

## HEALTH INFRASTRUCTURE AND UTILIZATION PATTERN IN RURAL PUNJAB : EMERGING PUBLIC POLICY ISSUES

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*The contribution of public health services to promote human resource and economic growth of a country is well documented in economic literature. On one hand, these services reduce people's pain or sufferings emanating from any illness/disease by providing medical treatment and on the other, these services keep them physically and mentally fit by preventing the occurrence of illness/disease. In all developing countries, public health services generally provide low cost and better quality treatment, especially to the poor. Public health services enhance the poor people's competencies to lead a better quality of life by (i) reducing number of working days lost due to the illness; and (ii) increasing economic opportunities for better earnings. Access to health care is considered to be everybody's human right.*

### INTRODUCTION

On the economic front, Punjab is one of the highly developed states of India. In the past two and half decades, its people were found to have enjoyed the highest per capita income status in India, mainly due to the green revolution which led agricultural development. In economic theory, high income level raises the state capacity to inject more investments, generate more income and better human resources at a high rate (Sen, 1985). In Punjab, rural health along with the education was given major importance to enhance human capital base in the state (Gill and Ghuman, 2000). As a consequence, more public funds were pumped, particularly during the decades of 1970s and the mid-1980s, to expand public health services in the state (Singh, S., 2005). Naturally, it is expected that people of the state must have better health levels compared to the people of other states of India. However, the people living in Kerala and Tamil Nadu, despite having low per capita incomes and less infrastructural facilities, ..... enjoyed much better education and health related indicators than that of Punjab (Brar, 2002).

Further, due to political turmoil witnessed by the state during the 1980s, followed by severe resource crunch, non-responsive administration, and adoption of new policy regimes, public funds to health sector have been reduced drastically in the state. This has brought out a faster deterioration

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in the services provided by public health institutions in the state, particularly in rural areas (Singh, S., 2005). All these aspects need a review and this paper makes an attempt to examine critically rural health scenario in the state.

The paper has been divided into four parts. Part I analyzes, in brief, the health delivery system in Punjab. Part II, examines the growth, present status, major weaknesses and policy initiatives undertaken to reform rural public health services in Punjab. Utilization pattern and cost of treatment in rural areas have been discussed in the Part III. Summary of main conclusions and emerging public issues are set forth in the last part, i.e. Part IV.

## **HEALTH DELIVERY SYSTEM IN PUNJAB**

As per Indian constitution, health is a state subject and creating health facilities are largely under the state jurisdiction, but in practice, the Union Government plays a very significant role through the policy matters and liberal financing of states' health sector plans. In fact, creating facilities for 'public health and sanitation', and 'hospitals and dispensaries' are an exclusive domain of the state government in India (Prakash and Raj, 1972). The health delivery system in the state, like other Indian states, has been developed under the guidance and policy programmes of India's Union Government (Singh, S., 2005). Presently, health delivery system of Punjab is dominated by the public and private health providers. In its large urban towns, public hospitals attached with the Medical Colleges provide tertiary health care facilities. In medium/smaller towns and few larger villages, the state government runs an extensive network consisting of districts hospitals, tehsil hospitals and CHCs/RHCs. The rural areas of state are served through a network of primary health centres (PHCs), subsidiary health centres (SHCs, known as Dispensaries in common parlance) and sub centres (SCs). These centres provide both the curative and preventive health care facilities of primary nature and at a very limited scale.

Further, like other states in India, public health delivery system in Punjab is operating at three levels of care: (i) at the first or primary level, PHCs, SHCs and SCs mainly provide the curative (outpatient and some inpatient care), preventive and promotion cares in the form of immunization, controlling of communicable diseases, maternal and child health, family welfare, etc.; (ii) at the second level care, tehsil and district hospitals cater health care needs of the population in the form of many services consisting of curative (inpatient and outpatient) and preventive care (immunization, family welfare, etc.); and (iii) at the level of tertiary care, hospitals attached to the Medical Colleges (public and private owned) in the state, hospitals established by the Union Government and many hospitals established by the private sector/voluntary organizations located in all major cities provide specialized inpatient as well as outpatient care.

Private health providers in Punjab have shown similar pattern of growth as observed in other states of India (Qadeer, 2000). An overwhelming majority of private health providers predominantly provide clinic/office-based practice of general nature and many fall in the unqualified persons' category. Further, a large number of small-sized private hospitals or nursing homes, with an average size of 10-30 beds per hospital, provide the basic as well as the advanced surgical, obstetric, and diagnostic treatment at a price. Indeed, they concentrate on low risk cases and provide planned care where the chances of failure are very less. In addition, very few large private hospitals located in

big towns provide an advanced and high tech care at very high price/cost. Almost all qualified private health providers are generally concentrated in the urban areas. In the absence of these, rural people are deprived of quality health care and pushed towards untrained persons (chemists, faith healers, etc.) who have mushroomed in rural areas, and they provide substandard and unnecessary treatment at a very high price. Private practice in medicine, especially in allopathy, is largely unregulated and un-monitored in India (Jesani and Anantharam, 1993 and Baru, 1998) and so also in Punjab (Singh, S., 1991).

## **RURAL HEALTH INFRASTRUCTURE IN PUNJAB**

Actually, availability of health infrastructure is of paramount importance for the realization of goals of National Health Policy – 1983 and 2002. The data reveals that the number of public health facilities have increased many times in Punjab up to the mid-1980s, mainly due to increased allocation of central plan funds to state health sector (Singh, S., 2005) and pro-rural policy of state government (Gill, 2008). After that, public funds to state health services have declined drastically in the state (Singh, S., 2005). Consequently, no appreciable increase was seen in public health infrastructure in Punjab since 1991 (Table 1). In fact, between the triennium ending 1980-81 and 2004-05, total number of hospitals decreased from 244 to 219; the number of PHCs increased from 129 to 441, of SHCs (Dispensaries) from 1255 to 1479, and of indigenous systems of medicine & homeopathy related dispensaries from 454 to 636.

The proportion of rural hospitals has increased from 40.98 percent during the triennium ending 1980-81 to 43.77 percent during the triennium ending 1986-87. Thereafter the share of rural hospitals decreased consistently to 35.10 percent during the triennium ending 1995-96, and 33.33 per cent during the triennium ending 2004-05. The proportion of rurally located dispensaries showed a marginal decrease (from 85.31 per cent by the triennium ending 1980-81 to 82.56 per cent by the triennium ending 2004-05), despite the allocation of liberal central funds to rural health sector under the Minimum Needs Programme implemented in the states since the Fifth Five Year Plan (1974-79). This decrease in proportion of rurally located dispensaries was, perhaps, due to the up-gradation of many rural dispensaries into CHCs/PHCs during the period of 1984-2000 (Singh, S., 2005).

Further, population served per institution also confirmed a very slow increase in the number of public funded health institutions compared to the corresponding increase in population of state. As a result, population served per hospital, which was 0.67 lakh during the triennium ending 1980-81, rose to 1.17 lakh during the triennium ending 2004-05. On the other hand, due to addition of many PHCs over the years, population served per PHC fell from 1.13 lakh persons during the triennium ending 1980-81 to 0.34 lakh during the triennium ending 1989-90, but rose to 0.40 lakh during the triennium ending 2004-05 (Table 1). Consequently, at present, Punjab state had moved away from the norms set by the Union Government in terms of population served per PHC (i.e. 30,000 populations per PHC).

Theoretically, strength of health care facilities prevalent in the state depends upon the number of beds and their utilization pattern. Though the utilization pattern of public health facilities has been attempted in the next section, however, population served per bed in rural areas did not show any

improvement. For instance, there was one bed for 1276 rural people during the triennium ending 1983-84 and this ratio rose consistently to 1555 persons per bed during the triennium ending 2004-05 compared to 624 persons per bed in urban areas. Thus, no effort was made to create more beds for indoor treatment in the public sector health institutions in the state.

The state, despite fully aware of these realities, has not made any planned effort/initiative to bring reforms in delivery of public health services. Only two initiatives, although limited in nature, have been taken to re-organize the state health sector in Punjab. First initiative is related to the upgradation of secondary health services in the state during the late 1990s with the help of Rs. 422 crore loan sanctioned by the World Bank. For this purpose, a corporate body, namely, Punjab Health Systems Corporation (PHSC) has been created and it has taken over 154 public sector institutions - district hospitals (17), sub-divisional hospitals (45) and CHCs /PHCs (92). This has generated a lot of debate and created many suspicions in the minds of intellectuals, policy makers, health employees, and also among the general public. Many of them fear that it is the IMF and World Bank's prescriptions which are being implemented in the state. Their doubts/fears came true when high users' charges were imposed on for every service provided by these institutions.

Second initiative is related to improve the rural health delivery system in the state. It has been taken very recently, i.e. in year 2006. Under this initiative, only administrative decentralization of 1310 rural dispensaries were handed over to district level PRIs (Zila Prishad). In this new dispensation, a service-provider (Qualified Doctor) per dispensary is to be appointed on contract basis @ Rs. 3.50 lakh per year. With this contract money, each service-provider is responsible for hiring the services of one pharmacist, one peon and maintaining the basic sanitation and other facilities in the dispensary. If this experience is successful, then the Punjab government has promised to hand over the control of all rural dispensaries in the next five years. Initial reports suggest that service-providers were available to rural patients for specified hours and their attendance were monitored by the concerned Gram Panchayat. A ten-fold increase of patients has been recorded in the OPDs of these dispensaries. However, the critics point out that only an administrative control is no panacea for the ills of public health delivery system in the state. It needs a process of devolution of powers, not just the delegation of responsibility by the state to the periphery (rural areas).

Further, the data showed that number of CHCs, PHCs and SCs were found to be grossly inadequate in Punjab. For example, in 2005, one CHC was serving 144,838 persons against the national norm of one CHC for 100,000 persons, whereas one PHC was for 40,388 persons against the national norm of 30,000 persons per PHC. Likewise, one SC was for 5,879 persons despite the national norm of one SC for 5000 persons. As per rural population of Punjab in 2005, 13.43 percent more of CHCs, 9.70 percent more PHCs and 11.21 percent more of SCs were required to meet the national norms of serving the population. Further, there was only one bed installed in rural health institutions for 1578 persons in 2005. As far as the average number of villages covered per institution is concerned, the data clearly showed that on an average, one CHC served 109 villages, one PHC for 26 villages and one SC for four/five villages in the state.

Moreover, available rural public health infrastructure in Punjab is poorly equipped and inefficient. For instance, 49.48 percent of CHCs, 15.29 percent of PHCs and 0.86 percent of SCs were operating without their own buildings in 2005. Further, 48.28 percent of CHCs were without a qualified

**Table 1, Growth of Health Care Infrastructure in Punjab**

Triennium Average Ending	All Types of Institutions						Population Served Per Bed				Population Served Per Institution		
	Allopathic						Non-Allopathic		Allopathic				
	H	PHC	D	CHCs	Total	H & D	H	D	Rural PHC*	H & D	Total	Rural	Urban
1980-81	244 (40.98)	129 (81.65)	1255 (85.31)	-	1630 (78.25)	454 (91.57)	0.67	0.13	1.13	0.36	854	1558	387
	256 (43.43)	130 (85.38)	1742 (87.92)	-	2137 (82.05)	533 (84.77)	0.68	0.10	1.13	0.33	802	1276	410
1986-87	264 (43.43)	143 (86.51)	1779 (87.49)	-	2187 (82.10)	563 (83.47)	0.70	0.10	1.06	0.33	811	1283	422
	250 (42.72)	362 (93.38)	1564 (85.57)	23 (61.43)	2199 (81.74)	608 (83.20)	0.78	0.12	0.40	0.32	814	1291	436
1992-93	210 (38.16)	441 (95.23)	1470 (84.06)	93 (60.79)	2213 (80.96)	628 (83.02)	0.98	0.14	0.34	0.33	841	1339	449
	208 (35.10)	446 (94.62)	1465 (83.30)	104 (57.69)	2223 (79.86)	636 (79.87)	1.05	0.15	0.35	0.34	873	1408	477
1998-99	208 (34.99)	444 (94.74)	1468 (83.04)	110 (58.36)	2229 (79.68)	635 (79.87)	1.16	0.16	0.37	0.38	954	1446	589
	216 (33.69)	441 (94.55)	1476 (82.70)	108 (60.99)	2240 (79.27)	635 (79.87)	1.13	0.16	0.39	0.38	957	1483	566
2004-05	219 (33.33)	441 (94.33)	1479 (82.56)	103 (62.14)	2242 (79.13)	636 (79.83)	1.17	0.17	0.40	0.40	1018	1555	624

\*Rural Population, Non-A means non-allopathic which includes Ayurvedic, Unani and Homeopathic.

H= Hospital, D= Dispensary, PHC= Primary Health Centres, CHC= Community Health Centres.

Figures in parentheses are percent share of rural areas.

Source: *Health Information of Punjab*, (Various Issues), Government of Punjab, Chandigarh.

physician and 22.93 percent of PHCs without a doctor. Interestingly, 16.20 percent of SCs and 7.02 percent of PHCs were without regular water supply facilities, and 19.38 percent of SCs and 5.37 percent of PHCs were working without electricity.

**Table 2 : Public Health Infrastructure in Rural Punjab, 2005**

S. No.	Items	Community Health Centre (CHC)	Primary Health Centre (PHC)	Sub Centre (SC)
1.	Number of Institutions	116	484	2858
2.	Population Norm per institution	100,000	30,000	5000
3.	Population Covered per Institution	144,838	40,388	5879
4.	Number of Institutions Required as per 2005 Population	134	536	3219
5.	Shortfall in Number of Required Institutions	18 (13.43 %)	52 (9.70 %)	361 (11.21 %)
6.	Average Number of Villages Covered per Institution	109	26	4
7.	Average Area Covered (sq. km.)	416.24	99.76	16.89
8.	Average Radial Distance Covered (km)	11.51	5.63	2.32
9.	Institutions without Building (Percent)	49.48	15.29	0.86
10.	Institutions without Physicians/ Doctor (Percent)	48.28	22.93	-
11.	Institutions without Regular Water Supply (Percent)	-	7.02	16.20
12.	Institutions without Electric Supply (Percent)	-	5.37	19.38

**Note:** CHC is 30 bedded Hospital/Referral Unit for 4 PHCs with four types of specialized services. PHC is Referral unit for six SCs with 4-6 beds with a Medical Officer and 14 paramedical staff. SC is the most peripheral contact point between the PHC and Community with one MPW (F)/ANM and one MPW (M) worker.

**Source:** GOI (2006), *Bulletin on Rural Health Statistics in India*, Ministry of Health and Family Welfare, Government of India, New Delhi.

The economic theory states that high per capita income of people often lead to improvements in peoples' standards of living and health status. In rural Punjab, this has a favorable impact on rising life expectancy at birth both for males and females in the state. For instance, life expectancy of males during 2001-06 was 69.8 years, whereas it was 68.4 years during 1996-2001. Similarly, the life expectancy of females was 72.0 years during 2001-06 compared to 71.4 years during 1996-2001 (Table 3). Although the rural areas in Punjab have performed well in bringing down the birth rate to 18.8 per thousand populations and death rate to 7.4 per thousand populations, yet both these rates can be improved further (Singh, S., 2005). However, infant mortality rate in rural Punjab is still high (48 per thousand live births). In rural Punjab, total fertility rate (TFR) is estimated to be very high (2.98 children per woman). Maternal mortality rate (MMR) is also very high in rural Punjab, i.e. 178 per lakh live births (Table 3). Besides these, there exists a big gap in proportion of other public facilities such as accessibility to safe drinking water (piped water) and sanitation (toilet facilities, connectivity to drainage etc) in rural Punjab. About one-fourth of villages (24.04 percent) in the state did not enjoy any drinking water supply scheme. These facilities greatly influence the health status/quality of life of people (*IIPS, 2001*). It clearly shows that, despite high economic progress made by the state, rural people are still deprived of basic health related facilities as stated by slow progress in health related indicators compared to urban Punjab (Singh, S., 2005).

**Table 3, Progress in Health Related Indicators in Rural Punjab**

Health Indicators	Rural Punjab	
	1996-2001	2001-2006
Life Expectancy (Years)		
Male	68.4	69.8
Female	71.4	72.0
Birth Rate (2006)	18.8	
Death Rate (2006)	7.4	
Infant Mortality Rate (2006)	48	
Total Fertility Rate (2005)	2.98	
Maternal Mortality Rate (MMR) per lakh Live Births (2001-03)	178	
Villages not Covered under Rural Drinking Water Supply Schemes, 2006 (percent)	24.04	
Population below Poverty Line (2004-05)	5.20	

Source: 1. Government of Punjab (2008), *Statistical Abstract of Punjab*, Economic and Statistical Organization, Punjab, Chandigarh.

2. Government of Punjab (2008), *Economic Survey of Punjab*, Economic and Statistical Organization, Punjab, Chandigarh.

## UTILIZATION PATTERN OF HEALTH SERVICES IN RURAL PUNJAB

A perusal of economic theory related to utilization of health services points out that many factors like income of households, provision of health facilities, individual/family beliefs, cost of treatment, capacity to pay, etc. influence the patients' choice to get treatment. This section is entirely based upon comprehensive health survey of 180 rural households spread across 18 villages located in three districts of Punjab, namely, Jalandhar, Bathinda and Fatehgarh Sahib. The survey was carried out by the authors during the second half of 2007-08. It analyzed the health-seeking behavior of patients suffering or suffered from three types of diseases – communicable diseases (also called infectious diseases), chronic diseases (heart diseases, cancer, arthritis, epilepsy, diabetes, etc.) and other diseases (surgeries, injuries/accidents, insect/dog bite, etc.) at the time of survey.

The data shows that, overall, per household patients suffered from all these diseases was found to be 1.98 patients. However, number of patients per household was higher in the case of communicable diseases (0.93 per household) than that of chronic (0.84 per household) and other diseases (0.22 per household). Further, the morbidity prevalence rate was also noticed to be very high in case of communicable diseases (172.16 per thousand population) than that of chronic (155.67 per thousand population) and other diseases (41.24 per thousand population). Overall, the morbidity prevalence rate was found to be very high i.e. 396.07 per thousand population (Table 4).

**Table 4, Per Household Patients and Morbidity Rate of Communicable, Chronic and Other Diseases**

(Across 180 rural households and 970 people)

Category	Communicable Diseases	Chronic Diseases	Other Diseases	Total
Total Patients	167	151	40	358
Patients per Household	0.93	0.84	0.22	1.98
Morbidity Prevalence Rate (1000 people)	172.16	155.67	41.24	<b>369.07</b>

Source: Primary Survey

## TYPE AND PLACE OF TREATMENT

Regarding the type of treatment, the figures show that a vast majority of patients (84.36 percent) preferred the allopathic system of medicine for treating their illnesses, whereas the proportion of patients preferring other system of medicines was very small as only 6.13 percent of patients preferred ayurvedic system of treatment and 2.76 percent patients were inclined to homeopathy. Besides, a tiny proportion of patients (6.75 percent) were found to have used home based remedies for treating their illnesses (Table 5). Further, distribution of patients by place of treatment highlights a very high dependence of patients on the private (both formal and informal) sector clinics/RMPs/chemists. The proportion of patients who sought treatment from the qualified private health providers (hospitals and clinics) worked out to be 38.96 percent for all diseases. Overall, the public health facilities of



hospitals, PHCs, CHCs, and SHCs were availed of by one-third of patients (33.44 percent). About one-fourth of patients of these diseases preferred to get treatment either from RMPs or chemists or hakim/faith healers (Table 6).

**Table 5, Distribution of Patients by Type of Treatment**

<b>Type of Treatment</b>	<b>Communicable Diseases</b>	<b>Chronic Diseases</b>	<b>Other Diseases</b>	<b>Total</b>
Allopathic	146 (87.43)	96 (80.67)	33 (82.50)	275 (84.36)
Ayurvedic	8 (4.79)	11 (9.24)	1 (2.50)	20 (6.13)
Homeopathic	1 (0.60)	5(4.20)	3(7.50)	9(2.76)
Home Remedies	12 (7.19)	7 (5.88)	3 (7.50)	22 (6.75)
Total	167 (100.00)	119 (100.00)	40 (100.00)	326 (100.00)

Note: Figures in parentheses are percentages.

Source: Primary Survey

Further, in the case of communicable disease patients, about two-fifths of communicable disease patients (40.12 percent) and other diseases' patients (40.12 percent) compared to one-fifth of chronic patients (21.85 percent) preferred to get treatment from public sector hospitals/CHCs/PHCs, etc. This trend was opposite in the case of private hospitals and clinics, whereas a high proportion of chronic disease patients (60.50 percent) were seeking treatment compared to the communicable disease patients (21.55 percent) and other disease patients (47.50 percent).

In rural Punjab, like other Indian states, it is common to find the people buying medicines directly from the chemist shops without any doctor's prescription. However, only 3.07 percent of sampled patients were found to be getting treatment through some kind of self-medication. Further, the role of RMPs and local hakim/faith healers (unqualified) in treating patients was found to be very high, especially in the case of communicable disease patients, where this proportion was 33.53 percent. This is mainly due to the fact that the public sector doctors have failed to reach rural areas in rendering medical services to the vulnerable sections of the society. Further, seeking treatment from religious persons or hakims or faith healers is quite common among the poor and rural households in Punjab. Interestingly, 7.67 percent of the total patients used them (hakims, faith healers and other religious persons) for treating their illnesses (Table 6). Thus, it is clear that, in spite of a well developed public infrastructure in rural Punjab, the rural public health system is unable to attract the poor and needy patients.

**Table 6, Distribution of Patients by Place of Treatment**

<b>Place of Treatment</b>	<b>Communicable Diseases</b>	<b>Chronic Diseases</b>	<b>Other Diseases</b>	<b>Total</b>
Government Hospital/PHC, CHC	67 (40.12)	26 (21.85)	16 (40.00)	109 (33.44)
Private Hospital	14 (8.38)	31 (26.05)	14 (35.00)	59 (18.10)
Private Clinic	22 (13.17)	41 (34.45)	5 (12.50)	68 (20.86)
Chemist Shop	8 (4.79)	2 (1.68)	0 (0.00)	10 (3.07)
RMP	40 (23.95)	12 (10.08)	3 (7.50)	55 (16.87)
Hakim/Faith Healer	16 (9.58)	7 (5.88)	2 (5.00)	25 (7.67)
Total	167 (100.00)	119 (100.00)	40 (100.00)	326 (100.00)

Note: Figures in parentheses are percentages.

Source: Primary Survey

The data on distribution of patients in terms of in-patients and out-patients coupled with place of treatment reveal that out of total 326 patients, 252 patients (77.30 percent) were reported as out-patients and 74 patients (22.70 percent) as in-patients (Table 7). No much difference was found in the proportion of in-patients or out-patients with regard to the different kind of diseases. Further, out of total 252 out-patients, 174 patients (69.05 percent) got treatment from the private sector (both formal and informal). This proportion was found to be very high in the case of chronic disease patients (78.95 percent) compared to the communicable disease patients (63.64 percent) and other disease patients (60.00 percent). In the case of in-patients, about three-fifth of patients (58.11 percent) used private health facilities. However, more than one half of in-patients of communicable diseases (54.29 percent) relied upon the public health services for their hospitalized treatment. It indicated that the people belonging to weaker sections of the society still preferred cheaper source of health care for treating hospitalized illness cases.

### **REASON FOR CHOICE OF PARTICULAR HEALTH CENTRE/DOCTOR**

A wide variety of reasons were reported by patients who got treatment during the reference period. The data shows (Table 8) that overall, the major reason for seeking treatment from a particular health centre/doctor was the 'specialized/efficient treatment' as more than one-third patients (36.20 percent) mentioned this reason, followed by the 'free or concessional treatment' (17.48 percent) and 'nearest to home' (13.50 percent). 'Family doctor or doctor known to them' was reported by 9.51

percent of patients. Further, more than one-seventh of patients (15.34 percent) had reported 'other reasons' like the home remedies, religious beliefs, faith healers, advice of relative/friends, etc. 'Not much waiting time' required to seek treatment had been reported by 7.98 percent of patients. However, among the communicable disease patients, 28.74 percent patients mentioned 'specialized/efficient treatment' as the main reason behind their choice of a particular centre/doctor, followed by the 'free or concessional treatment' (22.75 percent) and the 'nearest to home' (19.16 percent). On the other hand, patients of other diseases were found to go for 'specialized/efficient treatment' (47.50 percent) than that of chronic disease patients (42.86 percent) and communicable disease patients (28.74 percent). It is interesting to note that patients of chronic diseases (18.49 percent) rely more upon a doctor who is 'well known to them' than that of communicable (4.79 percent) and other disease patients (2.50 percent) [Table 8].

**Table 7, Distribution of Patients by Type of Patients and Place of Treatment**

Type/Category	Communicable Diseases	Chronic Diseases	Other Diseases	Total
<b>Total Number of Patients</b>				
<b>Out-Patients</b>	132 (79.04)	95 (79.83)	25 (62.50)	252 (77.30)
<b>In-Patients</b>	35 (20.96)	24 (20.17)	15 (37.50)	74 (22.70)
<b>Total</b>	<b>167 (100.00)</b>	<b>119 (100.00)</b>	<b>40 (100.00)</b>	<b>326 (100.00)</b>
<b>Out-Patient Care</b>				
<b>Public</b>	48 (36.36)	20 (21.05)	10 (40.00)	78 (30.95)
<b>Private</b>	84 (63.64)	75 (78.95)	15 (60.00)	174 (69.05)
<b>Total</b>	<b>132 (100.00)</b>	<b>95 (100.00)</b>	<b>25 (100.00)</b>	<b>252 (100.00)</b>
<b>In-Patient Care</b>				
<b>Public</b>	19 (54.29)	6 (25.00)	6 (40.00)	31 (41.89)
<b>Private</b>	16 (45.71)	18 (75.00)	9 (60.00)	43 (58.11)
<b>Total</b>	<b>35 (100.00)</b>	<b>24 (100.00)</b>	<b>15 (100.00)</b>	<b>74 (100.00)</b>
<b>Total In-Patient and Out-Patient Care</b>				
<b>Public</b>	67 (40.12)	26 (21.85)	16 (40.00)	109 (33.44)
<b>Private</b>	100 (59.88)	93 (78.15)	24 (60.00)	217 (66.56)
<b>Total</b>	<b>167 (100.00)</b>	<b>119 (100.00)</b>	<b>40 (100.00)</b>	<b>326 (100.00)</b>

Note: Figures in parentheses are percentages.

Source: Primary Survey

**Table 8: Distribution of Patients by Reason for Choice of Particular Health Care**

<b>Reasons</b>	<b>Communicable Diseases</b>	<b>Chronic Diseases</b>	<b>Other Diseases</b>	<b>Total</b>
Specialized/ Efficient Treatment	48 (28.74)	51 (42.86)	19 (47.50)	118 (36.20)
Free or Concessional Treatment	38 (22.75)	9 (7.56)	10 (25.00)	57 (17.48)
Family/Known Doctor	8 (4.79)	22 (18.49)	1 (2.50)	31 (9.51)
Nearest to Home	32 (19.16)	7 (5.88)	5 (12.50)	44 (13.50)
Not Much Waiting Time	12 (7.19)	12 (10.08)	2 (5.00)	26 (7.98)
Others*	29 (17.37)	18 (15.13)	3 (7.50)	50 (15.34)
<b>Total</b>	<b>167 (100.00)</b>	<b>119 (100.00)</b>	<b>40 (100.00)</b>	<b>326 (100.00)</b>

\* It includes many like home remedies, advised by relatives/friends, faith healers, etc.

Note: Figures in parentheses are percentages.

Source: Primary Survey

### **PER PATIENT EXPENDITURE ON TREATMENT**

The study analyses per patient expenditure incurred on treatment of diseases. The analysis reveals (Table 9) that, on an average, a patient of communicable disease incurred Rs. 1691 on treatment in the case of outdoor patient and Rs. 4130 in the case of indoor patient. There were considerable differences in per patient expenditure across the government and private sector institutions. Average expenditure of communicable disease patients preferring indoor treatment from the private health institution was Rs. 6047 and that of public health institution Rs. 2515. Regarding outdoor treatment, per patient expenditure in private sector was Rs. 1748, and it was Rs. 1590 in the case of public sector. Among the major components of health treatment expenditure, hospital stay in a private health institution ate away nearly half of the total per patient expenditure (46.20 per cent), followed by loss of wages/income (20.04 per cent), transportation (9.88 per cent) and medicines/injections (8.37 per cent). As expected, per patient expenditure on consultation, in percentage terms, was very high in the private sector as it was 4.17 per cent in case of out patient treatment compared to 1.02 per cent in the public sector. In absolute terms, loss of wages/income was calculated very high (Rs. 896) in case of patients getting indoor treatment compared to patients of outdoor treatment (Rs. 125).

**Table 9, Per Patient Expenditure on Communicable Diseases by  
Type of Health Institution and Treatment**

**(Figures in Rs.)**

Item	Public		Private		Public + Private	
	OP	IP	OP	IP	OP	IP
Consultation Fees	16	4	73	171	52	81
%	1.02	0.17	4.17	2.83	3.09	1.95
Medicines and Injections	389	537	320	506	345	523
%	24.43	21.34	18.28	8.37	20.39	12.66
Surgery Items	85	84	99	131	94	106
%	5.37	3.35	5.65	2.17	5.56	2.56
Hospital Stay	-	285	-	2794	-	1432
%	-	11.33	-	46.20	-	34.67
Tests, X-Rays, etc.	227	184	278	272	259	224
%	14.28	7.32	15.89	4.50	15.34	5.43
Transportation	398	429	396	598	397	506
%	25.02	17.05	22.68	9.88	23.48	12.25
Special Diet	109	87	179	144	153	113
%	6.88	3.45	10.21	2.38	9.07	2.73
Loss of Wages/Income	130	629	122	1212	125	896
%	8.18	25.03	6.98	20.04	7.39	21.69
Others	235	275	282	220	266	250
%	14.82	10.95	16.14	3.63	15.69	6.05
Total	1590	2515	1748	6047	1691	4130
%	100.00	100.00	100.00	100.00	100.00	100.00

OP – Out Patient      IP – In Patient

Source: Primary Survey

On the other hand, chronic diseases, being diseases of longer periods, require treatment for considerable time period. Thus, treatment cost of chronic diseases is expected to be very high compared to the communicable diseases. An assessment of the data (Table 10) shows that, on an average, a chronic disease patient incurred Rs. 31,142 per annum for indoor treatment and only Rs.

1509 per annum for outdoor treatment. As expected, cost of treatment of chronic diseases in private sector always exceeds than that of the public sector. Per patient cost of treating a chronic disease patient in private sector was estimated Rs. 33,248 for indoor patient and Rs. 1605 for outdoor patient compared to per patient cost of Rs. 28,663 for indoor patient and Rs. 1074 for outdoor patient in public sector.

**Table 10, Per Patient Expenditure on Chronic Diseases by  
Type of Health Institution and Treatment**

(Figures in Rs.)

Item	Public		Private		Public + Private	
	OP	IP	OP	IP	OP	IP
Consultation Fees	5	4	93	139	76	105
%	0.50	0.01	5.82	0.42	5.01	0.34
Medicines and Injections	151	1617	332	6000	297	4904
%	14.08	5.64	20.69	18.05	19.69	15.75
Surgery Items	-	283	-	375	-	352
%	-	0.99	-	1.13	-	1.13
Hospital Stay	-	3021	-	9639	-	7985
%	-	10.54	-	28.99	-	25.64
Tests, X-Rays, etc.	56	1417	277	4289	233	3571
%	5.24	4.94	17.28	12.90	15.46	11.47
Transportation	575	4500	338	3333	392	3625
%	53.53	15.70	21.06	10.03	25.98	11.64
Special Diet	26	583	184	889	152	813
%	2.38	2.04	11.47	2.67	10.09	2.61
Loss of Wages/Income	155	10917	260	5806	240	7083
%	14.44	38.09	16.20	17.46	15.94	22.74
Others	106	2485	120	2777	118	2705
%	9.87	8.67	7.48	8.35	7.82	8.69
Total	1074	28663	1605	33248	1509	31142
%	100.00	100.00	100.00	100.00	100.00	100.00

OP – Out Patient      IP – In Patient

Source: Primary Survey

Further, analysis of cost components of health expenditure of chronic patients indicates that major share of expenditure went to the hospital stay (28.99 percent) in the case of private indoor treatment followed by the medicines and injections (18.05 percent), loss of wages/income (17.46 percent), tests, x-rays (12.90 percent) and transportation (10.03 percent). As far as the private outdoor treatment of chronic patients was concerned, transportation cost ate away a major share (21.06 percent) followed by the medicines and injections (20.69 percent), tests, x-rays (17.28 percent), loss of wages/income and special diet (11.47 percent). In public sector treatment, loss of wages/income was found to be the most costly component (38.09 percent) for indoor patient, and the transportation cost was the most expensive item (53.53 percent) in case of outdoor patient (Table 10).

**Table 11, Per Patient Expenditure on Other Diseases by  
Type of Health Institution and Treatment**

(Figures in Rs.)

Item	Public		Private		Public + Private	
	OP	IP	OP	IP	OP	IP
Consultation Fees	3	5	58	49	36	31
%	0.24	0.09	4.13	0.62	2.65	0.46
Medicines and Injections	158	583	440	1583	327	1183
%	12.08	11.46	31.14	20.02	23.86	17.45
Surgery Items	210	342	43	267	110	297
%	16.02	6.71	3.07	3.37	8.02	4.37
Hospital Stay	-	480	-	3167	-	2092
%	-	9.43	-	40.03	-	30.84
Tests, X-Rays, etc.	185	137	157	328	168	251
%	14.11	2.68	11.09	4.14	12.24	3.71
Transportation	325	1000	203	483	252	690
%	24.79	19.64	14.39	6.11	18.36	10.17
Special Diet	88	108	209	232	160	182
%	6.67	2.13	14.77	2.93	11.67	2.69
Loss of Wages/Income	160	2000	147	1333	152	1600
%	12.20	39.28	10.38	16.86	11.08	23.59
Others	183	436	156	469	166	456
%	13.88	8.58	11.04	5.92	12.12	6.72
Total	1311	5091	1413	7910	1372	6783
%	100.00	100.00	100.00	100.00	100.00	100.00

OP – Out Patient      IP – In Patient

Source: Primary Survey.

In the case of other diseases (major/minor surgeries, injuries/accidents, insect/dog bite, anaemia etc.), cost pattern of treating such diseases may vary than that of the cost pattern of treating communicable and chronic illness cases. The data reveal (Table 11) that, on an average, a patient suffering from other disease incurred Rs. 6783 for indoor treatment and Rs. 1372 for outdoor treatment. Per patient cost of treating illness in private sector again exceeds than that of the public sector as it was calculated Rs. 7910 for private indoor treatment compared to Rs. 5091 for public indoor treatment. Further, in the private sector, a major share of expenditure went to hospital stay (40.03 percent) in the case of indoor treatment. On the other hand, major share went to medicines and injections (31.14 percent) in the case of outdoor treatment. Similarly, in the public sector treatment, major part of expenditure went to loss of wages/income (38.28 percent) in case of indoor treatment, and in the case of outdoor treatment, it went to transportation (24.79 percent)

### **MAIN CONCLUSIONS AND PUBLIC POLICY ISSUES**

The study clearly showed that growing public health infrastructure during the 1970s and 1980s in rural Punjab brought significant benefits to rural people. It means that rural people, at least in theory, would have more access to low cost and quality treatment at their doorsteps. However, since 1991 no effort was made to improve public health infrastructure both in rural and urban areas. Only piecemeal steps were taken to bring reforms in delivery system in the state. Consequently, a wide gap existed between rural and urban health infrastructure and indicators.

In rural Punjab, population served per bed was 1555 persons compared to 624 persons per bed in urban Punjab during 2004-05. Even, the available rural public health infrastructure is poorly equipped and proved inefficient. About one-half of CHCs (49.48 percent) and 15.29 percent of PHCs were operating without their own buildings in 2005. Nearly one-half of CHCs (48.28 percent) were without a qualified physician and 22.93 percent of PHCs without a doctor. Interestingly, 16.20 percent of SCs and 7.02 percent of PHCs were without regular water supply.

On the other side, the survey data estimated very high morbidity rates in rural areas of state. Overall, it was 369.07 per thousand populations. A vast majority of rural patients (84.36 percent) preferred allopathic medicines for treating illness. Further, only one-third patients (33.44 percent) went to public health institutions for treatment, whereas two-third (66.56 percent) preferred private health institutions (both formal & informal) for treatment. Among the in-patients, only 41.89 percent used public health services for treating illnesses.

The major reasons behind their choice of a particular health centre/doctor were the 'specialized treatment' (36.20 percent) followed by the 'free or concessional treatment' (17.48 percent) and 'nearest to home' (13.50 percent). With regard to treatment costs, as expected, treatment cost of private sector was comparatively very high than that of the public sector institution. Further, during indoor treatment 'hospital stay' remained the most expensive component in all type of diseases followed by loss of wages/income. Also, treatment cost of chronic diseases was found to be very high in relation to the communicable and other diseases.

These findings have two important policy issues for the future rural health scenario. First, as an overwhelming majority of rural public health infrastructure and services became non-functional and grossly under-utilized, the rural poor will be deprived of easily accessible, cost-effective and



better quality treatment of public health services near their homes. Rural rich people who have capacity to pay are attracted towards urban private hospitals/nursing homes for getting better treatment. In rural areas, the poor begin to rely upon unqualified health persons who provide sub-standard treatment at exorbitantly high costs. These trends will seriously jeopardize the optimal development of rural human resource.

**Secondly**, state policy is at present concerned exclusively with the expansion, not with quality, of rural health infrastructure. For want of funds and governance, these centres continue to be areas of neglect. In absence of essential medicines, test facilities and first-aid kits, they are primarily consultation clinics. Emergency and hospitalization services are almost non-existent in majority of these rural institutions. Further, inequities in income would have resulted in differential access as well as use of health services in rural areas. These facts would certainly hamper progress to achieve better health status in rural areas. The state must take bold policy steps to improve quality of public health services and control ever-growing unhealthy practices of private providers in rural areas.

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