Health status and its implications for the livelihoods of slum dwellers in Dhaka city

Shiree Working Paper 11






Extreme Poverty Research Group (EPRG)

shiree

House 5, Road 10, Baridhara, Dhaka-1212, Bangladesh
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The Extreme Poverty Research Group (EPRG) develops and disseminates knowledge about the nature of extreme poverty and the effectiveness of measures to address it. It initiates and oversees research, acts as a learning and sharing mechanism, and assists in the translation of learning into advocacy. It is an evolving forum for the shiree family to both design and share research findings.

The data used in this publication comes from the Economic Empowerment of the Poorest Programme (www.shiree.org), an initiative established by the Department for International Development (DFID) and the Government of Bangladesh (GoB) to help 1 million people lift themselves out of extreme poverty. The views expressed here are entirely those of the author(s).

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Abbreviations

ANC	Antenatal Care
BDT	Bangladesh Taka
HH	Household
BHH	Beneficiary Household
NHH	Non-beneficiary Household
CBO	Community Based Organization
CBS	Community Based Support Groups
DCC	Dhaka City Corporation
DFID	Department for International Development
DRRF	Disaster Risk Reduction Fund
DSK	Dushtha Shasthya Kendra
FGD	Focus Group Discussion
GoB	Government of Bangladesh
IOM	International Organization for Migration
KA	Karail
KAP	Knowledge, Attitudes and Practices
KC	Kamrangirchar
MDG	Millennium Development Goal
NGO	Non-Government Organization
PHC	Primary Health Care
PNC	Postnatal Care
THH	Targeted Households
WatSan	Water and Sanitation
WHO	World Health Organization

EXECUTIVE SUMMARY

Poverty and ill-health has very strong link up. Poverty causes ill-health while ill-health may also be one of the major causes of poverty. Health or physical labour capacity is one of the main assets for the extremely poor. But most of urban extremely poor people are living in crowded urban slums, live and work in unhealthy conditions, lack nutritious food, clean water and decent sanitation, and tend to be poorly educated. These conditions make illness much more likely and more serious.

The Universal Declaration of Human Rights 1948, recognized health care as one of the fundamental rights for every human being. Although proximity to health care is greater in urban Bangladesh in comparison with rural areas, this does not translate into better access, as most slum dwellers don't know how to use the urban health care system.

Since April 2009, the Bangladesh-based non-governmental organisation Dushtha Shasthya Kendra (DSK) implemented a project named "Moving from extreme poverty through economic empowerment (capacity building, voice and rights) of extreme poor households". The project was supported by *shiree*[1]/ Economic Empowerment for the Poorest (EEP) Programme and funded by UKaid from the Department for International Development (DFID) and The Government of Bangladesh (GoB). The main goal of the project was to provide livelihood-enhancing opportunities, with the aim of lifting at least 25,000 slum dwellers in Dhaka city out of extreme poverty by 2015. This would contribute directly to achieving targets 1 and 2 of MDG 1- the eradication of extreme poverty and hunger.

Due to the importance of health, since inception, the project provided primary health care services from its five static clinics and twenty-five satellite clinics to urban slum dwellers across all project areas using health cards. Project beneficiaries also received common medicines subsidized at half price. A referral system was also available to beneficiary households for specialized health services and hospitalization at the DSK Central Hospital.

This paper reports on the research conducted by DSK-Shiree into its programme areas and beneficiaries, focusing on acute and chronic illnesses and their implications on the overall livelihoods of extreme poor slum dwellers in Dhaka city. This paper reports mainly qualitative information from this research, but with some reference to quantitative data to capture the duration and frequency of illnesses and associated expenditures and losses.

The most common illnesses observed included joint pain or back pain, peptic ulcer disorder (PUD), dysentery, diarrhoea, fever, cough, typhoid, scabies and other skin diseases, heart disease and hypertension, tuberculosis, ringworm, jaundice, tumours and cancers, pregnancy related complications, asthma, hydroceles, eye problems, dental complications, and injuries caused by road accidents. We observed some seasonal variation in disease and our quantitative study showed that more than 91 per-cent of households experienced at least one illness in the last three months.

Although service providers from the public, private and NGO sectors are active in Dhaka city, most slum dwellers have very limited access to modern facilities due to financial inability and a lack of information and awareness about how to utilize services. Due to government policy, most common public services including health, water supply, sanitation, electricity and cooking gas facilities are not available within slums, especially those situated on public land. Only limited NGO services and a few private services, such as pharmacies, are available within slums and most NGO services are limited to primary health care and

maternal health (such as antenatal and postnatal care and safe delivery support) along with some awareness-raising activities. NGO services are generally only available during office hours, more than 45 per cent of patients visit local pharmacies, quack doctors and traditional healers. For serious illnesses, patients go to major public hospitals, which they are not familiar with. However, in many serious cases, they go too late. Also many slum dwellers report negative experiences of service in public hospitals. They often face stigmatization and rough behaviour from service providers and, to be allowed admission, junior employees and local agents often demand illegal fees. There were reports about public hospitals that were more positive.

Based on case studies, between 7,000 and 120,000 taka was being spent on the treatment of individual medical cases. Once opportunity cost of illness was also considered the overall cost doubled or tripled. Despite these high costs, not all patients were cured fully and some still suffered from the same or similar problems. Based on the quantitative survey, average health expenditures were around 10 per cent of monthly cash income, but were sometimes as high as 120 per cent. Besides direct cash expenditures, households also faced losses because of reduction in working days, salary cuts or complete job loss. In order to cope many households were forced to use savings, borrow money from formal and informal sources, spend working capital, or sell assets. Children and adolescents often started working early and lost out on education.

We observed that many slum dwellers were malnourished, lived in unhygienic conditions, and ate unhealthy food and unsafe drinking water. These were underlying causes of many health-related problems. Many extremely poor slum dwellers could not manage three meals per day and could only afford low quality food items. High calorie foods like fish, meat, eggs and milk were rarely consumed. Recent price food increases made them more dependent on low quality food. Many slums, especially those established on the public land, had no gas supply. In order to conserve firewood and time, most of the slum dwellers cooked just once or twice per day and for the rest of the day ate leftovers. They often used unsafe water on leftover rice to make it edible.

In addition to poor housing, latrine and drainage facilities were also neglected. Some latrines looked sanitary, but they mostly had no functioning water seal and were usually directly linked with the drainage system or with nearby water bodies (such as lakes, rivers and standing water). Drainage was usually very poor in slums, and in most cases existing drainage was open and blocked with garbage. Even during light rain this created waterlogging and caused raw garbage and sewerage to overflow. Many slum houses were elevated over water bodies (such as lakes, rivers, canals, drains and standing water) and garbage dumping points. Unfortunately most of open water sources in Dhaka city are badly polluted with residential and industrial refuse, as the majority of slums have no refuse management system.

From the case studies, it is clear that health support from DSK-Shiree project had aided many slum dwellers providing primary health care, consultations with specialist doctors and access to hospital. Also beneficiaries have gained confidence and recovered from financial losses with the help of the project. However the project is not able to provide support for all urban slum dwellers. Many non-beneficiary households were suffering from acute or chronic illness, and had already lost or were losing their working capacity, which was their most important asset to survive within the urban circumstances.

Considering the overall findings, besides primary healthcare and awareness raising activities, development organizations (NGOs) or projects should be incorporated into significant health interventions, covering both acute and chronic illnesses, to assist slum dwellers in protecting the gains.

Specialist doctors should visit local static clinics in slums at least two days per week. Effective formal and informal linkages can be strengthened between NGOs along with community based support groups and local health service providers with a sensitized mandate in favour of extreme poor slum dwellers. Specialized private hospitals can be encouraged to provide some subsidized or free services. Besides formal referral systems, organizational follow-up support is needed to ensure proper service from public hospitals. A voucher system could be effective for covering medicine and diagnostic and other costs. Local government officials (such as ward commissioners) could issue special health cards to provide beneficiaries free or subsidized health support from public or specialized private hospitals.

The health department could establish mini public clinics within the slums or adjacent areas targeting the urban extreme poor. These could act as branch referral centres for public hospitals. A separate and friendly information system or supporting desk could be established at public hospitals for extremely poor people who have limited knowledge and capacity to get access to services.

Community based support (CBS) groups can be developed which focus on health, nutrition and hygiene, with specific information about affordable service providers from the NGO, public and private sectors, within and near slums. Maps showing available health service providers could be provided by front line staff members and community based support groups (using fliers, small digital banners and billboards). Community based information centres could also be developed providing information of local service providers.

The health care system alone will not be able to solve multi-dimensional problems of extremely poor slum dwellers. Slum development plans and cluster-housing schemes, with health, education, water-sanitation and transportation services for low-income groups, could also be piloted, drawing from international experience. Based on national and international policies and commitments, private industry, especially garment factories, could also take more responsibility for employee medical costs.

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It is my pleasure to write this acknowledgement for the study on "Health situations and its implications for the livelihoods of the slum dwellers in Dhaka city". The study has been developed with the aim of compiling the existing evidence on how health issues effect livelihoods of the extreme poor people living in the slums, and to shed light on possible policy options for its improvement.

This will also facilitate active discussion on the issues of health and poverty change in Bangladesh among representatives from the government, civil society, donor communities, and national and international and NGOs.

I would like to give thanks to the Extreme Poverty Research Group (EPRG) for undertaking this initiative to raise greater understanding on health issues. I hope this study will contribute to DSK's efforts to address the problems of health issues in a more effective manner. All unit office management team, Sub-Assistant Community Medical Officers (SACMO), Community Health Workers (CHWs), Community Health Promoter (CHPs), and Monitoring and MIS team members as well as Beneficiaries respondents, deserve our special appreciation. Without their cooperation, this study would not have been possible.

We like to express our sincere gratitude to the Bath University team including Dr. Joe Devine and Professor Geof Wood, Lucia Da Corta and Sally Faulkner for their continuous guidance, supports, and editing during conducting the overall study and preparing the report. I must acknowledge contribution from the EPRG team, Dr. Munir Ahmed, Kira Galbraith, Sam Beckwith and Colin Risner for their generous help, keen interest and insightful questions which guided us to look into the appropriate direction. We also like to give a special thanks to Dr. Peter Davis from The Social Development Research Initiative, United Kingdom for his brilliant edit and feedbacks towards finalizing the report.

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CONTENTS

1. INTRODUCTION

There is a proverb in Bangla, '*sasthyoi shompod*' which means, health is wealth. Article 25 of the Universal Declaration of Human Rights 1948 states that 'everyone has the right to a standard of living adequate for the health, and wellbeing of himself and his family...'. The preamble to the World Health Organization's constitution also declares that it is one of the fundamental rights of every human being to enjoy 'the highest attainable standard of health'. Inherent in the right to health is the right to healthy living conditions as well as medical care[1].

According to the World Health Organization, 'health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'.[2] Health is essential for an individual to run their everyday life, conduct work and live happily.

Protecting health is particularly crucial for maintaining the livelihoods of extremely poor people in urban slums. Urban slum dwellers don't usually have other skills or assets, and tend to be dependent on their ability to do physical labour to earn a living. In addition, living costs are relatively high in urban areas, making a steady household income essential for maintaining a household. For urban slum dwellers even a short interruption in income caused by illness can precipitate a crisis.

Proximity to health care is greater in urban Bangladesh than in rural areas, but proximity doesn't always ensure better access or utilization. This is because most slum dwellers are not aware of how to utilize urban health care systems (Rasheed, Shabrina and George Smith 2010). Many are not aware of regular health services, and do not have the connections or financial capacity to use modern health facilities. Extremely poor slum dwellers in Bangladesh also regularly face stigmatisation and discrimination. And when they attempt to access

Box 1: Slums in Dhaka city

Dhaka is the capital city of Bangladesh and one of the most densely populated and rapidly expanding mega-cities in the world. Unfortunately the expansion and growth are not well planned. It is estimated that every year 300,000 to 400,000 new migrants come to Dhaka from different parts of the country. As a result, every ten years the population of Dhaka is doubling. Most new migrants are poor or extremely poor. Poor people make up almost 40 percent of the population, or five million people. They mainly reside in more than 5,000 slums across the city.

Most slum dwellers come from different disaster prone, river eroded and *monga* affected areas such as northern *chars*, *haors*, and coastal belts, and many other pockets of extreme poverty all over the country. According to the International Organization for Migration (IOM), around 70 percent of slum dwellers in Dhaka moved there after experiencing some kind of environmental hardship such as those caused by cyclones, floods, river erosion or droughts. These all have links to climate change so many of these people could be described as climate refugees. Although these people significantly contribute to the work force in garments and textile factories, leather and other small industries, transportation, land development, construction, domestic service, small businesses, waste management and many other informal sectors, they are among the most neglected communities in the country.

[1] http://en.wikipedia.org/wiki/Right_to_health
[2] http://www.who.int/about/definition/en/print.html

services in both public and private health care facilities they are forced to tolerate discrimination and bad behaviour.

Many slum dwellers are illiterate, live in unhygienic conditions, eat unhealthy food and drink unsafe water. These conditions create many health problems. However solutions to these reach beyond health care system and call for wider development and reform require collaboration and cooperation between governmental and non-governmental organizations (Rasheed, Shabrina & George Smith 2010).

1.1 HEALTH IN THE DSK-SHIREE PROJECT

Dushtha Shasthya Kendra (DSK) is a non-governmental organization (NGO) which has been operating since 1988. Initially it was set up to provide health services for flood-affected people, especially in Dhaka city. Since then DSK has grown and now provides services to more than 900,000 people from 74 upazilas in 15 districts in both urban and rural Bangladesh. DSK's urban programs target slum dwellers and low-income communities. In rural areas DSK works with hard-to-reach poor and extremely poor households in the *haors*, northeast, and coastal districts, all of which are recognized as pockets of poverty in Bangladesh. Currently, DSK implements programs in health, education, microfinance, agriculture, water supply, sanitation, food security, and livelihoods.

Since April 2009, DSK has implemented a project entitled "Moving from extreme poverty through economic empowerment (capacity building, voice and rights) of extreme poor households". The project is supported by *shiree*[1] (Economic Empowerment for the Poorest (EEP) Programme) funded by UKaid from the Department for International Development (DFID) and The Government of Bangladesh (GoB). The major goal of the project is to provide livelihood-enhancing opportunities, with the aim of lifting at least 25,000 slum dwellers in Dhaka city out of extreme poverty by 2015. This contributes directly to achieving targets 1 and 2 of MDG 1- the eradication of extreme poverty and hunger.

By March 2012 the first phase of the project was completed and had provided support to 10,000 beneficiary households. The major working areas are slums in Karail and Kamrangirchar areas in Dhaka, although later the project area increased to cover slums located in Lalbag, Hazaribag, and Mohammadpur, also in Dhaka. From experience in the largely successful implementation of the first phase of interventions, a second phase started since April 2012 covering an additional 15,000 extremely poor households in Dhaka city.

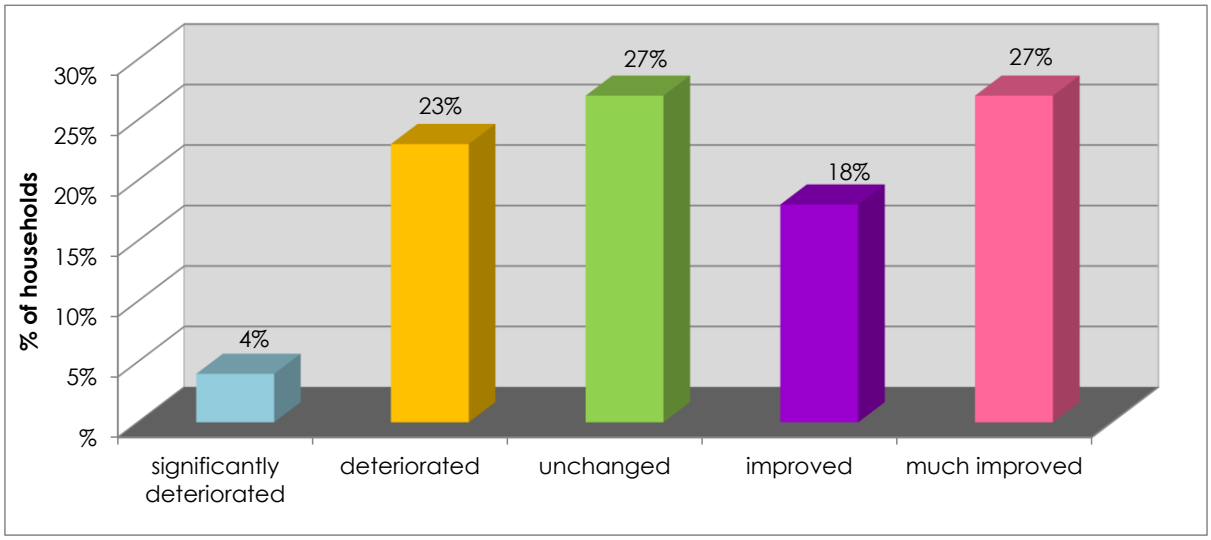
Poor health is a common characteristic among the extreme poor. This is illustrated by data collected as part of the project's monitoring research[3]. In October 2010, 48 per cent of extremely poor household heads across all scale fund[4] NGOs, and 54 per cent of DSK beneficiaries, had suffered from fever in the previous 30 days (Shiree 2010).

Based on CMS2 of Jun-July 2011 conducted by shiree (Figure 1), 27 per cent of households reported deterioration in health (across all scale fund partner NGOs) and in DSK working sites, and two thirds of households had members who had acute or chronic illness in the previous two years.

[3] *shiree* and its partner organizations conduct monitoring research into *shiree*-supported projects. These are known as Change Monitoring Systems (CMS). There are 6 change monitoring systems (CMS) existing in different *shiree* projects.

[4] *shiree* provides two types of funds: a scale fund and an innovation fund. The former gives NGOs the opportunity to expand successful existing programmes; the latter to design new approaches to reduce extreme poverty in urban and rural areas.

Figure 1: Household health conditions over one month (from 3rd June to 2nd July 2011)

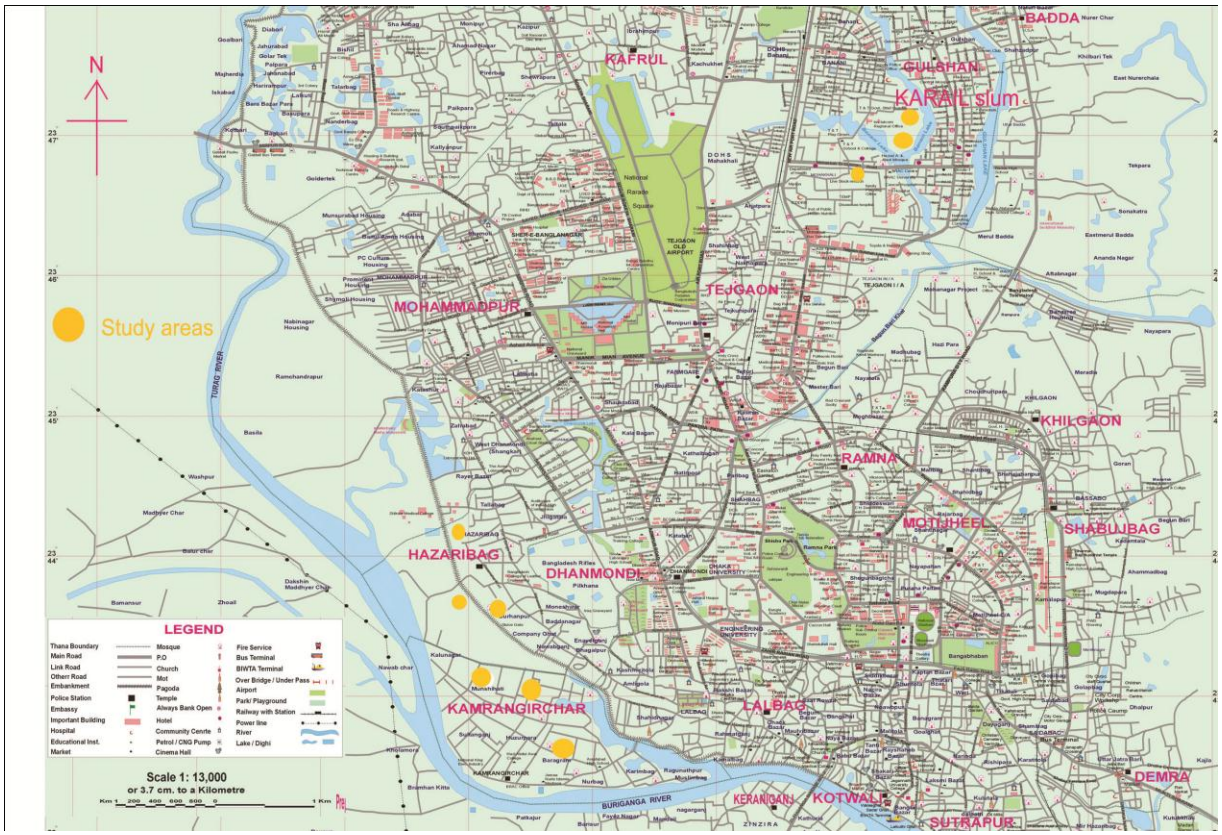


In February 2011, a small internal study was conducted by DSK-shiree research team at the project areas. The study also showed that 85 per cent (n=20) of beneficiary households of Karail and Kamrangirchar had experience of some kinds of illnesses during the previous 30 days.

Due to poor health, a number of extremely poor households were spending a significant amount of money on treatment, whilst simultaneously losing working capacity and income opportunities. As a result many were forced to sell productive assets in order to cope. It was also common for individuals to lose jobs as a result of illness due to absence from the workplace for long periods, and other family members and caregivers also faced reduced income because they had spent time caring for the ill person.

Because health seemed so important for the livelihoods of urban slum dwellers, DSK and *shiree* decided to conduct research into the relationship between ill-health and livelihoods for extremely poor slum-dwellers in Dhaka city. The study also investigated the health-seeking behaviour of DSK beneficiaries. The lessons learned from this research have helped us to identify problems and recommend policy and public action for improved health services for extremely poor urban slum dwellers.

1.2 MAP OF THE STUDY AREA



2. RESEARCH QUESTIONS

Through this research we aimed to investigate the causes and types of illness among extremely poor urban slum dwellers. We also aimed to investigate the impact illness had on livelihoods, and what coping strategies were employed – in terms of getting access to health services and maintaining livelihoods. We were particularly interested in the effectiveness of existing health services, including those provided by DSK.

3. METHODOLOGY

In the study we had access to both primary and secondary data. Qualitative methods were used to collect primary information, with some secondary quantitative data used to capture duration and frequency of illness and resulting expenditure and loss.

Ten case studies were conducted from both male and female-headed households. Both acute and chronic illness cases were considered and illnesses of household heads, spouses and dependents, were examined as part of case studies. In addition to case studies, five focus group discussions (FGD) (three for beneficiary households and two for non-beneficiary households), and two key informant interviews with health service providers were conducted. We used checklists to collect primary information in case studies, focus group discussions and key informant interviews.

Both of the two main working areas of DSK-Shiree project, Karail and Kamrangirchar, were targeted for the study and research was carried out by researchers in the DSK-Shiree project.

The team also reviewed relevant literature, analysed primary and secondary information, and developed a preliminary report. The team received support from time-to-time from *shiree*, from researchers from the University of Bath, and team members from DSK.

Table 1: Sample size for the study

Type of Interviewees	**Tools**		
	Case study	FGDs	Key Informant Interview
Beneficiary households (DSK-Shiree)	8	3	
Non-beneficiary households	2	2	
Service providers (DSK, UPHCP)			2
Total	**10**	**5**	**2**

In addition to the qualitative study, a KAP (Knowledge, Attitude and Practices) study was conducted in the same area in March 2012 and this paper also draws from relevant findings from this research. It was a quantitative survey of 110 households, using 80 beneficiary households, with the remaining 30 non-beneficiary households making up the reference group. The reference households were made up of potential beneficiaries for the next project phase who were still undergoing the selection and verification process. A multistage cluster sampling method was followed to select the sample households. The sample size was limited by the number of personnel available to conduct the study, and a pre-coded structured questionnaire was used. Health, nutrition and livelihood-related indicators were used.

The research was conducted under the umbrella of the Extreme Poverty Research Group (EPRG), which supports action research and learning about extreme poverty and interventions.

4. MAJOR FINDINGS

4.1 COMMON ILLNESSES FACED BY SLUM DWELLERS

Illness is a common cause of crisis faced by slum dwellers, but the type of health shock varies. The major illnesses were joint pain or back pain, peptic ulcer disorders (PUD), dysentery, diarrhoea, fever, cough, typhoid, skin diseases and scabies, hypertension, heart disease, tuberculosis, ringworm, jaundice, tumours, cancer, pregnancy-related complications, asthma, hydroceles, eye problems, dental complications and injuries from road accidents. There were seasonal variations in diseases, but fever, diarrhoea, dysentery and jaundice were common around the year. During winter, coughs, fevers, pneumonia, chicken pox, scabies and asthma were more prevalent. During the summer months, fever, diarrhoea, dysentery and chicken pox were common. In the rainy season, fever, diarrhoea, cholera, scabies, coughs and colds were frequent. Common acute illnesses were jaundice, typhoid, pneumonia, pregnancy-related

Box 2: Acute and chronic illnesses:
An acute illness is an illness that arrives quickly and hits hard, but is over in a short time such as common cold, cough, fever, typhoid or pneumonia. However it may very severe in that moment in time. A chronic illness is defined as a disease that develops slowly and lasts a long time. Examples of common chronic illnesses are diabetes, arthritis, congestive heart failure, and stroke. Chronic conditions are typically caused by multiple factors. A chronic illness is one lasting 3 months or more, by the definition of the U.S. National Center for Health Statistics. An acute illness can be chronic- a severe illness lasting a while.

problems, tuberculosis, while common chronic illnesses included asthma, gastric, cancer, tumours, hydroceles, hypertension and heart disease.

Based on the quantitative study, the numbers of common diseases were recorded from the slum dwellers in Dhaka city. During the previous 3-month period, 41 per cent of beneficiary households and 33 per cent of non-beneficiary households had members who had been affected by a fever of some kind. Frequencies of other illnesses are provided in Figure 1, below.

Figure 1: Different types of diseases faced by the household members in last 3 months

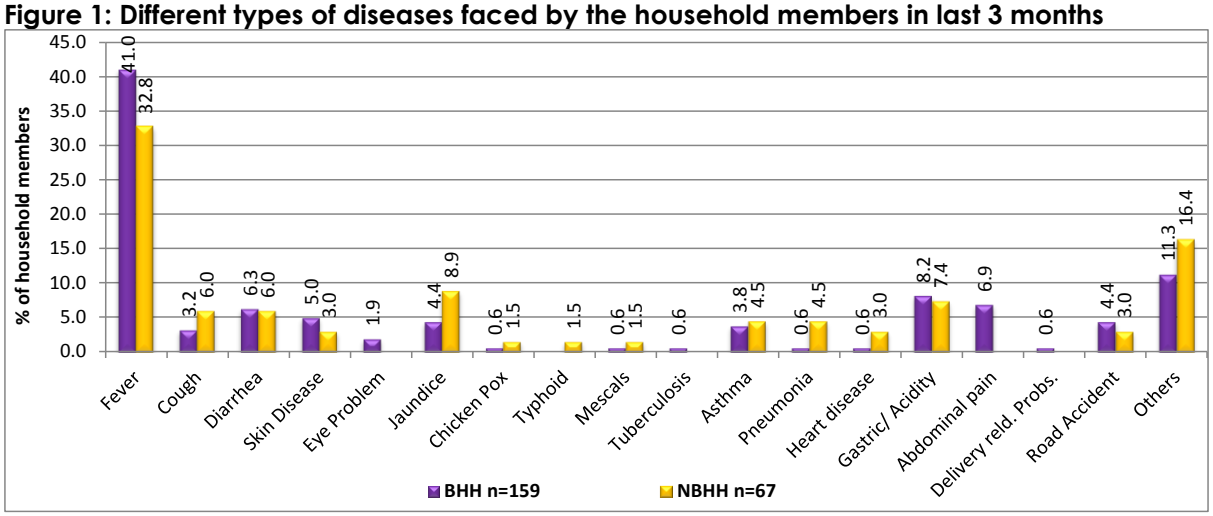
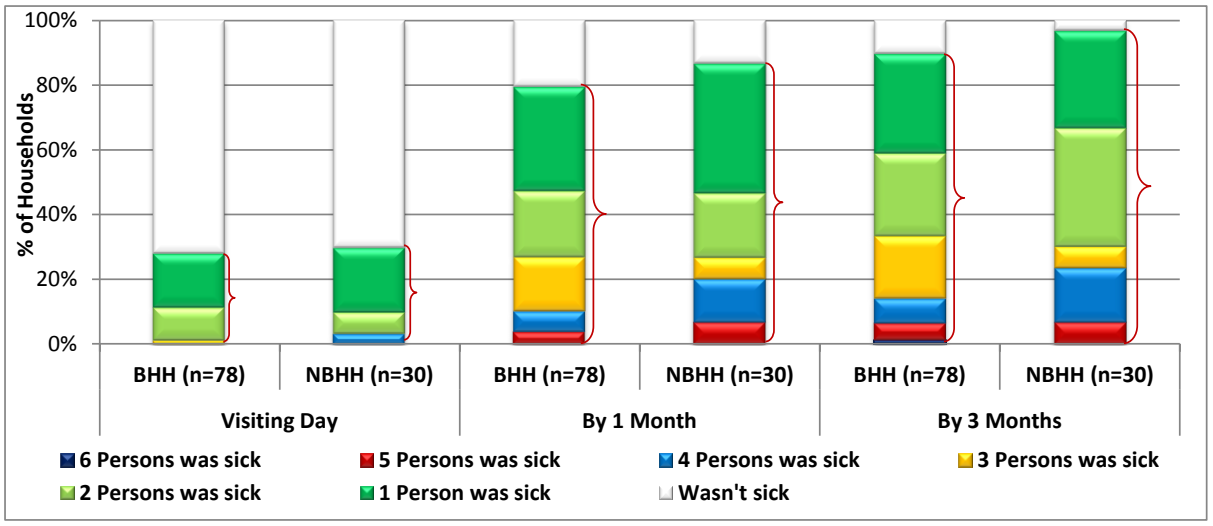


Figure 1 also shows that some diseases were more prevalent in beneficiary households while others were more prevalent in reference households. Figure 2 shows that in between one to six family members from more than 90 per cent of households had experienced at least one illness during the last three months. However the proportion was slightly lower in beneficiary households (90 per cent) compared to the reference group (97 per cent).

Figure 2: Proportions of households faced illnesses during previous 3 months



Similarly, a higher proportion of reference households (87 per cent) compared to the beneficiary households (79 per cent) had members who had suffered from an illness during the previous month. On visiting days themselves, 28 per cent of the beneficiary households had a member suffering from ill health, and 30 per cent of the reference households.

4.2 HEALTH-RELATED CHALLENGES FACED BY SLUM DWELLERS

Most slum dwellers faced the constant threat of a health-related shock. They had a higher prevalence of illness than non-slum dwellers, and a lower capacity to access proper treatment in time (Osman, F. A. (2009). Although there was some access to different types of health services, nothing is cheap in a mega-city like Dhaka, especially not for the extreme poor. Health shocks affected the livelihoods of slum dwellers in Dhaka city in a variety of ways and across many dimensions of their lives. Box 3 illustrates how a health-related shock affected an extremely poor household across multiple domains.

Box 3: Hydrocele is being ruined all dreams of Surujjaman and his family at Rayerbazar

Surujjaman (28) has been living in Dhaka for the last 15 years. His main income was from driving a rented rickshaw. Two years earlier he was married to a women name Parvin, but both their families did not accept the relationship. Now they live separately from their parents. They have a 13-month-old daughter and Parvin is 4 months pregnant.

Around 7 years before the interview, Surujjaman was hit in his testicles while pulling a rickshaw and was unconscious for 3 hours. Over time, slowly his scrotum swelled up (to around a kilogram in weight) and turned into a hydrocele. Although there was no pain, he effectively became disabled as it created problems during movement and when working. After 3 months he was forced to stop pulling a rickshaw and could not do any other physical labor. To manage the family expenditure Parvin started working as a domestic-helper, but only earns 1,300 taka per month and some daily meals.

After paying 1,200 taka per month as house rent, there was no money left for family expenditure. They were dependent on the food received from the domestic help work and sometimes they cooked this at night. Their only daughter was eating rice gruel with salt instead of milk and sugar. Two months before the interview when their daughter was sick, Parvin sold her nose stud for 1,000 taka in order to buy medicine. Within the three months before the interview, Surujjaman had to borrow 4,500 taka from his neighbors, although fortunately this was without interest as they were sympathetic to him.

To treat his condition he tried traditional healers (*kabiraj*) and homeopathic medicines, but there was no improvement. Using the support from one of his friends, he visited Sikder Medical College Hospital near the slum. Here they identified the illness as a hydrocele but asked for 20,000 taka for the operation as the only curative option. One of his friends informed him about low cost treatment available from Gono-Shastha Nagar Hospital in Dhanmondi but because of the transportation cost he was not able to make a visit.

More recently, the family has been selected as one of the beneficiaries for the second phase of the DSK-Shiree project and they are expecting to receive health support from the project through the DSK Hospital.

4.3 HEALTH SEEKING BEHAVIOUR

Even though they are residents of Dhaka, many slum dwellers did not have access to the range of modern health facilities within the city. Public, private and NGO sectors provided health services that are not always affordable for the extreme poor. They were also sometimes unable to properly utilize services because of poor information or a lack of awareness. Low literacy levels, in particular, among urban slum dwellers hindered access to health care. Due to these limitations on access and affordability, and the fact that living conditions meant that they were more likely to become ill, many of the urban extreme poor visited other, less effective, service providers.

Slums situated on public land also usually lacked public services such as health, water supply, sanitation, electricity and cooking gas facilities. Often only basic NGO services and a few private services such as pharmacies were available. NGO services tended to be limited to primary health care and maternity services – such as ANC, PNC and safe delivery support along with some awareness-oriented activities. Although safe maternity services had been expanded significantly, especially through BRAC Delivery Centres and urban healthcare clinics, there was more scope to improve service quality and expand services to more effectively deal with acute and chronic illnesses. Apart from DSK's referral service (which referred patients to their central hospital), there were few other health services beyond primary health care. DSK referral services were limited to their own project beneficiaries, although hospital services were accessible for all at subsidized costs.

Box 4: Health Services from DSK-Shiree Project

DSK recognizes the priority of health issues and so the *shiree* project provides primary health care services including ANC (antenatal care) and PNC (postnatal care) from 5 static clinics[3] and 25 satellite clinics[4] in all project areas through health cards. Each static clinic consists of a four-member team including a Sub Assistant Community Medical Officer (SACMO), a Community Health Worker (CHW) and two Community Health Promoters.

The clinics have been established at different areas with slums in order to cover all project beneficiaries. DSK community health workers and promoters conduct health sessions focusing on, health, hygiene and nutrition. The beneficiaries receive common medicines at a 50 percent subsidized price. They also receive referral services for consultancy and hospitalization services through specialized doctors at the DSK central hospital in case of complicated (acute and chronic) diseases. The project bears relevant expenditures as part of health interventions.

During the last 3 years of the first phase, 1,791 patients received consultancy services and 219 patients received hospitalization services from DSK central hospital through referral services. Health teams have attended and ensured 311 safe deliveries at the targeted households. Up to March 2012, health teams have also conducted 330 group sessions on personal hygiene for adolescent girls and individual counseling for pregnant and lactating mothers.

Besides the organized regular health services, beneficiaries receive help in linking with other local service providers from GOs, NGOs and the private sector, related to health, nutrition, family planning, safe delivery, and immunization.

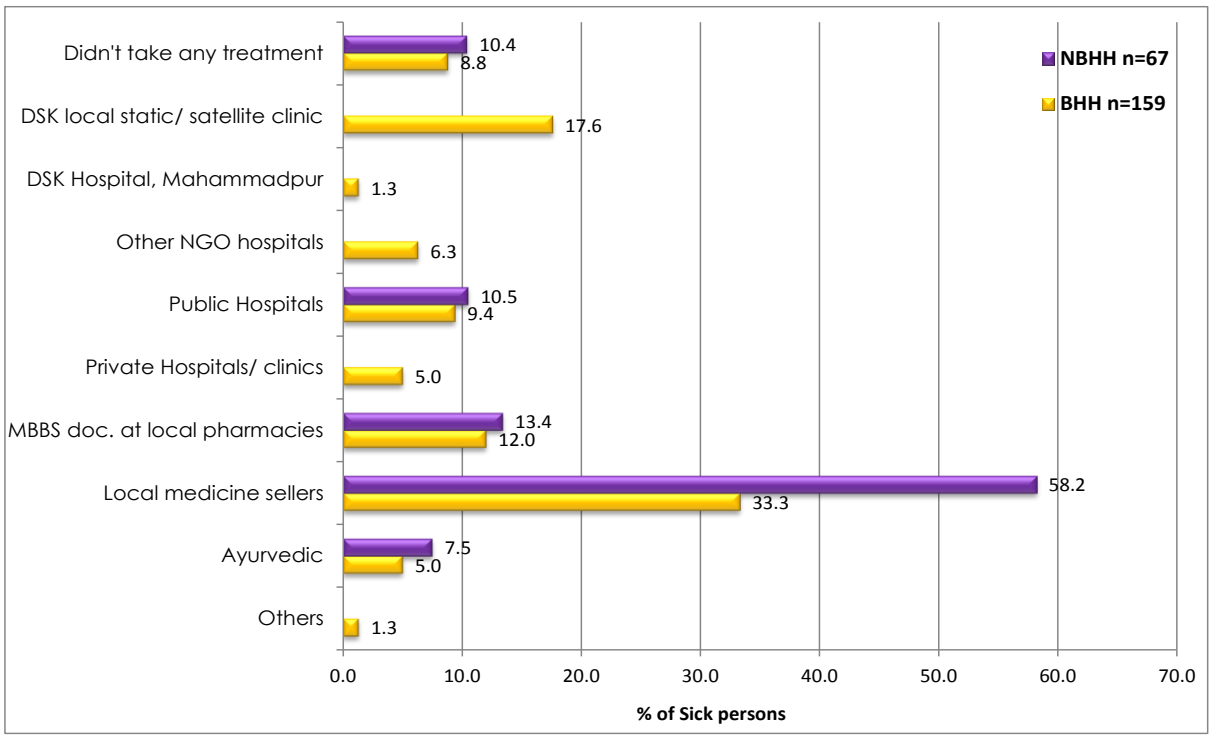
Extremely poor slum dwellers went to a range of different providers to seek health services including public hospitals, NGO clinics, private clinics, private practitioners and local pharmacies. They also bought homeopathic, ayurvedic, and herbal medicines and visited traditional healers, such as *kabiraj* or *hekemee*, and religious people (*Imams* or *Hujurs*) for holy water, holy words (*doyaa*) and amulets. Some slum dwellers also visited *Maazars* (holy places) for offerings (*manot*), sometimes travelling as far as Sylhet, Munshigonj and other parts of the country, as well as to different areas of Dhaka city.

As NGO services mainly focused on primary health care and maternity services, slum dwellers went to local pharmacies, quack doctors and traditional healers to seek other medical help. In extreme situations of acute and chronic diseases, they went to major public hospitals that they were usually not familiar with. Thus they often saw these places as a last resort when other treatments failed, and it often proved to be too late. Also in our research many slum dwellers shared negative experiences about service in public hospitals. They reported facing social stigma and bad behaviour from service providers and reported that junior employees or local agents often demanded illegal fees, especially when seeking admission.

[3] Static clinics are held in a fixed place within the slums for every 6 working days per week. These clinics usually open in afternoons from 02:00pm to 05:00pm for every Saturday to Wednesday and in mornings from 09:00am to 01:00pm on Thursdays only.
[4] Satellite clinics are held on a weekly basis in communities as a temporary clinic usually in mornings from 10:00am to1:00pm.

From the survey (Figure 3), 159 individuals from 80 beneficiary households and 67 individuals from 30 non-beneficiary households reported that they were sick from at least one disease during the previous three months. Of the sick individuals, 9 per cent of beneficiary households and 10 per cent of non-beneficiary households hadn't taken any treatment. Higher proportions (52 per cent) of beneficiary households visited formal health service providers than non-beneficiary households (24 per cent), including DSK (18 per cent) and other NGO clinics (6 per cent), public (9 per cent) and private hospitals (5 per cent), MBBS doctors at local pharmacies (12 per cent). Still a large proportion (38 per cent) of beneficiary households visited informal providers such as local medicine shops (33 per cent), which constituted the most popular source of health care for non-beneficiary households (58 per cent).

Figure 3: Health seeking behaviours form the sick family members in last 3 months



4.5 HEALTH INTERVENTIONS IN IMPROVING LIVELIHOODS AND SUSTAINING ASSETS

Health interventions were often life-saving, especially for extreme poor. Our findings showed that after receiving health support, many beneficiaries were able to retain assets and businesses. This also gave them more confidence to continue with livelihood development initiatives provided by outside sources.

The examples provided in Box 5 (below) illustrate how health interventions combined with livelihood support interrupted what otherwise would have become downward self-reinforcing spirals of ill health and impoverishment.

Box 5: Health supports of DSK-Shiree project have given new dreams of many beneficiaries

Badal at Kamrangirchar

Badal faced two major road accidents and acute illnesses. Shortly after the first assets transfer from DSK-Shiree project, their business capital was stolen. This made Badal seriously depressed and at the same time his left hand was becoming thinner due to the side effect of road accidents. As a result he was not able to adequately provide for his 7 member family by pulling a rented rickshaw. Before receiving a rickshaw as the compensation option from the project, Badal received health support from a specialist doctor from DSK Hospital as part of the project. Now, Badal is physically fit and earning more money than before by driving his own rickshaw.

Bilkis, Kamrangirchar

Bilkis works in a plastic rope factory and receives a salary of 550 taka per week and an additional 10 taka per day for breakfast. Her husband pulls a rickshaw that he received from the DSK-shiree project intervention and is able to earn 300 to 400 taka per day. Their home district is Chandpur but four years ago they shifted to Kamrangirchar for better income opportunities. Among their 3 daughters, the eldest one is reading at class six.

Her husband was facing problem for Hydrocele for a long time but it was not so problematic. However six months ago it suddenly became more severe, leaving him unable to work and move. Under the health interventions from the project, he went to the DSK-hospital as a referral patient and got an operation to cure his hydrocele. Besides the contribution from the project, they also had to pay 4,000 taka for this.

After the successful operation at DSK hospital, the doctor advised him to take complete rest for three months and not do any hard work for an additional three months. However, four months after the operation, her husband started to pull rickshaw again and has continued without any problem.

During the crisis, Bilkis was the only income earner for the family. They did not want to rent their rickshaw out as other drivers do not care for the rickshaws. Fortunately Bilkis received 3,000 taka in support from her mother-in-law. However she still had to take loan of 4,000 taka from the factory owner and is now repaying this with 100 per week which is deducted from her salary. They also have to repay the 2 months house rent which is overdue, which totals 4,000 taka. During the operation, Bilkis was not able to go to work for 15 days as she had to accompany her husband and provided necessary supports at the hospital**.** They are much happier now as her husband, the main income earner, has been cured through DSK health support and can drive the rickshaw regularly.

4.6 THE CULTURAL CONTEXT OF TRADITIONAL HEALTH SEEKING BEHAVIOUR

Because more effective sources of treatment were more expensive, and because of bad experiences in government hospitals, many extremely poor slum dwellers first sought treatment from cheaper or free traditional healers (*kabiraj*), from other religious people or religious places such as a *maazar.*

Traditional healers were most commonly approached in cases related to pregnancy and young infants. When a pregnant woman experienced spasms or an infant was suffering from vomiting, dyspepsia or crying more than usual, these were often treated as the effect of 'evil air'*(batash laga)*. Seeking support from traditional healers like *kabiraj* or religious persons (*Imam)* through *enchanted water (pani pora)* or an *amulet (tabeej*), were thought to be best option to overcome diseases caused by evil spirits.

Such interventions were damaging not only because they were ineffective, and sometimes directly harmful, but also because their use delayed treatment from proper health services. The wasted time lead to greater damage and higher costs when illness was finally properly diagnosed. The case of Shamsunnahar's son in Kamrangirchar illustrates this problem:

> *One year before the interview, Shamsunnahar's eldest son, who was the main earning member of the family, started facing physical difficulties which they thought was 'jaundice'. They went to a local Kabiraj from Hajaribag area named Yakub for treatment. For more than two months the Kabiraj applied traditional procedures, washing Shamsunnahar's son's head and hands to remove the germs of jaundice, but the problem only got worse. Finally, doctors at DSK hospital found he had a severe tumour in his abdomen, had to undergo a major operation, and was hospitalized for 54 days during five times of hospitalizations. He continued to face difficulties and became unable to work. Shamsunnahar closed her business to meet her son's treatment costs and took out a large loan at high interest. Afterwards he was also diagnosed with tuberculosis.*

Many households visit a *maazar* (a holy place) to leave offerings and commitments (*manot*). Many travel to other parts of the country for this purpose, with "Mirpur Shah Ali Maazar" within Dhaka and "Sylhet Shahjalal Maazar" thought to be the most desirable holy places for many slum dwellers.

Qualified allopathic doctors (MBBS qualified) in the private sector, paramedics, unqualified allopathic practitioners (village doctors and medicine shop attendants), homeopaths, community health workers from NGOs, traditional birth attendants (TBA/DAIS) and faith healers (*hujur, bhandari*) were all available in slums. However low cost private providers, such as pharmacies and private practitioners, did most business among the urban poor. This was because it was easier for them to sell low cost, low quality medication, from unknown or unpopular brands, to people who were illiterate. A comprehensive study of illness and health

service utilization in Dhaka city slums from 1993 also confirms that the most popular health option of the urban poor was to 'wait and see' when they experienced an illness (30 per cent), followed by home care (28 per cent) (Desmet, M. & *et. al.* 1998). From our quantitative (KAP) survey, we found that more than 50 per cent of slum dwellers visited medicine sellers for primary treatments or for buying medicine.

4.6 DISCRIMINATION AGAINST SLUM DWELLERS IN PUBLIC HOSPITALS

When services were sought, the urban poor first went to pharmacies (16 per cent) or modern private providers (8 per cent). Non-governmental sources of care were the third most popular service (5 per cent). Government sources of health care for illness are the least popular among service options, with only about 3 per cent of slum dwellers seeking care from these sources (Desmet, M & *et. al.* 1998). A recent review of health services for people who live in informal settlements in Dhaka city found that only 7 per cent have access to a public hospital (Johnston 2009). Similar results from the KAP study, showed that, over the previous three months, only 10 per cent of slum dwellers visited public hospitals. The situation remains dismal for many urban poor residents who, when visiting public-sector clinics, reported being mistreated, waiting long hours, receiving poor-quality care, being forced to pay illegal fees and remaining uninformed of their rights. Of course there were also reports of some better experiences at public hospitals.

Box 6: Stigmatized dealings from public hospitals by the slum dwellers like *Ferdousi Begum at Karail*

Ferdousi Begum (50 years), a divorced woman, was born and brought up in the slums of Dhaka city. She was the head of her household and facing physical difficulties related to irregular bowel movements and pain. This started approximately 2 to 3 years before she became a DSK-Shiree project beneficiary. She used medicines from a number of local pharmacies to attempt to cure it. At one stage, she sold her sewing machine which was her only productive asset. Following the suggestions from one of the neighbors, Ferdousi Begum went to Dhaka Medical College (DMC) Hospital but the doctors neglected her as they did not think she would survive.

Within 2 to 3 months of becoming a DSK project beneficiary, she became seriously ill. The project officials suggested she visited the DSK hospital. Initially, she wasn't interested to visit the DSK Hospital as the DMC doctors had said there was no cure. Eventually the project staff convinced her and she went to the DSK hospital following the referral system from DSK static clinics at Karail slum. Within 3 days of admission at DSK Hospital, she had a minor operation and was hospitalized for another 7 days. She was successfully treated and got back to regular activities at Karail and is now running a small tailoring shop after receiving a sewing machine and working capital from the project. She still she has to use some medicine due to some ongoing difficulties. Usually she visits DSK local clinics for a consultation and to receive subsidized medicines. Sometimes she also purchases medicines from local pharmacy using an earlier prescription.

4.7 NGO-OPERATED PRIMARY HEALTHCARE SERVICES

The Government of Bangladesh does not have structured primary health care services in urban slums. Instead, citizens rely on facilities that are run by non-governmental organizations and private businesses (such as pharmacies and private practitioners). The major NGO health service providers that were active in the slums of the study areas are presented in Table 2 below.

Table 2: Major health service providers within the slums of the study areas

Kamrangirchar and Rayerbazar	Karail
1. DSK-*Shiree* project 2. URBAN Satellite Clinic 3. Smiling Sun/ *Surjer Hasi* Clinic 4. BRAC delivery Centre 5. Marie Stopes Clinic 6. *Médecins Sans Frontières* (MSF) 7. *Bapsha* 8. *Parichorja*	1. DSK-*Shiree* project 2. URBAN Mini Clinic 3. A K Khan Foundation 4. BRAC Delivery Centre 5. Intervida

4.7.1 URBAN Satellite Clinics

URBAN Satellite Clinics run under UPHCP (Urban Primary Health Care Project) project as the outreach centres. The project is implemented by the Government of Bangladesh through Partnership Agreements with NGOs. They offer a range of primary health care services (including antenatal and postnatal care) to the urban poor. Poor people are given red cards which entitle them to free services. Through these services, the poorest women and children living in informal settlements are offered affordable and accessible primary healthcare services with high quality. The project, which operates in six city corporations and five municipalities, is funded by the Government of Bangladesh, ADB, DFID, SIDA, UNFPA and ORBIS Bangladesh.

4.7.2 Dushtha Shasthya Kendra (DSK)

Since 2009 DSK has been implementing a livelihood project targeting two major informal settlement areas of Dhaka (Karail and Kamrangirchar with the adjacent areas). Through 5 static and 25 satellite clinics, DSK-shiree project is providing subsidized health support for its 25,000 extreme poor beneficiaries. Each static clinic consist 4 members team including 1 Sub Assistant Community Medical Officer (SACMO), 1 Community Health Worker (CHW) and 2 Community Health Promoter (CHP). The beneficiaries are receiving medicines at 50% subsidized price. The project beneficiaries are also receiving referral services for consultancy and hospitalization services through specialized doctors from DSK central hospital in case of complicated diseases, and project is bearing all the relevant expenditures.

4.7.3 Médecins San Frontières (MSF)

In Kamrangirchar, home to nearly 400,000 people, Doctors Without Borders/ Médecins San Frontières (MSF) runs two basic health centres through offering free maternal and paediatric care, and focusing particularly on treating severe malnutrition. Staff conducted approximately 28,000 consultations and admitted more than 900 children and 580 pregnant or breastfeeding women to the nutrition program. Many patients were suffering from diarrhoea and skin infections, often a direct result of poor water quality and unhygienic living conditions. MSF also responded to a measles outbreak in Kamrangirchar.

4.7.4 Paricharja / Swisscontact

Swisscontact is working on a project in collaboration with the local NGO Paricharja to offer sustainable and low-cost health care services to people in Kamrangirchar. Paricharja has established a permanent centre in addition to 12 clinics within local pharmacies where the project's doctor is available at designated times to see patients. In the permanent centre as well as the temporary clinics, the patients receive basic care and medicine at a minimal price. The project also includes awareness-building activities on common health-related themes. In addition to brochures and posters, roundtable discussions in schools are also a part of this effort.

4.7.5 Manoshi: Maternal, Neonatal and Child Health Initiative (Urban Intervention)

Under BRAC's Manoshi program thirty-two delivery centres provide services to nearly 650 slums in Dhaka city. The key services offered are clean delivery by trained urban birth attendants (UBA) with the assistance of Shasthya Shebikas (SS). Two UBAs provide 24 hours service at one delivery centre. UBAs provide immediate mother care and help to refer. SSs provide essential new-born care and immediate management of new-born complications at delivery centres. In addition, Shasthya karmis (SK), community midwives (CMW) and referral program organizers (RPO) remain responsible to attend emergencies and referral to the appropriate levels of essential obstetric and neonatal care.

4.7.6 Marie Stopes

Marie Stopes currently has forty-one mini- and twenty-eight upgraded mini-clinics within the Dhaka city. These clinics are led by paramedics with a team of three to six volunteers who are responsible for counselling, service promotion, client management, and clinic maintenance. In addition, upgraded mini-clinics offer clinical services such as examinations, IUD and Norplant insertion, and Menstrual Regulation; mini-clinics do not.

4.7.7 Smiling Sun Franchise Program (SSFP)/ Surjer Hashi Clinic

Within Dhaka city SSFP is providing health support by 37 static clinic operated by 4 partner NGOs (MAMANEH, CWFD, PSTC & SWANIRVAR). Available services in Smiling Sun Clinic: Maternal health; ANC including TT (Also Non Pregnant), Safe Delivery (NVD/CS), PNC, Child Health; IMCI including immunization, Family Planning; Pill, Condom, ECP, Injectable, IUD, Norplant, NSV, Tubectomy, Communicable Disease Control, Limited Curative Care, Behaviour Change Communication, Diagnostic services.

4.7.8 A K Khan Foundation:

A K Khan Healthcare Trust is operating an Outreach Program in Karail Slum to screen and treat cervical cancer when it is in the pre-cancerous state for free of cost. "Women's Cancer and other Non-Communicable Diseases Screening, Early Detection, Treatment and Awareness Program" offers cervical cancer screening and treatment and breast cancer and oral cancer screening. The program is also covering diabetes, hypertension, heart disease, stroke symptoms and chronic obstructive pulmonary disease screening.

However most of the comprehensive service centres are outside the slums. Mainly outreach centres or satellite clinics are operating within the slums and all followed their office time

during day time when many working peoples and parents are outside the slums for their daily works.

4.8 HEALTH EXPENDITURE

Extreme poor households spend large amounts for treatment of acute and chronic illnesses. Between 7,000 to 120,000 taka was spent for the treatment of individual cases in our case studies. When we accounted for the opportunity costs of the patients and care givers then total expenditures were double or more. Despite seeking treatment, not all were fully cured and some were still suffering from similar problems. A number of main income earners were not able to go back to their work place.

Based on the quantitative (KAP) survey, an average of 1,526 taka was spent as direct cash expenditure per household on healthcare in the previous three months. On an average, this expenditure was around 10 per cent of monthly income, but it was up to 120 per cent for some households. Often productive assets were sold and money borrowed to cover these costs.

Table 4: Direct cash expenditures for the treatments in previous 3 months

Type of HH	Mean	Minimum	Maximum	Sum	N
BHH of DSK-Shiree Project	1,584.41	30	25,500	107,740	68
Non-Beneficiary HH	1,384.14	42	10,100	38,756	28
Total	**1,526.00**	**30**	**25,500**	**146,496**	**96**

Besides the direct cash expenditures, there were other consequences of ill health:

- A number of income earners faced losses of working days, salary cuts and a few have to stop working or lost their jobs.
- To cope with the situation, some households had to use savings, borrow money from formal and informal sources, spend money from their working capital or sell other assets.
- Adolescents were forced to start working as main earners when household heads were unable to work or not able to earn sufficiently due to health related problems. Education of children was sometimes stopped;
- Care-givers also faced similar problems, such as a lost income whilst caring for family members.
- Some people faced disability (full or partial) or lost their working capacity due to lack of timely proper treatment for problems related to eyes, tumours, or broken bones;
- A number of slum dwellers received direct support from the DSK-Shiree project for treatment at the DSK hospital and clinics, and that helped them to maintain their livelihoods.

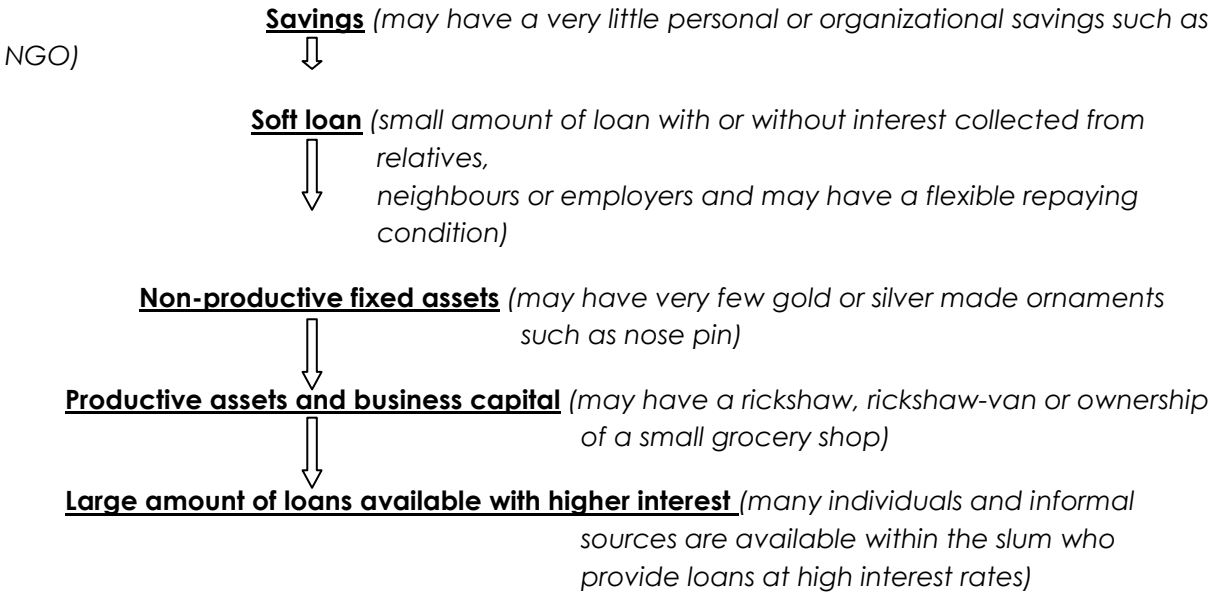
4.9 COPING STRATEGIES

Our findings showed that in the majority of cases the slum dwellers had migrated to Dhaka without any social and financial capital. It was extremely difficult for the extreme poor to then establish themselves within the new urban context. They rarely had savings and so purchase of productive assets for livestock or other businesses were no longer possible. Compared to rural areas, social and family ties were also weakened. When they faced acute or chronic illnesses, they became exceptionally vulnerable.

It was found that a large number of slum dwellers were suffering from acute illnesses. In most cases, these illnesses became chronic extending to a lifetime of treatment in extreme cases. If household heads or any other members of the family suffered from such illnesses, the family was usually unable to overcome poverty as they had to spend a large portion of their regular income on treatment costs. Usually it was not possible for them to afford regular medicines as they had to manage food and accommodation costs as a priority. Usually they tried to buy some medicine, such as painkillers, to reduce the illness temporarily, even though the severity of the condition required more substantial treatment.

When illnesses were serious, extremely poor slum dwellers tried to cope by using savings, borrowing money from informal lenders, selling non-productive and productive assets, spending business capital and finally taking loans with high interest rates from money lenders.

Figure 6: Major coping strategies against health shocks for the slum dwellers



Box 7: Struggles against health shocks for Shamsunnahar's family at Kamrangirchar

Shamsunnahar is a widow and has been living in Kamrangirchar for the last eight years with her three sons and two daughters. Her nine-year-old youngest son is deaf and dumb and attends Boraigram Disabled School. Her youngest daughter (11 years) stays at home to help her mother carry out domestic work. Just one year earlier four of the six family members were contributing to family income, but now the main two earners have lost their earning opportunities.

The eldest son was a garment worker and earned 4,000 taka per month. He was the main earner of the family. One year earlier, he started facing some physical difficulties which they took to be jaundice. They visited a local kabiraj (traditional healer) in Hajaribug area named Yakub, but the problem continued to worsen. At one stage, it was identified that he had a tumor at his abdomen area. Following the suggestions from DSK field staff, they visited to DSK hospital and he faced a major operation. However the problem was not cured totally and he had to be hospitalized 5 times for a total of 54 days. On the last occasion (when he was hospitalized for 17 days) when the son was not able to endure the pain, he went to the hospital alone and his family members found him only after a long search. Later on, he was diagnosed as also suffering from Tuberculosis. Following the recommendation from DSK hospital, he was hospitalized for another 14 days at Mohakhali Tuberculosis Hospital. Still the boy is not cured and stays in bed. The family is not able to afford regular medicine and nutritious foods for him.

Though the total hospital charge and major part of medicine costs were paid by the project fund, the food, transportation and additional medicine costs were a huge burden on the poor family. Also he had been the main earner of his six-member family but for the past year had made no income. Shamsunnahar was forced to sell her business asset, which she had gained through the DSK-Shiree project, for her son's treatment and she had borrowed 4,000 taka from her sister without any interest and her sister also managed another loan of 10,000 taka with 7 percent monthly interest. At the same time they owed 4 months of house rent.

Now the second son (14 years) is the main earner and works for a small factory making ear rings earning an average of 1,000 taka per week, depending production. Also her eldest daughter earns 1500 taka per month at a local brush making factory. However their combined earnings are not enough to bear the family expenditure including treatment costs. To reduce family costs, they have shifted to a low rent room owned by the same landlord.

4.9.1 Use of Savings

To cope with crises such as health shocks, slum dwellers tended to first use savings if they had any. However it was rare to find slum dwelling households with significant savings.

4.9.2 Taking loans

Usually slum dwellers didn't like to use loans because repayment was difficult, but when a family member had a life-threatening illness they did take out loans to pay for treatment. If possible they would prefer a loan with a flexible repayment and without interest but such loans were rarely available, especially for extremely poor people. Such loans were usually only available from sympathetic and economically solvent relatives or neighbours. Sometimes such loans or advances on pay were available from employers if the relationship with an employer was good. More usually informal loans were taken out at higher interest rates.

4.9.3 Selling assets and using business capital

Before taking a high interest loan, slum dwellers tried to obtain the money in any other way possible. They often used non-productive assets (such as jewellery) before selling productive assets (such as a rickshaw, rickshaw-van or sewing machine). Although they tried to save their business capital, in many cases they were forced to spend major parts of it.

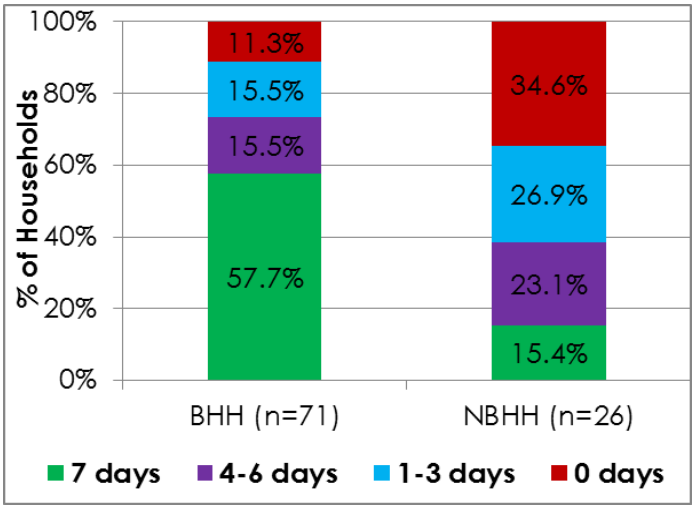
4.10 WHY ARE HEALTH PROBLEMS SO SERIOUS IN URBAN SLUMS?

It was observed that most slum dwellers were malnourished, ate unhealthy food, drank unsafe water and lived in unhygienic conditions. Those living conditions were a main cause of ill health. Some related findings are presented as follows:

4.10.1 DIETARY PRACTICES

Many extremely poor slum dwellers were not able to manage three full meals per day and ate low quality food items due to financial constraints. Frequencies of consuming high calorie food such as fish, meat, eggs or milk were low among slum dwellers. Rising food prices of good quality food forced them to depend on low quality food.

Figure 5: Intake of three or more full meals per day in previous 7 days



From the quantitative survey, we found that only 58 per cent of beneficiary households and 15 per cent of non-beneficiary households took three or more full meals a day in the previous seven days. More than 11 per cent of beneficiary households and 35 per cent of non–beneficiary households were not able to take three full meals on any day during the previous seven days.

4.10.2 COOKING PRACTICES

As with many other basic services, most slums had no gas supply, particularly those established on public land. Access to electricity was also limited. Most slum dwellers cooked using firewood and the price of firewood was increasing. Cooking was difficult because most adult household members worked outside the slum during the day.

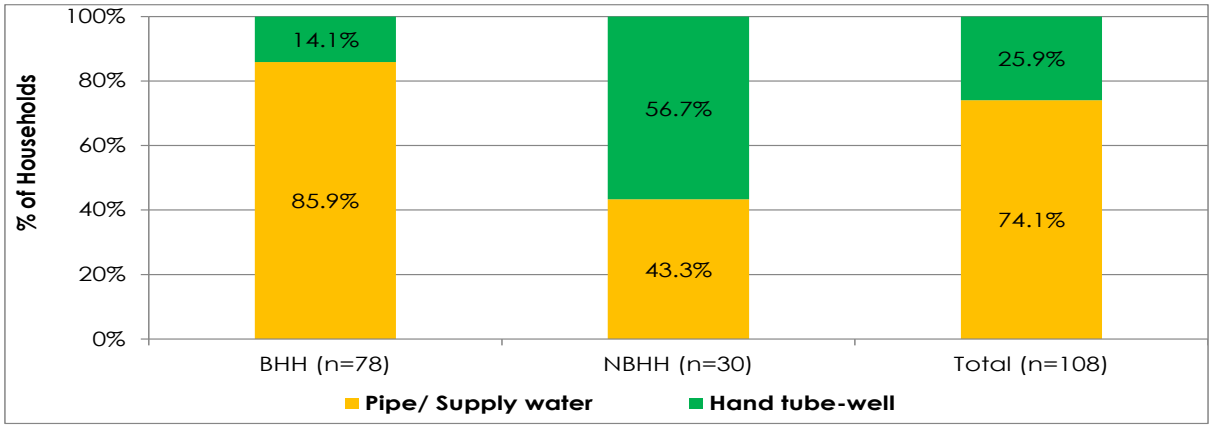
In order to conserve firewood and time, many slum dwellers cooked once or twice per day and ate leftovers for the rest of the day. However they added unsafe water to make the leftover rice edible.

Based on the quantitative survey, 47 per cent (n=78) of beneficiary households and 63 per cent (n=30) of non-beneficiary households had no gas supply.

4.10.3 WATER SUPPLY

Access at the safe water is still a dream for many slum dwellers. The Water Supply and Sewerage Authority (WASA) in Dhaka has a policy to not provide water services to households without a legal land-holding permit, which effectively excludes informal settlements from access to a safe water supply. Slum dwellers therefore had to depend on illegal water points, which usually became polluted. Poor quality plastic pipes were usually used to carry the drinking water from the nearby supply systems, but these ran through the sewerage drains or channels. This was the main source of drinking water for slum dwellers, which they usually drank without boiling due to the cost of firewood, the required pots, space and time.

Figure 6: Sources of drinking water used by the households during survey



From the quantitative survey we found that 74 per cent of slum dwellers were using drinking water from a pipe or supply water. As government policy prevents a legal water supply, most of this water came from illegal sources and the pipes had been set up through drains and sewerage channels. The supply system was also irregular and usually only ran twice per day for an hour at a time. The remaining 26 per cent of respondents were using deep hand tube wells. Non-beneficiary households in particular used hand tube wells as more of them were from newly developed areas (such as Rayerbazar) where no supply water is available.

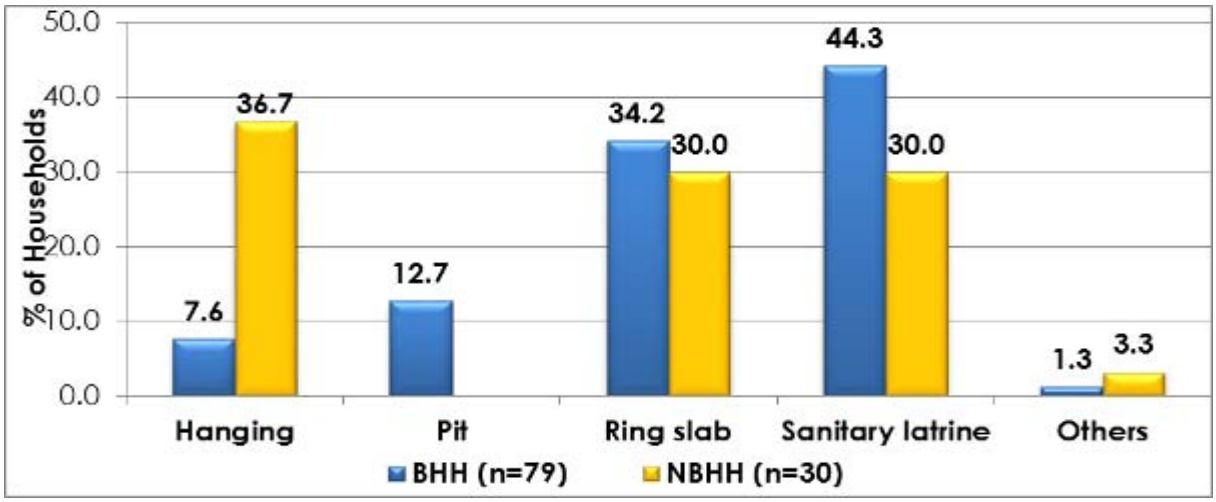
4.10.4 SANITATION FACILITIES

Apart from poor housing conditions, latrines and drainage facilities were the most neglected part of slums. In many houses owned by one person, 10 to 20 families lived in separate rooms and shared only one or two latrines. Although these latrines sometimes looked sanitary, they were usually linked directly to an open drainage system and sewerage went into nearby water bodies (such as a lake, river or standing water). Also most so-called sanitary latrines had no functioning water seal and there were numbers of hanging latrines over lakes or rivers. Non-designated latrine areas were also common although facilities varied from slum to slum.

Drainage was also poor in slum areas. Most drains were not sufficient and were usually open and blocked with garbage and even a little rain created water logging with garbage and sewerage overflowing.

The quantitative survey showed that 37 per cent of non-beneficiary households used hanging latrines, 30 per cent used sanitary latrines, and 30 per cent used ring slab latrines. 44 per cent of beneficiary households had access to sanitary latrines, 34 per cent used ring slabs, 13 per cent used pit latrines, 8 per cent used hanging latrines, and 1 per cent used other types.

Figure 7: Use of latrines by the beneficiaries and non-beneficiaries in slums



Only 54 per cent (n=78) of beneficiary and 43 per cent (n=30) of non-beneficiary households were using latrines with functioning water sealed facilities. 38 per cent (2 to 200 persons) of beneficiary and 46 per cent (7 to 150 persons) of non-beneficiary households were sharing latrines among households. Each of these cluster latrines had 1 to 3 chambers but varied from house to house. DSK-Shiree project established 62 community latrines (2 to 3 chambers) during the last 3 years of the project.

4.10.5 UNHEALTHY LIVING ENVIRONMENT

Many slum houses were built over water bodies (lakes, rivers, canals, standing water or drains) and garbage dumping points. Unfortunately most open water sources in Dhaka are seriously polluted with residential wastage and industrial garbage, due to poor garbage management system in Dhaka city. For example, Kamrangirchar, one of the largest slums areas of Bangladesh, was used as a dumping ground for the city and later slums were developed over the garbage.

In Hazaribag, a large number of slum dwellers also lived within a leather-processing zone, adjacent to Kamrangirchar. Table 2 (below) provides an indication of the potential health hazards from the chemicals used in different stages of leather processing.

Table 2: Leather Processing and Health Hazards

Stage	**Chemical**	**Health Risks**
Soaking	NaCl	Diarrheal, stomach problems, nausea
Unhairing/ liming	KOH, Na_2SO_3/bi-sulphide	Respiratory disorders, bronchitis, skin diseases, headache
De-liming/bating	Na_2SO_3, NH_4Cl, Na_2SO_4	Burning eyes, nose, throat high blood pressure, bronchitis
Pickling	H_2SO_4, H-COOH, NaCl	Wounds leading to cancer
Chrome Tanning		Wounds leading to cancer
Sammying, splitting	Dyes, fixing, agent, condensation of urea	Respiratory complications
Buffing	Liquid pigment, polymer, fixative, preservatives and aromatic ingredients	Cancer

Source: Prof Feroz I Faruqui, The Bangladesh Observer, Monday, June 17, 2002

4.10.6 LACK OF AWARENESS (ESPECIALLY HEALTH AND HYGIENE RELATED)

There were high rates of illiteracy and low levels of education which tended to accompany limited awareness of health and hygiene. So the poor in slums live with high health risks but at

the same time have limited knowledge about how to mitigate these risks. When health problems arise, they have limited knowledge about first aid, what treatments and services are available, and where they are available.

4.10.7 CHILD MARRIAGE AND POLYGAMY

Child marriage and polygamy was common among slum dwellers. The drivers of early marriage of daughters were a complex combination of patriarchal attitudes in a context of social and economic vulnerability. Child marriage leads to malnutrition and ill health, as well as high infant and maternal mortality and other health complications. Polygamy increases the transmission of sexual transmitted diseases (STD) and other problems.

5. CONCLUSIONS

The public sector has no structured comprehensive health services in the slums. Instead, citizens rely on facilities that are run by non-governmental organizations, local pharmacies, private practitioners and traditional healers such as *kabiraj*. The majority of slum dwellers go to local pharmacies for primary treatment. Utilization of mainstream public services such as national level hospitals is not easy for slum dwellers and private hospitals are not affordable for the slum dwellers.

Unfortunately most NGOs providing health support are primary healthcare oriented, with some focusing on maternity and infant care or simply raising awareness about health-related issues. In some cases these facilities are only accessible by the NGO project's beneficiaries.

This means that when a slum dweller faces acute or chronic illness, the only option is to visit mainstream public hospitals such as Dhaka Medical College Hospital. However reported experiences of visiting such public hospitals tend to be negative. Most slum dwellers are not aware of regular health services and don't know how to utilize urban health care systems. As many are illiterate they are unaware where they have to go and what they have to do. They don't have the connections or the financial capacity to use modern health facilities, as services of public hospital are not absolutely free. Moreover other costs (transport, cost for the care givers and opportunity costs of losing work) further increase the financial burden.

Of course, 'prevention is better than cure', but in reality prevention is difficult for slum dwellers, because their living environment is so unhealthy, dietary status so poor and economic affordability so limited. The possibilities of facing acute or chronic illnesses are much higher among slum dwellers, but unfortunately there is almost no affordable health intervention for them.

From the case studies, it was clear that health interventions from the DSK-Shiree project had aided many slum dwellers through hospitalization and consultancy support from specialist doctors along with regular primary health care. Still, some difficulties have not been solved. Through receiving health interventions, many project participants have been able to protect assets and continue their income generating activities (IGAs). They have also gained confidence and regained losses. However the project is not able to provide support for all urban slum dwellers. Many non-beneficiary households were suffering from acute or chronic

illness, and had already lost or were losing their working capacity, which was their most important asset within the urban context.

6. POLICY AND PROGRAMME RECOMMENDATIONS

6.1 FOR NON-GOVERNMENTAL AND COMMUNITY BASED ORGANISATIONS

- Besides primary healthcare and awareness raising activities, development organizations (NGOs) or projects should be incorporated with significant health interventions covering the acute and chronic illnesses of the slum dwellers for protecting the gains. Specialist doctors should visit local static clinics at the slums at least 2 days per week;
- Formal and informal links can be strengthened between NGOs, community-based support groups and local health service providers with a sensitized mandate in favour of extreme poor slum dwellers;
- Specialized private hospitals can be encouraged to provide some subsidized or free services especially for extreme poor slum dwellers;
- Besides the formal referral systems, organizational follow up supports are needed to ensuring proper service from the public hospitals. A voucher system could be effective for covering medicine, diagnostic and other relevant expenditures;
- Community based support (CBS) groups can be developed focusing on health, nutrition and hygiene awareness-raising activities along with specific information about affordable service providers from NGO, public and private sectors within the slums and nearby;
- Detailed mapping information about the available health service providers should be documented and circulated through front line staff and community based support groups (fliers, small digital banners and billboards can be useful promoted);
- A community-based information centre can be developed about the local service providers. CBS could be a centre point for this;
- Due to their popularity, 24 hour availability and sustainable service provision, local pharmacies can be used for some alternative intervention points based on consultations with the health experts (if policy allows);

6.2 FOR PUBLIC POLICY

- Health care is now recognized as one of the fundamental rights for every human being. Considering the severity of illness and socio-economic conditions of the slum dwellers, local government authorities (such as ward commissioners) should issue a special health cards to receive free or subsidized health supports from the public or specialized private hospitals;
- The Department of Health should establish mini public clinics within the slums or adjacent areas especially targeting the urban extreme poor which can act as a branch/referral centres to connecting public hospitals;
- A friendly information or support desks can be established at public hospitals especially for those who have limited knowledge and capacity to get access to services;

- The health care system alone will not be able to solve the multi-dimensional problems of extreme poor slum dwellers. Comprehensive slum development plans should be implemented for permanent solutions. Using international experience, large scale cluster housing for the low income groups can be established along with basic services in health, education, water-sanitation and transportation. Pilot projects should be established before large-scale planning.
- Micro-health insurance for poor people, and especially the extreme poor, may be one of the better options towards ensuring the adequate health care.
- Based on national and international policies, and commitments, private industries especially the garment factories, should take responsibility to bear treatment costs for employees.

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7. ANNEXES

Annex 1: Project output-3: Increased access to water, sanitation & health services

at a glance for Phase I (April 2009 to March 2012)

Sl.	Activities/ Interventions	Progress
1.	Static Clinic (clinic day)	3,055
2.	Satellite Clinic (clinic day)	2,460
3.	Courtyard session on health	4,118
4.	Session on adolescent health care	330
5.	Health card distributed (in person)	9,472
6.	Medicine sale amount in Taka	781,620
7.	Post-partum service (no. of mother)	666
8.	Attended safe delivery (no. of mother)	476
9.	Patient referred for consultancy	1,791
10.	Hospitalize (in person time)	219
11.	Family planning service	49,820
12.	External patient (in person time)	170
13.	Install community water points	39
14.	Install community latrines	62
15.	Recovery of cost WATSAN (in Taka)	1,281,437
16.	WATSAN management committee meeting	205
17.	Pregnant women ANC services	2,128

Annex 2: Sample size for the quantitative (KAP) part of the Study

Unit Offices	Type of HH Households		Total
	BHH of DSK-Shiree Project	Non-Beneficiary HH	
Karail-1	25	0	25
Kamrangirchar-1	25	0	25
Kamrangirchar-2	10	10	20
Kamrangirchar-3	10	10	20
Karail-2	10	10	20
Total	**80**	**30**	**110**

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