behind this interesting finding. However, more in depth investigation of the prices charged by different types of private and public providers would be needed to fully understand this phenomenon.

QUALITY OF SERVICES

61. People in Assam are not very satisfied with the quality and the reliability of public health care services. The evidence from NFHS-II, 1998, also suggests that quality of care received by urban populations is better than by rural populations.

    a. Structure. According to NFHS-II, only half of women who visited health facility recently rated it very clean in Assam (47 percent in rural areas), compared to Indian average of 67%. An evaluation of district hospitals by the Assam Medical College confirmed that of the 21 district hospitals, only three (Dhubri, Tinsukia, and Sibsagar district hospitals) were rated as having a good condition of wards and/or operation theatres. The condition of labour rooms were similarly rated. Only Tinsukia district hospital's labour room was rated as satisfactory, while another five district hospitals were rated as "fair", and the rest 13 as "poor". Clinical labs in the district hospitals were even worse. Only Kamrup district hospital has a lab rated as in "fair" condition, while those in all other district hospitals were graded as poor. Dhubri and Tinsukia district hospitals were the only district hospitals with an adequate amount of water supply.
    b. Process. A third of women who visited a health facility in Assam believed that they were not respected and treated nicely. When it came to medical advice, only 10% of contraceptive users received adequate advice to make an informed decision about reproductive health (e.g., side effects or other problems with sterilization) (NFHS- II, 1998). Absenteeism of health care workers in public facilities does also certainly warrant concern (see previous chapter). The willingness of 45% of outpatients and 62% of inpatients to pay or to pay more for services related to basic necessities (e.g., linen, diet, toilet, etc) and for more effective treatment (e.g., diagnostic and therapeutic services, attendants accommodation, etc), also suggests that the quality of service is far below the level people would expect.

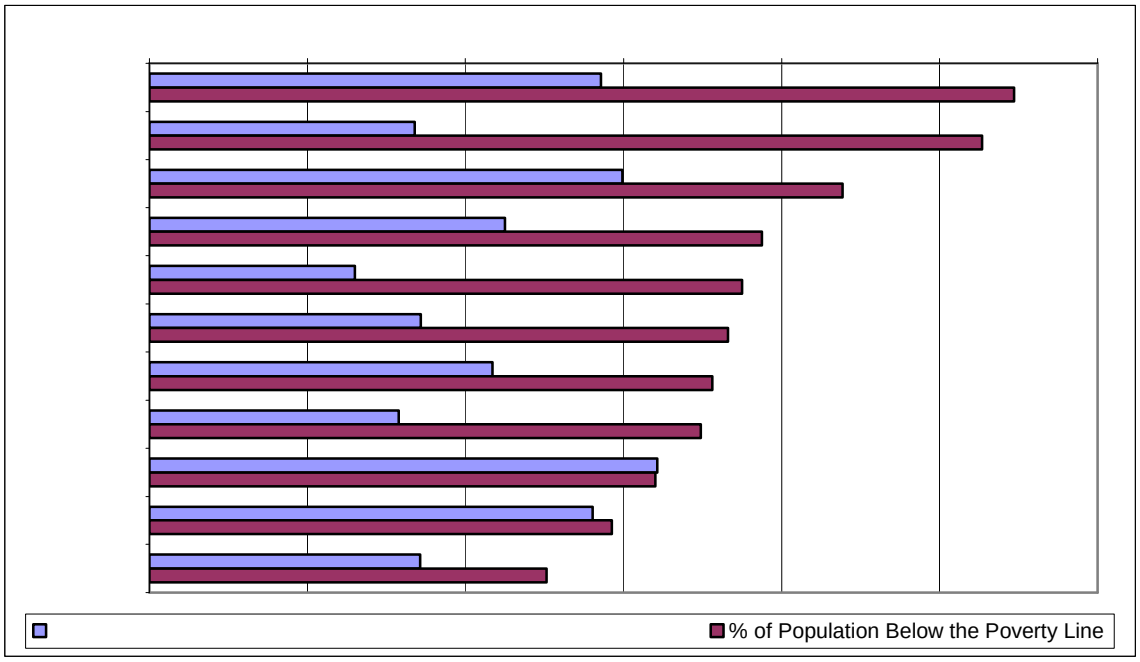
    c. Outcome. It is very hard to quantify the outcome dimension of health care, although all the evidence presented in Chapter 1 would suggest that by any standard the quality of care is poor in Assam. Few studies that specifically looked at the quality of treatment limited their focus to district hospitals. In addition to the evidence presented above, another measure which is indicative of the quality of medical care,

though from a different angle, is the percentage of those who leave against medical advice (LAMA) in the facility (Refer to Tables 3.4 and 3.5). LAMA in the district hospitals is much lower than in CHCs or sub-district hospitals, showing a higher dissatisfaction of patients with lower level facilities. The district hospitals with higher than 100% BOR have more than 5% of LAMA, except for Sonitpur district hospital. There is a wide variation of LAMA in sub-district hospitals. While Hojai, Bijni, and Dhakuakhana sub-district hospitals have lower than the average rate of LAMA in district hospitals, Bokajan sub-divisional hospital shows the LAMA of 50%.

EQUITY

62. **Public expenditure disproportionately benefit the rich in Assam.** The ratio of public subsidy to richest versus poorest 20 percent of the population is 5.27 (Mahal, Yazbeck, Peters and Ramana, 2001), mainly because expenditure on public hospitals, which takes a lion's share of the total public expenditure, is pro-rich. Figure 4.1 below[14] shows that Assam and the North East display one of the most unequal distribution of benefits from health expenditure l in the country, at par with Bihar and Uttar Pradesh. The location of most public facilities in urban areas contributes to make them less accessible to the poor.

Figure 4.1: Population share below the poverty line and share of inpatient bed days, 1995-96



Recent initiatives

EXTERNALLY AIDED PROJECTS

64. In recent years the state has introduced some health reforms through externally supported projects. The EU-sponsored project is supporting reforms in four districts, mainly in terms of hospital autonomy and decentralization, together with some new infrastructure investments. It is also promoting contracting out of hospital services to private providers located in Guwahati, the state's capital. Dr. Achyut Baishya, the local coordinator of the EU project, seems to be very receptive to the idea of building upon and scaling up these activities.

65. These initiatives will hopefully eliminate at least part of the confusion stemming from the multiplicity and fragmentation of funding channels at the district level, make more clear the lines of accountability, and at the same time increase flexibility in the use of funds. The current changes are being reported to show positive effects on management.

66. Other agencies such as UNICEF are also active in various areas of health improvement.

67. Recently, the ADB has decided to support the Government of Assam with an adjustment operation for a total of US$150 million. The programme still needs to be finalized, and a number of consultants are working on this. The main objectives of the loan are to support the state in addressing its large fiscal deficit, and to strengthen existing institutional capacity in the government.

THE PROJECT PROPOSAL SUBMITTED TO THE WORLD BANK

68. The World Bank has recently received a proposal from the Government of Assam for assistance in developing a health sector project (official request received from the Government of India, Department of Economic Affairs, dated 02/04/2003, following an original proposal sent by the GoA on 29/01/2001). This proposal contains some controversial points.

69. In the first part, the proposal highlights some of the structural deficiencies of the Assam health system, along the lines we have described above, such as insufficient attention to priority health issues and vulnerable groups, lack of accountability and incentives for the health personnel, poor management, lack of coordination across programs and levels of care, poor financing, etc. (see pp.46-48). Chapter 2, titled "Strategic Perspective for Health System Reform", correctly underscores some key reform dimensions in service financing, provision and management. It advocates greater focus on the poor and primary health issues, better participation of the private sector in service provision, reallocation of public expenditure in more cost-effective activities. In this part, the document openly criticizes the policies followed in the past, based exclusively on infrastructure expansion.

70. However, in the second part of the proposal, where the activities for the World Bank support are specified, the proposal only considers secondary health facilities' expansion, upgradation

and purchase of new equipment. The proposed project is for a total cost of 81 million dollars of which:

- 55% is civil works (construction and renovation of hospitals)
- 41% is equipment for hospitals
- 4% is operational expenses.

71. The proposed budget does not mention any support for improving ambulatory care or public health services, or any of the other reforms which are critical to improve health system performance, discussed in the first part of the proposal. There is essentially no attempt to increase the involvement of the private sector in the proposed activities, nor to relate the proposed investments to actual needs (showing where the gaps in existing infrastructure are, considering both private and public providers) and to an overall strategy able to address the priority maternal, child and other health issues that affect the population of Assam.

72. The World Bank team has urged the GoA to reconsider the current exclusive focus on capital investments in secondary care. The GoA has agreed to revise and strengthen the project proposal based on the discussions, and to consider the following strategy:

    - start from health outcomes, particularly those included in the 10th Plan and in the Millennium Development Goals (MDGs), and identify the most cost-effective strategy to achieve them;
    - fill the existing information gaps, so that we can achieve a better understanding of how the health system as a whole including the private sector operates in Assam, before defining the details of a possible project.
    - formulate the key reforms that a new strategy may require, including mechanisms to improve accountability and transparency in management, population-based and need-based resource allocation mechanisms, incentives for good performance, and involvement of the private sector.

73. The activities proposed for the World Bank's support should be made coherent with the initial analysis of the system's strengths and weaknesses contained in the first part of the proposal. Moreover, the proposal was originally drafted by the GoA in 1999-2000, and things have changed since then, particularly considering the promising reforms introduced with the EU sponsored project. The revised proposal should take into account these changes, and learned from the lessons of the past.

The way forward

74. There are important health issues in Assam - the most prominent ones are the need to step up the effort to reduce infant, child and maternal mortality, and reduce the incidence of communicable diseases. The achievement of these goals will require behavioral changes by the community, sustained economic growth, and will need to be sustained by investments in areas such as nutrition, education and water and sanitation.

75. However, the role played by improved essential health care services, such as improved coverage for immunization and institutional/safe deliveries, early recognition and prompt and effective treatment of life threatening illnesses (especially ARI, diarrhea, malaria and TB) is also critical.

76. The evidence does not indicate any sustained improvement in the delivery of these essential services during the '90s (NFHS) [15]. Thus, to achieve its ambitious health targets, the Government of Assam will have to reconsider the way it has operated in the past. There is a need to introduce radical reforms which represent a challenging agenda of reorientation of the public sector, so that the money can be spent most effectively in the face of extremely stringent fiscal constraints, and, at the same time, improve health services through the private sector. This requires changing the way many staff function within the public health sector, and addressing their roles and responsibilities. The reforms must recognize the stewardship role that the government needs to play for ensuring that both the public and the private health systems operate and interact in a way that all parts of society, particularly the most vulnerable sections have access to affordable good-quality essential services.

77. In the previous Chapter, we discussed the strengths and the weaknesses of the project proposed for the World Bank's support. In our initial dialogue with the Government, we proposed a draft policy matrix to discuss the main strategies to address systemic issues and improve performance (see below). This policy matrix is a working document, and it will be revised and further developed in a dialogue with GoA.

78. As the policy matrix shows, the World Bank and the Government of Assam should work together to develop a plan that:

- starts with health outcomes;
- includes the whole health system (ambulatory, hospital, public health; private, public, plantation facilities, etc);
- includes coordination of activities with other sectors, such as education and water and sanitation which produce an important impact on health outcomes;
- includes reform issues in the initial discussions;
- defines the additional information required to actually make decisions about the project design and content;
- defines the activities needed for collection of information to fill the gaps

79. Currently, there is virtually no information that could possibly be used to make anyone feel responsible for health outcomes:

[15] For example, it is estimated that to achieve the Millennium Development Goals set for IMR (2/3 reduction by 2015), the rate of yearly reduction will have to increase from -3.9 achieved over the period 1992-98 to -4.4 percent.

- no information on outcomes and the plausible range of policy inputs that could be used to attribute causality to any policy measures;
- no information on the private sector - neither what it does or how it might respond to changes in whatever public policies are proposed;
- no information on behavior of people in the public sector - how or what incentives can be employed to get better, more conscientious performance.

80. In this situation, it is impossible to make anyone accountable for what happens to health status as opposed to political pressure or institutional demands. Hence, it is necessary to improve our information base so that senior officers, administrators, doctors, and other staff, can progressively be made accountable for the results they are able to achieve (even if only via publicity, if not formal mechanisms). Only then the health system will improve as new, effective solutions to the existing problems will be found.

81. The remaining part of this final chapter will look more closely at two key areas of reform, and suggest some options for consideration[16]: improved Stewardship and Management and engaging the Private Sector in the delivery of essential services. Our preliminary recommendations will have to be discussed and further defined with the GoA during our next missions.

82. **Improved planning and oversight**. There is an urgent need to continue to improve the capacity of the state to plan for the future of the health sector. The state does not have a long term policy or articulated vision for the sector. As the role of the private sector will increase, so will the need for oversight and monitoring of these activities, skills which are in very short supply in the health sector. Improving planning, management and oversight capacity will require a 10 year program of phased training and specific technical assistance. The government should review its structure, and come up with the organizational and capacity building strategies to address the above deficiency. Possible actions to be considered include: developing a health policy and planning cell within the Department of Health, and establishing an autonomous health policy institute (outside the government organizations) and contracting out specific work. These units would systematically monitor and evaluate health system development and performance, and consequently use that information in new policy design. As top level managerial positions in the department need to be filled , public health specialists and health economists are needed in addition to doctors. The Department of Health also needs to draft a policy paper for the sector, focusing on the primary level. This can be contracted out to a consultant but the ownership of the content must reside with the Department and the resulting paper would need to have wide-scale stakeholder consultation and debate before being adopted and approved by the State legislature.

83. **Improving management**. As indicated in previous Chapters, management in the public sector is extremely weak. Government officials are given little leeway for improving the existing system and there are few incentives for dynamic officials to push for reforms. If this is the situation it is suggested that the Government:

- **Re-orient the public sector towards a results-based system:** The Government needs to strengthen its performance management system. Once service delivery indicators for monitoring impact are prepared, they can be used as a managerial tool to address areas of weakness, and reward good performance. Decentralization should progressively lead to

[16] This work draws upon joint work with Ismail Radwan.

the preparation of "District Health Plans" which would outline the health priorities and strategies to achieve them for each district, and the creation of integrated District "health budgets" with strong local control on the actual utilization of funds, with accountability based on results.

- **Improved human resource management:** In particular the government could assess needs and strategies for continuous in-service training, and organizational and management development; and develop strategies for establishing PHC teams, promoting teamwork, implement individual and team incentives linked to performance and accountability. A reform of civil service regulations for doctors, nurses and other staff is needed, requiring administrative sanctions, appeals and different means to protect against corruption.

- **Experiment new delivery systems.** For example, alternative solutions should be found if it is impossible to have facilities in remote areas fully functional and staffed. MBBS doctors may not accept to work in remote areas, particularly given the uncertain security situation. If this is a real constraint, maybe the right solution must accept the constraint, and do the best to work around it. Alternative delivery systems may use mobile clinics, employ doctors on a rotating basis, or organize campaign-style interventions, or make a better use of the existing private sector.

84. **Engaging the Private Sector in the delivery of essential services.** The private sector delivery system is important, and yet little is known about it. This points to the need to commission a comprehensive research report on the private sector. The report should define initiatives to scale up engagement of private providers in the delivery of essential services to achieve better health outcomes.

    a. **Formal private sector providers**. The Government could initiate a dialogue with interested private sector representatives to explore the possibilities of partnership to improve primary and secondary health care. In particular government could consider involving NGOs and private for-profit providers, including tea garden facilities, in primary health care delivery to the general population through contracting models. Where efficient private sector providers exist, priority health system outcomes such as improved child and maternal health can be achieved with only a fraction of the government budget that would be needed if the same was to achieved through public sector.

    b. **Informal providers.** In the short to medium term not-fully qualified providers or rural medical practitioners (RMPs) will continue to play an important role in service provision, as they respond to unmet demand in rural areas. Despite the supreme court orders that outlaw all informal providers, the government lacks the ability and perhaps the will to enforce it. The decision has thus resulted in the continued practice of informal providers. This has the advantage that it leaves in place a system of first call for many in rural areas, but unfortunately the treatment RMPs administer is frequently irrational and can be more harmful than beneficial to patients. Hence, it would be advisable to develop new policies to raise awareness in the population about common illnesses as well as about the dangers of quackery, and at the same time engage RMPs by offering some basic training on how to refer or, if referral is impossible, to treat common diseases, such as fever and diarrhea.

85. In conclusion, Assam is certainly one of the poorest and neediest places in India. Support from external donors to strengthen the health sector is currently much needed. However, new investments in the infrastructure and the equipment available in public sector facilities should be accompanied by strong policy developments and courageous reform initiatives to be effective in bringing about improved health outcomes. The Policy Matrix in Annex 1 summarizes our preliminary agreement on some of the key health system's issues in Assam, and on some suggestive interventions to address them.

Annex 1: Working document: preliminary guide to achieve sector goals (to be further revised and expanded in a dialogue with GoA0

STRENGTHENING the Health Sector in Assam		
Sector Goal: **Improve the health status of the population of Assam, with strong focus on improving health outcomes among women, disadvantaged groups (Scheduled Castes and Tribes), and vulnerable groups (children, physically challenged individuals).**		
Priority health outcomes include: • **Reduction in Maternal Mortality** • **Reduction in Infant -Mortality** • **Reduction in Under-5 mortality rates Reduction in prevalence of malnutrition, anemia, Vitamin A deficiency and iodine deficiency** • **Decrease incidence and prevalence of infectious diseases (malaria, TB, leprosy, etc)**		
Key objective:	Recommended actions	Measurable Outputs/ Outcomes
1.1. Reduction of maternal and child mortality concentrated among the poor	To reduce maternal mortality: 1.1 Strengthen prevention and prenatal care. Clinical protocols for maternal (esp. ANC, nutrition edu, reproductive health) and child health (esp. infant feeding, nutrition edu) should be developed. Implementation of protocols & quality assurance 1.2 Strengthen emergency obstetric services. Each first referral unit, district and sub-district hospital, should be able to manage emergency deliveries 24/24. 1.3 Risky cases should be brought to delivery in public referral units or in accredited private nursing homes with OT in full operation (able to perform CS). 1.4 Provide demand-side incentives related to utilization of services by the poor (such as voucher schemes for delivery), which can be used also in accredited private nursing homes. 1.5 Scale-up interventions against anemia. Among other activities, study the possibility to give 1 iron table per week per each woman in reproductive age who needs it. 1.6 Strengthen emergency transport for the poor through expansion of ambulance services, to be contracted out to NGOs. 1.7 Implement education programs targeted at adolescent girls and boys to promote later marriage, birth-spacing and safe motherhood.	ANC registration increased Immunization increased Institutional and supervised deliveries increased Reduction in Maternal Mortality Reduction in Infant Mortality, and under-5 mortality rates Reduction in prevalence of malnutrition and anemia

	birth-spacing and safe motherhood. 1.8 Create one cadre of DEPOT HOLDERS (community leaders, teachers, AWWs, PRI representatives) for contraceptives in each village/remote areas. 1.9 Ensure provision of safe abortion at first referral units To improve child health: 1.10 Strengthen ANMs' and AWWs' training on neonatal and child care, train RMPs, hygiene and public health education in communities, particularly for young women. 1.11 Integrate activities of ANMs and Angawadi workers, so that AWWs increase outreach and public health activities. Expand interventions for 0-3 old. Nutrition monitoring and supplementation is key between 0-18 month. 1.12 Ensure immunization of all children in village areas 1.13 Train and offer incentives to private providers including informal sector to detect and refer respiratory infections and diarrhea cases to public and private facilities for early treatment 1.14 Train grass-root providers in use of ORT 1.15 Develop specific programs to improve services in underserved areas (mobile clinics, etc.)	
II. Improved quality of primary and secondary care services	Recommended action	Measurable Outputs/Outcomes
2.1 **Improved Stewardship and Management** 2.1.1 Strengthen planning and oversight	2.1 Restructure of State Health Directorate/Family Welfare, by creating a planning, monitoring and evaluation unit 2.2 Develop information systems, as concrete working tools to improve accountability and solve problems	Report of Review for Workforce management/reorganization of Health Dept. accepted by State government

2.1.2 Enhance accountability mechanisms	2.3 Develop service agreement system to improve accountability for results among health employees (Role and Responsibilities of each worker) 2.4 Contract in the public sector managerial capacity from the private sector 2.5 Establish reward mechanisms, which could include career incentive schemes, as well as financial incentives to reward good performance 2.6 Create independent performance monitoring and evaluation system 2.7 Strengthen community participation and control, including: • Strengthen role of PR in controlling subcentres and PHCs' performance • Public dissemination of patients' charters • Grievance mechanisms activated in public facilities • Promote media engagement and interest in health issues.	Increased efficiency and quality of services, measurable by: Efficiency: - Reductions in unit costs Quality: - Better clinical results - Increase in patients' satisfaction Improvement in all priority health indicators
2.1.3 HR policies to reduce bias in HR deployment	2.8 Revise the distribution of existing health staff and reform it according to need and utilization of services 2.9 Strengthen role and training of ANMs 2.10 Implement measures to reallocate work-force so that coverage is more uniform across facilities, districts and Taluks 2.11 Decrease skill mismatch, to provide uninterrupted specialist services in each facility 2.12 Allow doctors to practice privately in the public facilities after working hours 2.13 Engage and contract NGOs and private sector providers to serve underserved areas 2.14 Train Rural Doctors, with shorter training period and commitment to work in rural areas for a certain number of years 2.15 Revitalize tea plantation hospitals	Decreased absenteeism Decreased vacancies Decreased skill mismatch Fully trained ANMs more frequently available in the villages
2.1.4 Enhance quality of human resources/training	2.17 Strengthen DHOs' managerial capacity 2.18 Training in hospital management for hospital managers (superintendent and other senior staff)	Reduce inappropriate treatment Improve clinical outcomes

	2.19 Enhance knowledge of both public and private providers on good practices and clinical protocols 2.20 Upgrade technical capacity and oversight over private sector, particularly over less than fully qualified providers 2.21 Develop career paths in health management, public health and community medicine 2.22 New training: - Public health certification of health workers; - Strengthen public health in the medical curriculum.	Strengthened public health programs Improve all priority health outcomes
2.1.5 Reduce corruption	2.23 Develop a transparent needs based recruitment, transfer and promotion process 2.24 Clients must know prices posted at facilities, hours of operation 2.25 Streamline the drug procurement process 2.26 Strict enforcement of recent anti-corruption laws and regulations 2.27 Develop clear and realistic regulations for extra-hour private practice in public facilities 2.28 Public dissemination of clients' or citizens' charters 2.29 Create a Health Vigilance Directorate entrusted with supervision of all procurement activities	Health Vigilance Directorate created with *super-partes* director appointed Transfers reduced Reduce costs of services, improved coverage Improve quality of services and patients' satisfaction
2.2 Reduce compartmentalization and segmentation of different programs	2.30 Create intersectoral teams around specific objectives: for example reduce deaths due to communicable diseases among under 5, or reduce maternal mortality. 2.31 Strengthen, particularly at the grass-root level, the coordination between local bodies (PR) and the health department, for better coordination of various programs such as health, nutrition, education and water and sanitation	Improve quality of services, reduce duplication, reduce costs, improved health outcomes

III. Review the existing policies that guide decisions over new capital investments 3.1. Increase the efficiency of the delivery system (PHC, CHC, sub-district and District levels)	3.1 Implement the most cost-effective strategy to achieve planned health gains in underserved areas: 3.2 Provide incentives for teams of primary care providers (doctors, nurses, and field workers) to do outreach activities in underserved areas 3.3 Inventory of facilities and their distribution. Fully develop resource mapping GIS system to guide new investments 3.4 Renovation and upgrading of selected facilities on the basis of need and Service Improvement Plan 3.5 Consider private providers in new planning. It may be more cost-effective to contract out service provision to accredited NGOs and for-profit private providers, rather than having new infrastructure built 3.6 Rationalization of underutilized institutes and workforce by district 3.7 Long-term financial planning to estimate recurrent costs associated with new infrastructure 3.8 Maintenance of hospital equipment and infrastructure improved	Increase efficiency, reduce costs, reduce waste and duplication
3.2 Correct incorrect utilization and duplication of services in the referral chain	3.9 Develop protocols for referral at all levels, starting with MCH 3.10 Train providers (public and private) in referral system 3.11 Eliminate overlaps. CHC could take on a more central role in emergency care. 3.12 Development of a comprehensive plan to manage emergency cases, particularly deliveries	Reduce costs. Improve health outcomes, reduce maternal mortality

IV. Enhance community involvement and mobilization on public health issues	Recommended action	Measurable outcomes
4.1 Increase the role of communities in planning, monitoring and evaluation of health services	4.1 PRI and other local governments entrusted with public health responsibilities. They strengthen their coordination with health authorities. Increased district and Panchajat Raj responsibility should be phased in with increased capacity development and new accountability mechanisms 4.2 Community participation in M&E actively supported: communities must find innovative ways to promote health (Village Health Committee; link with W&S Committee, or micro-credit groups?) 4.3 Strengthen Integrated District H&FW Societies	Enhanced community participation in monitoring and evaluation of health services All priority health outputs/outcomes improved over time, particularly immunization coverage and institutional deliveries Enhanced patient's satisfaction
4.2 Stimulate co-production and ownership of key public health 'assets' such as W&S services.	4.4 Support (through grant mechanisms) to communities and NGOs to implement innovative schemes to address priority health problems. Communities are not just recipients of services, but they should be supported to become promoters of change, particularly for public health services.	

V. Strengthen Health Financing	Recommended Actions/Options	Measurable Outputs
5.1. Protect government funding of essential health services	5.1 Protect the share of government health expenditure over the total government expenditure 5.2 Develop cost analysis/cost study of health system activities in the state 5.3 Increase public spending on public goods and services with large externalities, such as health education and promotion, particularly targeting girls and mothers, health programs for pre-school and school children	Yearly increase linked to growth of GDP Share of public health over the total health expenditure increases. Share of primary care over the total increases Financial Manual prepared and made available up to district level managers
5.2 Reduce price barrier to access health services	5.4 Pilot new schemes at the community level to raise revenue and improve use of resources 5.5 Assess the extent of informal payments in hospitals. 5.6 Assess prices in private hospitals	Increased share of financial resources collected on a pre-paid basis over total health expenditure Percentage of households who report not using health services for financial reasons decreases Share of HH report having borrowed/sold off assets to cover health costs decreases
5.3 Resources should be geographically distributed according to need and population, and not historical expenditure. More resources must reach poorer districts	5.7 Preparation of Resource Mapping (NHAs) for improving knowledge over source and flow of financial resources in the health sector 5.8 Training of financial management 5.9 Find out how resources are distributed across districts. Introduce allocation formulas based on population and need (measured by poverty levels, morbidity and mortality rates). Reserve other funds to be distributed according to performance	Disadvantage groups and territories receive increasing share of the public budget Utilization of health services increases disproportionately in the underserved districts All priority health outcomes improved for the poor