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# Determinants of Choice of Healthcare Providers: Evidence from Selected Rural Areas of Bangladesh

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**Abstract:** This study mainly aims to identify the major factors determining the choice of healthcare providers. It also examines the characteristics and the patterns of choice of different healthcare providers by the patients in Bangladesh. It is based on primary data collected from an advanced village and a non-advanced village of a randomly selected Upazilla (sub-district) using both structured and semi-structured questionnaires and qualitative techniques. Although, public facility at the selected upazila (sub-district) is technically and structurally developed and provides healthcare without charging any consultation fee, most (52%) of the people in the selected area receive health services from informal providers. It was found that patients of non-advanced village were more inclined to seek care from informal providers than advanced village. Both supply side and demand side factors are seemed to affect the choice of informal providers. Income, education and occupation of household heads are found as important determinants to influence the choice of providers. Most (64%) of the patients of the poorest quintile received care from informal providers while most (55%) of the patients of the richest quintile received care from modern providers. About 54% of the patients among those who had no formal education received care from informal providers. But among those who had over 10 years of education, only 32% sought care from informal providers while 60% sought care from modern private providers. Most of the patients whose household heads' education level is low and household heads engaged in low status occupation sought care from informal providers. Some factors like cheap treatment, easy access, and availability whenever needed and perceived quality of care fascinated the patients to choose informal providers. Unavailability of providers in public hospital is identified as the main reason for not seeking care from public providers. Measures should be adopted to reduce the supply of informal care with concomitant increase in the supply of modern care. It is also important to increase the demand for modern care reducing the demand for the informal care.

**Key words:** Choice of healthcare, Rural area

## Introduction

Most of the patients in the rural areas of Bangladesh, as in many developing countries, seek healthcare from private providers, specially from informal providers, instead of seeking healthcare from public providers, though healthcare from public facilities is highly subsidized. Theoretically, the choice of providers by the patients is mainly determined by the price of care and quality of care. In Bangladesh, public sector is open for all and provides services at zero or negligible prices. On the other hand, private sector provides services through market mechanism. The private sector comprises both modern providers and informal providers (who do not have any eligible qualification to practice, e.g., quake, medicine shopkeeper, traditional healer etc.). In the rural areas, modern private providers are negligible. Hence, in the rural areas, the private providers mean mainly informal providers. Average technical competence of public providers is usually perceived as much higher than that of modern private providers. It is needless to say that there is little technical and structural competence of informal providers. Considering price, and both technical and structural quality of healthcare providers, patients rationally should have a higher preference for public facilities/ providers over the informal as well as modern private facilities. But empirical evidence reveals that in developing countries, private care (informal care and modern private care) is a good alternative to public healthcare and a considerable amount of substitution is observed between public and private healthcare. In Nepal, for example, the government made substantial investment in basic healthcare; but utilization remained low because of patients' negative perceptions of public healthcare (Lafond 1995). But, the general observation is that informal care is often less effective and sometimes causes adverse effects on health. Modern private providers have other types of problems such as, low service quality, malpractice, exaggerated drug use and exploitative price charging etc.

In a typical healthcare system where providers are heterogeneous in terms of qualification, efficiency and other dimensions, the choice of provider by the consumers depends on a number of factors like service fee, quality of care, access to care, perception of the providers, flexibility of payment systems, type of illness, severity of illness, and socioeconomic and demographic conditions of the consumers. The existing literature suggests that service fee affects negatively to the choice of providers (Bir and Eggleston 2002, Dor *et al.* 1987, Getler *et al.* 1987, Mwabu *et al.* 1993, Akin and Hutchinson 1999, Harris *et al.* 2002, Bolduc *et al.* 1996) while quality of services affects positively (Bir and Eggleston 2002, Mwabu *et al.* 1993, Lonnroth *et al.* 2001, Litvack and Bodart 1992, Beaulieu 2002, Akin and

Hutchinson 1999, Andaleeb 2000). There is evidence that the consumers choose the facilities in which access is easier and the payment system is flexible (Nguyen *et al.* 2002). There is further evidence that socioeconomic and demographic conditions play an important role in choosing providers (Bir and Eggleston 2002, Rous and Hotchkiss 2000, Heller 1982).

The performance of pubic sector in Bangladesh is reportedly unsatisfactory because critical staffs are frequently remaining absent; essential supplies are generally not available, services are inadequate (Andeleeb 2000). The lack of adequate supervision and monitoring, and access of patients exacerbate the problems. In fact, these conditions and a prevalent perception those services of the public facilities are unavailable, and of low quality, may explain why those who can afford it have been seeking healthcare in the private sector. And in many cases the public healthcare is not relatively cheap because 'unofficial payment' is a common phenomenon in public healthcare organizations in developing countries (Jahan et al 2003). In such a situation, private providers significantly exist in the health sector and the private component is expanding rapidly in Bangladesh.

The present study is important firstly, to know the reasons for relative substitution between public and private providers for formulating the appropriate public-private partnership mechanism. Secondly, an important concern of Bangladesh health sector is to expand the coverage of the modern healthcare rapidly, which seems to greatly depend on the increase in the demand for modern health care and this may involve some shift away from the demand for informal care to that for modern care. Thirdly, it is argued that many public facilities, especially at the lower level, are usually underutilized, leading to huge wastage of resources. Hence, to enhance allocative efficiency of resource use in the health sector, demand for public care at lower level facilities should increase. Given the circumstances, it is pertinent to examine consumers' choice of healthcare providers and to identify the determinants that would influence such choice. But this important aspect of healthcare system has achieved very little research attention in Bangladesh so far. This study mainly aims to identify the factors determining consumer preference for different healthcare providers. In doing so, it examines the major characteristics of different healthcare providers and the pattern of choice of different providers by the consumers.

This study is organized under 6 sections. Section 2 deals with the methodology of the study. Section 3 analyzes the patterns of choice of providers. Section 4 and Section 5 examine the determinants of choice of providers using cross table and econometric tools respectively. Finally Section 6 produces conclusion and recommendations.

## Materials and Methods

The data used for this study was collected using two different kinds of instruments: household survey and facility survey. A sample of 800 households was surveyed and all types of providers available in the sample areas were interviewed. Both structured and semi-structured questionnaires were used for the household survey and for the facilities survey. Tangail district (one of the northern districts of Dhaka division) was selected purposively on the basis that it is an average performing district in terms of morbidity (DHS, 2000). Then Ghtail Upazilla (one of the sub-districts of Tangail district) was selected randomly. Two villages of two unions (one is close to Ghatail Upazilla Town, which is referred as advanced village, and another is 7 km away from the Upazilla Town, which is referred as non-advanced village ) were purposively selected based on the idea that in a typical Upazilla town both modern and informal healthcare providers are available, while in the village modern facilities may not be available. In each village, 400 households were directly interviewed starting from one side of the village and continued until 400 households. In addition to the structured survey, some qualitative assessment techniques were employed in order to understand consumer's behaviour regarding choice of providers. The qualitative assessment techniques involved direct observations and in-depth discussion with various groups – public providers, modern private and informal providers. The statistical software 'EPI info-6 and SPSS-10 were used for data entry and analysis respectively. Cross tables were prepared to analyze the data in most cases. Tables were prepared to show the percentage distribution of patients by their area of resident and by the sources of care. Moreover, Multinomial logit specification was applied for analyzing the data.

**Pattern of Choice of Providers by Patients:** Among 800 households, 554 had at least a sick person during last one year and the other 246 households did not have any. The number of sick persons was 614 of which 584 received treatments from different sources while 30 did not seek any treatment. Majority of the patients suffered from non-communicable diseases (NCDs) in both non-advanced village and advanced village. About 52 percent of the patients sought treatment from informal providers in all areas while 15.4 percent from modern private providers and 27.6 percent from public providers. However, a considerably higher proportion of patients of non-advanced village sought treatment from informal providers than advanced village (Fig. 1).

Among those who had been suffering from Communicable Diseases (n=276), most (61.5%) sought care from informal providers in all areas. A relatively high proportion of patients who fell in Non-communicable Diseases sought

treatment from public providers, although the proportion was still lower than that from informal providers. Among the patients seeking emergency treatment 46 percent received it from informal providers. Those who had short duration (<8 days) of illness sought treatments mostly from informal providers. There is a positive relationship between seeking treatment from public providers and increased duration of illness.

**Factors Affecting Choice of Providers:** In this section we have analyzed the effects of different factors influencing the choice of providers. This analysis will be useful to deduce the reasons for choice of different providers. Moreover, this section also discusses the reported reasons for choice of providers.

**Effects of Socioeconomic and Demographic Factors:** The vast majority (61.4%) of the poorest households received treatment from informal providers. Among the richest quintile households, the proportion of those received treatment from informal sources was low i.e. 44.8% (Fig. 2). Similar picture also emerged from observed socioeconomic status and acres of land ownership of the households. The destitute, the poor, the landless and the marginal landholders were more prone to seek treatment from informal providers.

The education level of patients influenced the choice of providers. The higher the education level (10+ years) of the patients, the less (32.0%) was the likelihood of the patients to seek care from informal providers. Interestingly, the findings suggest that the educated people preferred the modern private providers: about 60 percent of the educated patients (who had above 10 years of education) in all areas received treatments from modern private providers, and reasonably so (Fig. 3).

The choice of providers, especially for the dependents in households, is usually determined by the household head The education of household head as such is an important factor to influence the choice. It is evident that healthcare seeking was negatively associated with household heads' education. In other words, seeking care from informal providers decreases as household heads' education increases. Although healthcare seeking is negatively associated with household heads' education, the negative association is more pronounced in advanced village than in non-advanced village. Like education, household heads' main occupation influenced the choice of providers. The higher proportion of patients whose household heads engaged in low-grade occupation inclined to seek care from informal providers in all areas than those engaged in high-grade profession. Since the proportion of people engaged in high-grade profession is higher in the advanced village, the proportion of households seeking care from informal providers is lower in the advanced village than in the non-advanced village (Fig. 4).

Among the patients, more females than males visited informal providers in all areas, and the proportion of females visited the informal providers is much less in advanced village than in non-advanced village. There is no considerable effect of any specific age group in choosing informal providers. It appears from the above discussion that low household income; low level of education of the household heads and patients, and low-grade occupation of the household heads are important determining factors for choosing informal providers.

**Effects of Access Factors:** There are two types of factors, financial and non-financial, which determine patients' choice of a particular provider. Financial factors are: consultation fees, medicine costs, travel costs, diagnostics costs and other costs like food costs etc. Non-financial factors are: waiting time, travel time, distance to providers, availability, opening hour of facilities and operating hours of facilities, etc.

It is evident that informal providers do not charge consultation fees as such, but a considerable proportion of public providers take consultation fees from the patients although legally they are not supposed to do so. It is also evident that cost of medicine prescribed by public providers was much higher than that prescribed by informal providers. About 45% of the patients who sought care from informal providers said that they had to incur more than TK100 for medicine, while more than 80 percent of the patients visiting the public providers reported that they paid more than TK 100 for medicine. One of the reasons of the higher medicine costs in public hospitals may be that expensive medicine is needed for treating NCDs and proportionately more NCDs patients sought care from public hospitals. Travel cost is also found as an important factor to affect the choice of provider. There were no travel cost or little travel costs to reach the informal provider/facilities because in most cases informal providers visited patients' house. Moreover, providers' house/chambers were very close to patients'. But most of those who received care from public providers had to incur at least TK15 as travel costs. Obviously, the patients of non-advanced village than those of advanced village to visit the public facilities incurred higher travel costs. It follows that public care is more expensive to the patients. About 79 percent of the respondents who received care from informal providers reported that the expenditure for the last episode of disease was less than TK 50. On the other hand, 73 percent of the respondents who received care from public providers said that the total expenditure for the same was at least 150 Taka (See appendix Table 1). Most of the respondents who sought care from informal providers reported that distance to the providers was within 1.5 km, but most of the respondents who sought care from public providers said that it was more than 3 km. Travel

time is found as an important non-financial factor to affect decision on the choice of providers. Most of the respondents who sought care from informal providers responded that it took less than 15 minutes to get the facilities in all areas while most of the respondents who received care from public providers said that it was more than 15 minutes. Waiting time is also found as an important factor. About 67 percent of the respondent who sought care from informal providers reported that they got instant services. On the other hand, 88 percent of the patients visiting public providers said that rather they had to wait for long time for the services.

About 89 percent of the respondents who sought care from informal providers replied that the providers gave medicine from their own bags or dispensaries, while about 76 percent of the respondents who received care from public providers replied that public providers did not give them any medicine, they only prescribed medicine and sometimes mention the name (s) of the shop from where to purchase the medicine. Most of the respondents who received care from informal providers said that opening hour and operating hours maintained by the providers were convenient to them and most of the respondents said that the informal providers conduct operating hour throughout whole day and at night if needed.

Table 1: Estimated model

| Provider | | B | Std. Error | Wald | Sig. | Exp(B) |
|---|---|---|---|---|---|---|
| Informal provider | Intercept | 11.977 | 1.952 | 37.650 | .000 | |
| | O_EDU | 1.988 | 1.511 | 1.730 | .188 | 7.299 |
| | DU_ILLNE | -.954 | .102 | 9.352 | .002 | 0.046 |
| | SERI_ILL | 3.097 | .628 | 24.295 | .000 | 22.134 |
| | H_VISIT | -7.715 | 1.727 | 19.955 | .000 | 4.459E-04 |
| | S_MED_O | -2.149 | .540 | 15.855 | .000 | .117 |
| | DIS_PRO_ | -3.667 | .620 | 34.933 | .000 | 2.554E-02 |
| | TV_TIM_ | .541 | .592 | .835 | .361 | 1.718 |
| | TV_COST | .147 | .609 | .058 | .809 | 1.158 |
| | PRIVACY | -1.809 | .605 | 8.947 | .003 | .164 |
| | ALL_OPEN | .251 | .578 | .189 | .664 | 1.285 |
| | E_DAY_PR | -2.327 | .531 | 19.213 | .000 | 9.757E-02 |
| | HI_PERCE | -1.979 | .687 | 8.286 | .004 | .138 |
| | H_INCOM | -.946 | .531 | 3.174 | .075 | .388 |
| | BAR_PROV | -2.290 | .565 | 16.409 | .000 | .101 |
| | ME_COST | -.689 | .516 | 1.782 | .182 | .502 |
| | CON_FEE | .778 | .551 | 1.994 | .158 | 2.178 |
| Modern Private provider | Intercept | 1.531 | 2.667 | .329 | .566 | |
| | O_EDU_ | 2.674 | 1.420 | 3.543 | .060 | 14.495 |
| | DU_ILLNE | 1.454 | .529 | 7.547 | .006 | 4.282 |
| | SERI_ILL | 2.278 | .635 | 12.885 | .000 | 9.758 |
| | H_VISIT | -3.706 | 2.315 | 2.563 | .109 | 2.458E-02 |
| | S_MED_O | -.102 | .553 | .034 | .854 | .903 |
| | DIS_PRO_ | -2.615 | .676 | 14.982 | .000 | 7.319E-02 |
| | TV_TIM | -1.281 | .657 | 3.796 | .051 | .278 |
| | TV_COST_ | 1.511 | .660 | 5.243 | .022 | 4.529 |
| | PRIVACY | -2.605 | .719 | 13.122 | .000 | 7.390E-02 |
| | ALL_OPEN | 1.836 | .821 | 5.000 | .025 | 6.270 |
| | E_DAY_PR | -1.340 | .581 | 5.324 | .021 | .262 |
| | HI_PERCE | -2.754 | 1.111 | 6.146 | .013 | 6.370E-02 |
| | H_INCOM_ | -.263 | .520 | .257 | .612 | .768 |
| | BAR_PROV | -1.893E-02 | .670 | .001 | .977 | .981 |
| | ME_COST | -.358 | .569 | .396 | .529 | .699 |
| | CON_FEE | 3.801 | .556 | 46.794 | .000 | 44.759 |

The poor patients are likely to be more attached to those providers who allow paying on credit. The vast majority of the respondents who received care from informal providers said that their providers allowed them to pay on credit . On the other hand, almost all the respondents who sought care from public providers and modern private providers

said that they had to pay for healthcare at the time of receiving it. One question was asked to the respondents as to whether they could bargain with the providers for concession in payment or for prescribing lower cost of medicine, or both. The majority of the respondents who sought care from informal providers replied that they could bargain for prescribing lower cost medicine, but the overwhelming majority of those who visited public providers said that they could not do so.

It appears that the access to informal providers in terms of consultation time, cost of medicine, travel cost, distance, travel time, place of delivering services, source of medicine, allowing to pay on credit and bargaining for concession is much easier than to the public providers, and these factors have greatly influenced the choice of the patients in favour of informal providers.

**Perceived Quality of Care:** In both areas, almost all who sought care from informal provider reported that informal providers were cordial, they listened to their problems with perseverance and they gave them detailed advice how to take medicine. Moreover, the majority said that they maintained privacy, behaved with them friendly, and gave them enough time to describe the condition. About 79 percent said that informal providers consulted with them over 6 minutes. Above all, almost all the respondents were highly satisfied with informal providers. But, most of those who sought care from public providers were not satisfied with them. It is surprising that reported outcome of treatment is lower among those who received care from public providers. The possible reason is that more NCD patients sought care from public providers and the cure rate of NCDs is usually lower than CDs.

The overwhelming majority of the patients who sought care from informal providers said that they did not visit other providers before visiting the informal providers, but a large proportion of the patients visited public providers said that they visited other providers before. The findings indicate that most of the patients visited public facilities and (or the modern private facilities) after becoming frustrated with the treatment of the informal providers, but they go to the informal providers first.

**Self-Reported Views:** In order to identify the major reasons for choosing a particular provider, the respondents were asked some questions. Three most important responses were collected for each question. Irrespective of the areas, the highest proportion of the respondents who sought care from informal providers stated that 'low cost of treatment' is the first most important reason for receiving treatments from them followed by 'physician is experienced and impressive' But a substantially higher proportion of the respondents of non-advanced village said that low cost of treatment is the main Table 1. The likelihood ratio test of the goodness of fit of the estimated model is highly significant. A good number of explanatory variables are found statistically significant (by Wald test) with expected signs (Table 1).

In comparing between informal providers and public providers it is evident that the patients with minor illness are 22 times more likely to choose informal providers than are with serious illness (p=0.000). The patients with more than 15 days of illness are significantly less likely (95%) to choose informal providers than are with fewer days' illness. The patients are significantly less likely to choose informal providers in the cases: if informal providers do not visit their house, if they do not give medicine from their own bag or dispensary, if the distance to providers is more than 2 km, if the patients can not bargain with the providers for concession in payment of fees, if the providers do not maintain privacy, if the providers do not practice everyday a week, if perception of people about the informal providers is not good, and if households annual income is more than Tk 50,000.

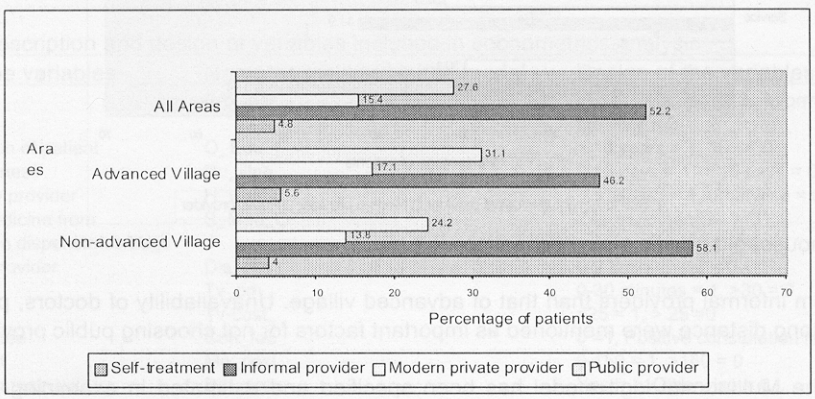


Fig. 1: Area-wise percentage distribution of patients by type of providers

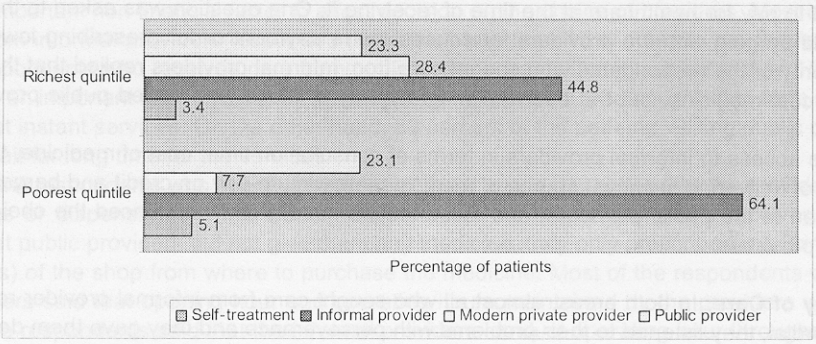


Fig. 2: Sources of care by income quintile

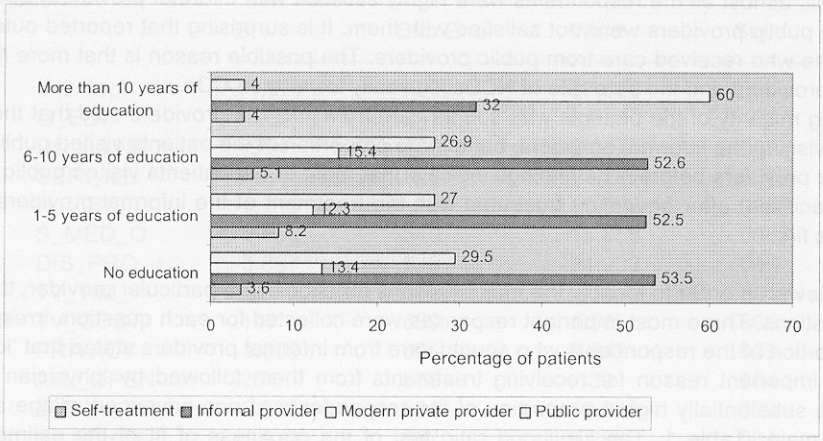


Fig. 3: Sources of care by patient's education

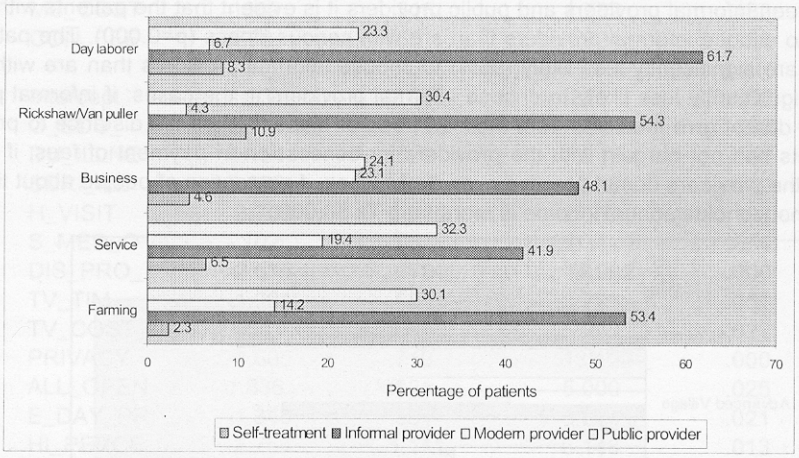


Fig. 4: Sources of care by household head's main occupation

reason for seeking care from informal providers than that of advanced village. Unavailability of doctors, poor quality of care, poor outcome and long distance were mentioned as important factors for not choosing public providers.

**Econometric Analysis:** The Multinomial logit model has been specified and estimated in examining the choice between public, modern private and informal providers where choice of public provider is used as reference outcome. A total of 556 observations, collected from individuals who sought treatment from any of the three above-mentioned

sources, are used to estimate the model. A large number of explanatory variables included in the model are used as categorical variables. The detailed description of the variables (including their design) entered into the model is shown in Appendix,

In comparing the modern private providers and the public providers. The patients with above 10 years of education are 14 times more likely to choose modern private providers than are with less education (p=0.06). The patients with more than 15 days of illness are 4 times more likely to choose modern private providers (p=0.006) than are with 15 days or less than 15 days of illness. The patients with minor illness are 10 times more likely to choose modern private providers than are with severely illness. The patients are 44 times more likely to choose modern private providers if they charge consultation fees. This is very interesting because the patients do not want free care. In other words, they want to pay for quality care. The patients are significantly less likely to choose modern private providers in the following cases: if distance to providers is more than 2 km, if travel time is more than 30 minutes, if the providers do not maintain privacy, if the providers do not practice everyday a week, and if perception of people about modern private providers is not good.

## Conclusion

Informal providers considerably exist in the rural areas and a vast majority of the patients seek healthcare from informal providers irrespective of socioeconomic status, health conditions and diseases. The people of non-advanced villages are more inclined to informal providers than that of advanced villages. Females, the poor, less educated people, people engaged in low grade profession, and patients with minor illness and short duration of illness are more prone to seek care from informal providers. Easy access, availability of informal providers, cheap treatments, and good perception are the important determining factors for the choice of informal providers. Public providers are more competent and have more expertise. But a considerably lower proportion of patients seek care from them because of unavailability of providers in practice in government hospitals, long distance from patients' house, long travel time and perception of the people about public providers not being serious. However, demand for modern care is increasing with economic development. On the other hand, the supply of informal care is declining. Several policy recommendations can be elicited from the study findings:

Reducing the supply of informal care through adoption of measures to either stop delivery of medical care by informal providers or bring the informal providers into a system so that they can be trained up and be accountable to the public providers.

Increasing the supply of modern healthcare in rural areas through (i) increasing the availability of doctors in lower level facilities and giving them some incentives to stay there; (ii) ensuring appropriate input-mix and skill-mix through increased amount of the basic equipment with the provision of regular maintenance and increasing the core personnel associated with them; (iii) enhancing monitoring, supervision of their activities and ensuring accountability; (iv) increasing the scale of union sub-centres in terms of facilities; and (v) providing outreach service so that modern services will be available at the doorsteps.

Increasing the demand for modern health care through

Improving the quality of service of public hospitals and to enhance people's confidence in the services of public hospitals through (i) improving social interaction and motivation; (ii) improving reception system; (iii) maintaining a chart of available services; and (iv) enhancing behavioral pattern of both physicians and staff.

Motivating people towards modern treatment through formal and informal health education, media campaign and so on.

## Appendix

Table 1: Description and design of variables included in econometrics analysis

| Name of the variables | Name as included in the model | Design of the variables |
|---|---|---|
| Provider | Provider | Public provider = 3, Informal provider = 1, modern private provider = 2 |
| Own education of patient | O_Edu | > 10 years = 1, 10+ = 0 |
| Duration of illness | Du_illne_ | 0-15 days = 1, > 15 days = 0 |
| Home visit by provider | H_visit | Home visit = 1, otherwise = 0 |
| Source of medicine from provider's own dispensaries/bags | S_Med_O | Yes =1, otherwise = 0 |
| Distance to provider | Dis_pro_ | 0-2 km = 1, > 2 = 0 |
| Travel time | Tv_tim_ | 0-30 minutes = 1, >30 = 0 |
| Travel cost | Tv-cost_ | =25 = 1, > 25 =0 |
| Consultation fee | Con_fee_ | 0 =1, Positive consultation fee = 0 |
| Medicine cost | Me_cost_ | 0-150 = 1, >150 = 0 |
| Patient can bargain with provider | Bar_prov | Yes = 1, Otherwise = 0 |
| Providers maintain privacy | privacy | Yes =1, otherwise = 0 |
| Friendly behaviour of provider | P_B_Frind | Yes = 1, otherwise = 0 |

| | | |
|---|---|---|
| Provider is available everyday | E_day_pr | Yes = 1, otherwise = 0 |
| Facility always open | Al_open | Yes = 1, Otherwise = 0 |
| High perception | Hi_perc | Yes =1, otherwise = 0 |
| Annual Household income | H_Incom_ | =50000 =1, > 50000 = 0 |

## Reference


Akin, J. S. and P. Hutchinson, 1999. Healthcare Facility Choice and the Phenomenon of Bypassing. Health Policy and Planning, 14: 135-151

Andaleeb, S. S., 2000. Public and Private Hospitals in Bangladesh: Service Quality and Predictors of Hospital Choice. Health Policy and Planning, 15: 95-102

Beaulieu, N. D., 2002. Quality Information and Consumer Health Plan Choices. J. Health Economics, 21: 43-63

Bir, A. and K. Eggleston, 2002. Public/Private Corporation: Theory and Evidence on the Quality Impact of Dual Provision in Indonesia. Harvard Medical School, Department of Healthcare Policy, Boston, Massachusetts, USA.

Bolduc, D., G. Lacroix and C. Muller, 1996. The Choice of Medical Providers in Rural Benin: A Comparison of Discrete Choice models. J. Health Economics, 15: 477-498

Demography and Health Survey (DHS), 2000. Ministry of Health and Family Welfare, Government of Bangladesh.

Dor, A., P. Gertler and J. Van der Gaag, 1987. Non-price Rationing and Choice of Medical Care Provider in Rural Cote D'Ivoire. J. Health Economics 6: 291-304

Germano, Mwabu, Martha Ainsworth and Andrew Nyamete. 1993. "Quality of medical care and choice of medical treatment in Kenya: An empirical analysis", The J. Human Resources, 28: 838-862

Harris, K., J. Schultz and R. Feldman, 2002. Measuring Consumer Perceptions of Quality Differences among Competing Health Benefit Plans. J. Health Economics 21: 1-17

Hellar, P., 1982. A model of Demand for Medical and Healthcare in Peninsular Malaysia. Social Science and Medicine 16: 267-84

Hosmer, D. W. and S. Lemeshow, 2000. Applied Logistic Regression, Second edition, John Willy and Sons. Inc.

Jahan, N. A. *et al.* 2003. Determinants of Unofficial Fees in Some Selected Hospitals in Bangladesh (unpublished)

Lafond, A. K., 1995. Improving the Quality of Investment in Health: Lessons on Sustainability. Health Policy and Planning 10: 63-76

Litvack, J. and C. Bodart, 1992. User fees and quality of healthcare in Cameroon: Policy implications of a field experiment Mimeo

Lonnroth, K., L. M. Thuong, P. D. Linh and V. K. Diwan, 2000. Utilization of Private and Public Healthcare Providers for Tuberculosis Symptoms in Ho Chi Minh City, Vietnam. Health Policy and Planning, 16: 47-54

Lonnroth, K., T. U. Tran, L. M. Thuong, H. T. Quy and V. Diwan, 2001. Can I Afford Free Treatment?: Perceived Consequences of Healthcare Provider Choices Among People with Tuberculosis in Ho Chi Minh City, Vietnam. Social Sci. and Medicine, 52: 935-948

Mwabu, G., M. Ainsworth and A. Nyamete, 1993. Quality of Medical Care and Choice of Medical Treatment in Kenya: An empirical Analysis. The J. Human Resources, 28: 838-862

Nguyen, T. H. H., B. Peter and L. Ulla, 2002. Household Utilization and Expenditure on Private and Public Healthcare in Vietnam. Health Policy and Planning, 17: 61-70

Puig-Junoy, Mark Saez, and Esther Martinex-Garcia, 2000. "Healthcare provider choice of patient initiated contacts: An extended version of discrete choice of model demand"

Rous, J. and D. R. Hotchkiss, 2000. Estimation of the Determinants of Household Healthcare Expenditures in Nepal with Controls for Endogenous Illness and Provider Choice. Department of Economics, University of North Texas, Texas, USA