

Health Domain of the Ultra Poor: An Exploration

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FOREWORD

Over a quarter of Bangladesh's people live in extreme poverty, not being able to meet even the barest of the basic needs. They spend most of their meagre, unreliable earnings on food and yet fail to fulfil the minimum calorie intake needed to stave off malnutrition. They are consequently in frequent poor health causing further drain on their meagre resources due to loss of income and health expenses. More often than not, the extreme poor are invisible even in their own communities, living on other peoples' land, having no one to speak up for them or assist them in ensuring their rights. Extreme poverty also has a clear gendered face – they are mostly women who are dispossessed widows, and abandoned.

The extreme poor are thus caught in a vicious trap and the story of denial and injustices tend to continue over generations for a large majority of them. Thus, a vast majority of the extreme poor in Bangladesh are chronically so. The constraints they face in escaping extreme poverty are interlocked in ways that are different from those who are moderately poor. This challenges us to rethink our existing development strategies and interventions for the extreme poor, and come up with better ones that work for them. This is the challenge that drove BRAC to initiate an experimental programme since 2002 called, 'Challenging the Frontiers of Poverty Reduction: Targeting the Ultra Poor' programme. The idea to address the constraints that they face in asset building, in improving their health, in educating their children, in getting their voices heard, in a comprehensive manner so that they too can aspire, plan, and inch their way out of poverty.

The extreme poor have not only been bypassed by most development programmes, but also by mainstream development research. We need to know much more about their lives, struggles, and lived experiences. We need to understand better why such extreme poverty persists for so many of them for so long, often over generations. Without such knowledge, we cannot stand by their side and help in their struggles to overcome their state.

I am pleased that BRAC's Research and Evaluation Division has taken up the challenge of beginning to address some of these development knowledge gaps through serious research and reflection. In order to share the findings from research on extreme poverty, the 'CFPR/TUP Research Working Paper Series' has been initiated. This is being funded by CIDA through the 'BRAC-Aga Khan Foundation Canada Learning Partnership for CFPR/TUP' project. I thank CIDA and AKFC for supporting the dissemination of our research on extreme poverty.

I hope this working paper series will benefit development academics, researchers, and practitioners in not only gaining more knowledge but also in inspiring actions against extreme poverty in Bangladesh and elsewhere.

Fazle Hasan Abed
Chairperson, BRAC

Health Domain of the Ultra Poor: An Exploration

ABSTRACT

There has been an increasing amount of materials surrounding health-seeking behaviour in recent years. However, a relatively small proportion of literature has focused upon health behaviours and types of health services used by the poor in rural Bangladesh, particularly ultra poor households. This study aimed to explore the health domain of the ultra poor, including perceptions of ill health, knowledge and treatment-seeking behaviours in conjunction with the rationale behind these decisions. Data were collected through qualitative methods from the TUP members and their husbands or eldest sons in three villages within Nilphamari district. Findings indicate the regressive nature of burdens associated with ill health carry a number of similar impacts upon TUP members compared to other poor households in Bangladesh and the developing world. Within this concept the ultra poor's experience of ill health is compounded by financial and time constraints, lack of health education and awareness of treatment facilities for particular diseases, and cultural rationality in selection of health care providers. Furthermore, a strong prevalence for self care methods was recorded for the majority of illness episodes along with traditional healers such as *Kabiraj*. Consequently further research should explore integrating these health providers into BRAC interventions within the CFPR/TUP programme in order to strengthen the existing medical system, ensuring the burden of ill health is minimized for the ultra poor.

INTRODUCTION

Differences in vulnerability to ill health between groups of people can affect the welfare of both the individuals concerned and the households to which they belong. The cost of illness can undermine livelihoods and contribute to poverty as highlighted by the impact of disease epidemics in the developing world (Barnett and Whiteside 2001, Rugalema 2000, World Bank 1997). Concerns about the links between ill health and poverty have been placed at the centre of poverty reduction strategies of development agencies (World Bank 2000, DFID 1999) and increased arguments for substantial health sector investment to improve access for the poorest people (WHO 2001).

Poor households tend to be vulnerable to ill health due to under nutrition and living in environmental conditions which produce high risks of infectious and vector borne diseases (Jayawardene 1993). They are also socially and economically vulnerable due to difficulties in gaining access to and paying for treatment (Ahmed *et al.* 2003, Corbett 1989). The extent of household vulnerability to ill health has important policy implications concerning the existing quality weakness and cost burdens in health care which can delay or deter health care use or promote the use of potentially less effective health care sources or practices (Sauberon *et al.* 1996 a/b). This has been reflected in the whole scale rise in the prevalence of self care treatment in many developing countries (Ahmed *et al.* 2003, Bhatia and Cleland 2001, Levya-Flores *et al.* 2001) with cost and accessibility frequently documented as significant barriers to medical care (Needham and Bowman 2003). To improve access and implement measures to protect the poor, an understanding of household vulnerability and the treatment-seeking behaviour employed in the event of ill health is needed.

Since January 2002, BRAC began a new experimental programme for the ultra poor called 'Challenging the Frontiers of Poverty Reduction/ Targeting the Ultra Poor' (CFPR/TUP). This programme targets the ultra poor who are either bypassed or fail to benefit, leading to drop out, from existing development programmes. These ultra poor of the community are selected through a comprehensive participatory method targeting women for membership (CFPR/TUP 2004). The programme uses an asset-based approach where physical assets are provided to the ultra poor as grants. The overall idea of the programme is to strengthen the physical, social and human asset base of the ultra poor so that once the grant phase is over, they can attain the foundation for sustainable livelihoods, and participate and benefit from mainstream development programmes (Matin and Halder 2002). The intervention strategy also includes social development and health components in which health education dissemination aims to increase ultra poor household awareness of these issues. Furthermore, it aims to facilitate the ultra poor to gain comparatively greater access to health care service delivery. Although preventive health care is given higher priority, curative measures are also incorporated to provide assistance in treatment-seeking and access to government and NGO services. To tailor these health messages and services towards the requirements of TUP members a greater understanding of their treatment preferences and health behaviour is necessary.

The term health-seeking behaviour is defined as the range of actions undertaken by individuals to obtain appropriate remedy, needless to say, such actions are crucially undefined by the perception that they have a health problem or illness (Ahmed *et al.* 2003, Ward *et al.* 1996). Their choice of treatment and the range of factors which can influence this decision have been

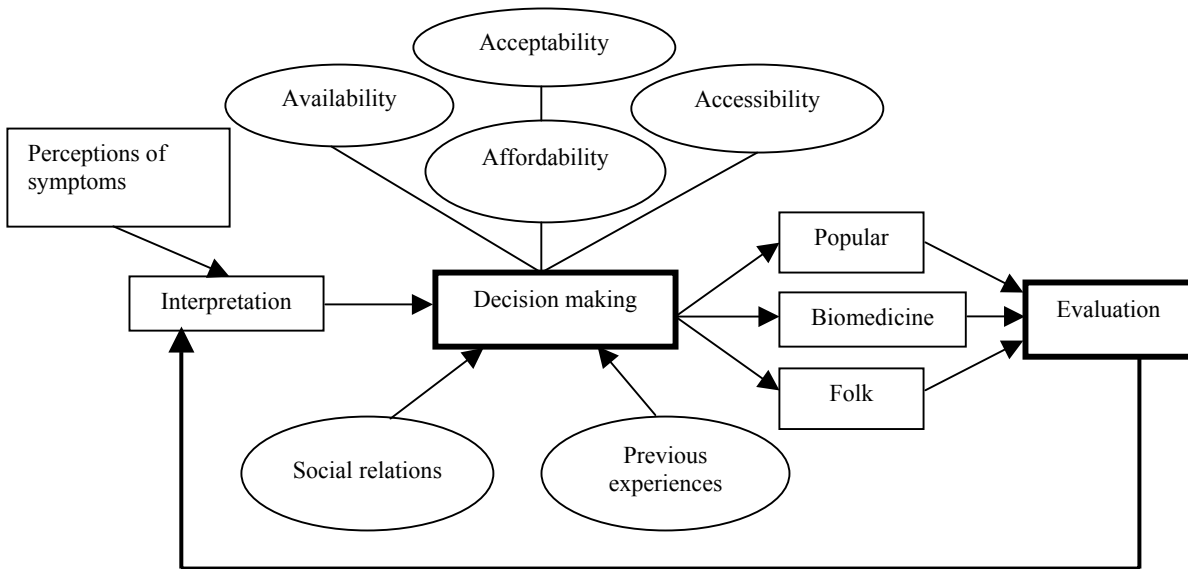
previously identified as historical patterns of use, illness type and severity, beliefs about illness causation, range and accessibility of therapeutic methods and their perceived efficacy, convenience, cost and quality of service, as well as the social circumstances of the individual (Muela *et al.* 2003). These factors are presented in Figure 1.

However, despite the proliferation of studies on health-seeking behaviour (Tipping and Segal 1995) we know little about the types of services used by poor households and how they gain access to them. This is particularly true for the ultra poor households. Bloom and Standing (2001) believed that this was due to lack of focus specifically on the poor through stratified sampling. Therefore, this under-researched section of society requires greater attention to fully

examine and understand the health-seeking behaviour of households and individuals frequently excluded from development interventions, and also knowledge.

This paper is based on a study conducted by BRAC's Research and Evaluation Division (RED) in three villages in Nilphamari district to better understand the health issues of the ultra poor including perception, knowledge and treatment-seeking behaviour. Specific objectives focused on gaining an understanding of associated signs, symptoms and cause of illness, as well as how the ultra poor categorize and classify those illnesses. The study also explored treatment pathways selected by TUP members and the rationale behind the prioritisation of these choices.

Figure 1. Health-seeking pathways model (Muela and Hausmann 1997)



METHODOLOGY

Qualitative techniques were used to understand the health issues of the ultra poor as they facilitate analysis of experiences and interpretations of events and relationships from the site of examination (Gilbert 1995). The rationale behind using these techniques stemmed from the relatively 'new' nature of the target group considered in this study. As the ultra poor had not been focussed in previous studies on this theme, qualitative tools enabled a greater in-depth examination. The various methodologies used in this study enabled participants to respond on their own terms, thus reflecting their attitudes and opinions and therefore providing a detailed insight into the ideas and perceptions of the health domain of the ultra poor (May 2002).

Two field researchers with an anthropological background and training in qualitative techniques simultaneously gathered data from three villages of Nilphamari district, from September 2003 to February 2004. The study villages of Betgara, Boragari and Bujaripara were selected due to their close distance to *upazila* health complexes and *upazila* headquarters. TUP members from each village were included in the study along with their husbands or eldest sons to enable exploration of potential gender differences. The sample size and the various methodologies used are presented in Table 1. The different research techniques used are also outlined below. These methods examined the ultra poor's general views and perceptions of their health issues with the exception of illness narratives which explored participant's actual experience of illness.

Research tools

Free listing

Free listing is a method designed to gather preliminary data on a particular domain to

generate a list of illnesses and health care providers. Local and indigenous understanding of the signs and symptoms of diseases expressed by participants were recorded and adapted to the biomedical equivalents. The process enabled the research team to identify the most frequently experienced illnesses and which health facilities were used by the participants when affected by ill health.

Pile sorting

This is a technique designed to address individual's perception of illness using illustration cards depicting a particular disease or illness episode. Annex 1 shows the list of these illnesses. These are then grouped together by participants based on their knowledge of the signs, symptoms and causes of different illnesses. This process enabled the research team to gain an understanding of how and why illness episodes were categorized in a particular manner. In response to this question participants mentioned causes, reasons, factors and explanations behind their pile sorting of illnesses. The method was reliant upon information provided through free listing and was therefore implemented following the completion of that particular methodology.

Disease severity ranking

Using the illness illustration cards, participants were asked to rank the severity of each illustrated illness episode into one of the three categories (high, intermediate, or moderate severity). This process enabled the research team to outline ultra poor's perceptions of disease severity and the reasons behind their ranking.

Treatment pathway interviews

This process explored the views of the ultra poor about their use of health providers and the types

of illness which dictated their choice of health care providers. The study focussed specifically on treatment pathways for the 10 most frequently experienced illnesses as obtained from the free listing exercise.

Illness episode narratives

This provided a platform for participants to express any thoughts and feelings regarding experiences of ill health. This final methodology generated a greater focus on health-seeking behaviour compared to alternative research techniques previously implemented, providing a means to fully examine the range of influences and reasons regarding all aspects of TUP health experiences. Nine of the twenty participants involved in this process had not previously participated in the other research techniques.

Data collection procedure

The research process is outlined in Table 1 highlighting the methods and numbers of participants in each phase of the study.

Study limitations

Two key limitations regarding the qualitative techniques used here warrant mentioning. Firstly, measures of health-seeking behaviour were based on reported illness and treatment action and not through direct observation of illness episodes and the treatment responses. Secondly, no limitations were placed on illness recall periods which may have caused problems concerning accuracy of illness information.

Table 1. Sample size and involvement in the research process

Methodology	Participants							
	Boragari		Bujaripara		Betgara		Total	
	Male	Female	Male	Female	Male	Female	Male	Female
Free listing of illness	12	9	4	0	4	11	20	20
Free listing of health providers	12	9	4	0	4	11	20	20
Pile sorting	3	3	2	2	5	5	10	10
Illness ranking	3	3	2	2	5	5	10	10
Pathway interviews	3	5	2	0	5	5	10	10
Illness narratives	5	4	1	0	4	6	10	10

RESULTS

Frequency of disease

Through free listing method TUP members provided a detailed list of the most prevalent

diseases affecting their lives. Table 2 outlines the most frequent illness episodes experienced by female TUP members and their husbands or eldest sons. Full listing is presented in Annex 2.

Table 2. Compiled information based on male and female free listing interviews on illnesses

Local illness term	Signs and symptoms	Biomedical equivalent	Total Male and female
Jor	Body temperature goes up; cold and cough and nasal catarrh; almost continuous running nose; restlessness or palpitation or flapping; losing willingness to go out for walk and/or work; headache and body pain; body pain; chest pain; biting sensation; losing appetite; weakness; to perspire on the eve of being relieved of fever/sweating/perspiring	Fever	39
Dairia	Frequent watery stool/loose motion; stomach upset; vomiting; indigestion; flatulence; weakness; ill-health; dehydration; thirst for drinking water goes up, etc.	Diarrhoea	37
Gastik		Gastric	37
Jondis	Body, specially eyes and face become yellowish; urine become yellow; weakness	Jaundice	36
Amasha	Yellow coloured <i>nelta/bijla/shiner moto</i> (jelly like) stool; stomachache; white stool (like white part of egg); Paining and/or biting (<i>bish korey/shulai/kamrai</i>) in anus; has to go to latrine for defecation as quick as possible; blood is passed away with stool; biting and twisting sensation in the abdomen; losing appetite, etc.	Dysentery	34
<i>Meho</i> /Marua Dhat/Sada Srab	Weakness; urinal inflammation; calcium passes away from the body; losing appetite; breaking of health; white rice water/catarrh/coconut oil like discharge is noticed with urine; cannot have sex; inflammation as if body is touched with chili; cannot tolerate fire-heat; abdomen ache; hands and legs encounter a feeling, which is locally called 'sar sar'; cannot walk or bad feeling in walking; body jerks during urination; white discharge happens before urination; white discharge is happened mixing with stool	White discharge	33
Chokher Oshukh/Chokh Uthha ba Ulla	Eyes become red; 'Nebor' is produced in the eyes; intolerable 'khas khas' sensation is felt in eyes; eyes encountered 'kit kitai' (biting sensation)	Eye illnesses	31
Chulkaani/Unap ak gha/Pachari/ pachra	vesicle/boil grows; blood and watery substance oozes due to itching; pus oozes from infection/ulcer; ulceration; allergy; blood turns into bad; bodily pain	Skin diseases	28
Danter Oshukh	Tooth is attacked by worm; toothache; losing appetite; bad smell comes out from the mouth due to 'Danter mari fola'; black spot is created on the tooth; 'pairia' causes bleeding from the root of the tooth	Dental illnesses	28
Jaksma/jakkha	'khukut khukut kashi' (a typical cough signifying tuberculosis); bleeding with cough through mouth and nose; cough causes the thorax to encounter pain	Tuber- culosis	26

A number of the most frequently encountered illnesses are water borne diseases, particularly the top five with the exception of fever. No significant gender differences were recorded even in the case of the female condition *Meho*, which was equally recognised by male participants.

Frequency of health providers

Through free listing methods, TUP members also provided a detailed list of health providers to identify which facilities and practitioners were most frequently used by the participants. The gathered information is summarized and presented in Table 3 representing complied information given by both male and female participants. The full listing of this information is given in Annex 3.

This highlights the prominent use of *Kabiraj* above all other forms of health providers. The TUP members use less qualified providers

such as pharmacists, untrained allopaths and homeopathic practitioners more than the qualified physicians. This pattern of providers used by the ultra poor is further represented in Figure 2.

Figure 2. Pattern of ultra poor health provider preference

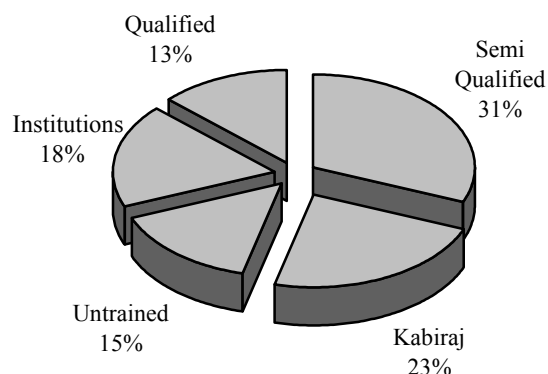


Table 3. Use of health providers by TUP members

Health provider	Definition	Type of treatment	Frequency
<i>Kabiraj</i>	Untrained, traditional/indigenous practices using locally resourced herbal remedies and limited biomedical remedies	Herbal treatment	33
Pharmacist	3 months allopathic training for prescription and medical consultations	Allopathic	25
Government institutions	Consisting of thana health complex, hospitals serving district level with qualified medical staff	Allopathic	20
Qualified physician	6 years medical training	Allopathic	13
Untrained allopathic practitioner	No formal training, practicing allopathic methods as market sellers and roadside quacks	Allopathic	11
Untrained homeopathic practitioner	No formal training, practicing Homeopathic methods	Homeopathic	10
RMP ¹	Minimum 6 months training for medication distribution and limited consultations	Allopathic	10
Medical assistant	3 years training, working at union level	Allopathic	7
BHMS ²	6 years medical training	Homeopathic	6
NGO	Consisting of <i>Shushasthya</i> operating at district and thana level with qualified medical staff	Allopathic	6

¹ RMP = Rural Medical Practitioner

² BHMS = Bachelor of Homeopathic Medicine and Surgery

Illness categorization

The 27 most frequent illnesses identified by TUP members through free listing were illustratively depicted in flash cards to facilitate illness grouping by TUP members and to explore the reasoning behind these categorizations. This was done based on their perceptions and knowledge of the signs, symptoms and treatment of illness episodes. The number of piles created by both male and female participants did not significantly vary across gender in which two types of illness were grouped together most frequently. Within this grouping, skin disease and ringworm were most frequently placed together by both male and female participants. Fifty-six and forty piles were created for one and three illnesses respectively with few incidents of more than five illness groups recorded. The reasons and thought process behind participants' categorization is summarized in Table 4 (for full listings of this data refer to Annex 4).

Perceived transition of diseases appeared to be an underlying factor in illness categorization, as several participants believed the emergence of particular illness episodes was due to previously encountered diseases. Within this perception a number of TUP members thought that *Hawa batas laga* (imposition of evil spirit) might cause those illnesses, emphasized by one respondent's comment, "*Borota kotha mane na, chotota mane*" meaning measles obeys the *Kotha* (charm) and can be cured using spiritual healing, whereas chicken pox does not obey the *Kotha*, therefore taking longer to be cured. This expression indicates the extent of cultural influence on perceptions of ill health that can influence respondent's understanding of treatment processes provided by health care facilities. Interestingly, similarities in treatment methods were not stated as justification for illness categorization and grouping despite the high propensity to group illnesses on their symptom similarities by both male and female participants for the majority of illnesses.

Table 4. Compiled information based on male and female pile sorting of illnesses

Illness grouping	Reasons behind selection	
	Male respondents	Female respondents
Skin disease, ringworm	Itching, similar type of illnesses	Similar type of illnesses (sores, boils; itching), ointment can cure these illnesses
Eye disease, night blindness	Both occur around the eyes	Both illnesses are occurred around the eyes; cannot see during night; Blurred vision; eyes swelling; ' <i>chokher osukh</i> ' turns into night blindness
Measles, chicken pox	Fever is resulted in both cases	Fever turns into measles or chicken pox due to ' <i>Hawa batas laga</i> ' (imposition of evil spirit); both are boils, one kind is small (<i>choto thakrani</i>) and other is big (<i>baro thakrani</i>); ' <i>Barota katha mane na, Chotota Mane</i> '; Both are two brothers
Menstrual problem, white discharge	For women both illnesses cause abdominal pain; weakness resulted; both are similar type; watery discharge is noticed in both cases	' <i>Blood Besi Gele</i> ' (excessive bleeding) and ' <i>Meho</i> ' (white discharge) are harmful; Emission of ' <i>Masik ebong meho</i> ' from body; both illnesses cause weakness
TB, cold and cough	Cold causes cough which turns into tuberculosis (TB)	Cold and cough turns into TB; ' <i>Haf kash</i> ' (cough associated with asthma) turns into TB
Dysentery, diarrhoea		Have to defecate; dysentery turns into diarrhoea and vice versa
Paralysis, tetanus	Not applicable*	Cannot walk or move as hands and legs become ' <i>Beka hoi</i> ' (bend), cannot do any work and bed rest; both cause the patient be motionless on their own physical capability
Fever, cold and cough	Not applicable	Both illnesses occur almost simultaneously
Evil spirit, jaundice		' <i>Jhar fuk lagey</i> ' (exorcising of evil spirit by uttering charms; incantation with water and oil to cure jaundice, according to one respondent, doctors cannot cure jaundice, <i>Kabiraj</i> can cure jaundice)

* Not applicable (Reasons were not mentioned as they did not make any pile with these diseases)

Illness severity ranking

Upon completion of pile sorting interviews the participants were asked to rank the severity of the 27 illness illustration cards (3, 2 and 1 for high, intermediate and low severity respectively). The overall severity ranking score of every illness were calculated using these values (Table 5). For a detailed presentation of each participant's illness ranking for all illnesses refer to Annex 5. Participants ranking was based on several criteria including treatment cost and availability of treatment or health provider, whether an operation is required and whether the illness episode is chronic or acute. The selection of paralysis as the most severe disease, for example, was based on the chronic nature of the condition that cannot be easily treated and can cause suffering and high levels of discomfort. Similar reasoning lay behind menstrual problems and tuberculosis, although treatment facilities are available for the latter condition, these can come at a high cost for the ultra poor in terms of transportation, time and direct medical costs. Other cases ranked under high levels of severity required operations such as hernia, while acute diarrhoea cases may require intravenous saline. Such services are available only at *upazila* health complexes and hospitals. Interestingly, several of the most frequently identified diseases previously expressed by TUP members are also perceived to be of low severity as they did not require operations and required treatment could be easily obtained. These findings also highlighted similarity in severity perception across gender with reference to the majority of illnesses.

Health seeking behaviour

Pathways of seeking treatment

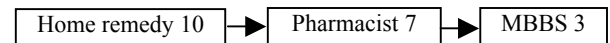
Analysis of participant's preference for different providers regarding particular illnesses revealed detailed findings concerning treatment methods, knowledge, and perceptions of disease. The process also outlined the range of factors that influence and direct sick individual's choice and prioritization of medical health practitioners. Within this the reputation of providers, emphasis on cultural beliefs and previously successful use of particular methods were salient factors in their

choice of treatment pathway. Detailed findings in relation to specific illness episodes and diseases are outlined below. For full version of treatment seeking pathways for each disease discussed below refer to Annex 6.

Table 5. TUP member illness severity ranking

Severity	Illness episode	Scoring total
High	Paralysis	58
	Tuberculosis	57
	Chicken pox	57
	Tetanus	56
	Jaundice	55
	<i>Meho</i>	53
	Diarrhoea	53
	Measles	50
	Asthma	50
	Hernia	49
	Menstrual problem	47
	Worm	47
	Eye disease	45
	Night blindness	45
Tumour	44	
Intermediate	Gastric	42
	Dysentery	42
	Weakness	41
	Throat infection	40
	Cold and cough	40
	Fever	38
	Arthritis	37
	Dental disease	36
Low	Health complaints caused by evil spirit	36
	Ear disease	35
	Ringworm	25
	Skin disease	24

Pathways of seeking treatment for fever



The most frequent treatment seeking pathways for fever diagrammatically represented above outlines the prevalence of home remedy treatment described in detail as the following practices:

- Pour water around the forehead and head
- Rub the body with a wet cloth
- Drink water after soaking '*chira*' (flattened rice) into water
- Drink lemon juice as '*sarbat*'

- Drink moderately hot water
- Drink juice of '*Tulshi gachh*' leaves (basil plant)
- Eat moderately hot rice or foods
- Drink more water
- Drink milk

The implementation of these practices by a number of participants was often undertaken as they did not consider fever to be a serious illness and therefore did not seek external treatments. A point reinforced through the earlier free listing process which highlighted fever as the most frequently experienced disease but ranked in the lowest severity category. A number of participants preferring home-based remedy as their primary choice in treatment of fever expressed the decision to switch to allopathic methods as a second choice would be based on the persistence of fever, failure of home-based methods, and increasing severity of the illness. Within this discussion a common comment was "*Mathai pani dhalley ki aar jwar palaai*"? (Is fever cured only by pouring water on the head?). This indicates a reluctance of relying on pouring water as the sole remedy, preferring to seek allopathic treatment. It also points towards uncertainty in home-based treatment methods. This may explain TUP members' preference for medications purchased at pharmacies whom they believed would offer the necessary cure for persisting fever. However, the close location and ease of access to medication at these outlets was also cited as an influential factor in their decision to use pharmacies as a means to treat the persistence of the condition.

If severity or complexity of fever increased despite seeking treatment from the second choice health practitioners then a number of participants chose MBBS doctor for their third choice of seeking treatment, with the choice of which MBBS doctor to consult based upon their reputation within the community. TUP members decision to revert to this method may be based on the perception that these qualified doctors offer the best chance of successful treatment for the increasing severity of the condition.

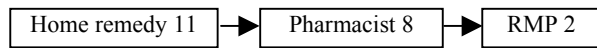
Pathways of seeking treatment for diarrhoea



Home remedy for diarrhoea reported by the respondents is presented below:

- Drink self-made oral rehydration solution
- Eat curry cooked with *Kacha paypay o kola* (green papaya and banana)
- Drink *chirar ghol* (water after soaking flattened rice into water)
- Drink *daber pani* (Green coconut water)

The high prevalence of home remedy treatments may be supported through the widespread availability and knowledge of self-made oral rehydration solution (ORS), which is both easy to prepare and cost-effective as the required ingredients can often be found in home. However, the continuing presence of diarrhoea and perceived severity were cited as primary reasons for seeking treatment from alternative health care facilities. The selection of *upazila* health complex as a second choice was predominantly due to its close location to a number of participants. Thus saving their time and money on transportation to treat diarrhoeal illness. The popularity of BRAC *Shushasthya* as a third choice was also based upon similar reasons, with several participants acknowledging its ability to provide intravenous saline in the event of the conditions increasing severity. This understanding and knowledge of the required treatment methods for severe diarrhoea exhibited by TUP members may also explain why other allopathic and homeopathic methods were not used. For example, the seeming reluctance to choose qualified MBBS doctors as they are not always able to provide intravenous saline to treat severe diarrhoea.

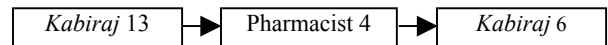
Pathways of seeking treatment for dysentery

Home remedies for dysentery reported by participants were:

- Take herbal medicine
- Eat *chira* (fried and flattened rice)
- Drink juice of leaves of *Khagor gachh* after by squeezing those leaves
- Drink water after boiling with bark of *Jhigara gachh*
- Drink water after soaking bark of *Orjun gachh* into water keeping the mixture for the whole night
- Eat hilsa fish curry
- Eat pumpkin curry
- Eat fat of beef curry
- Eat shoots of guava plant, bark of rose-apple tree, red coloured *khuria kata* and cluster roots of *khuria data*

A number of participants cited herbal medicines as their specific home remedy for dysentery. The selection of this method is largely based upon the belief that this offers a successful cure. The process is also easily facilitated by the vast availability of required medicinal plants and the low cost involved in preparing such remedies. The continuation of increased severity of symptoms led many participants to use pharmacists to provide required medication. This preferential selection of health practitioner is primarily based upon location and ease of medicine collection as expressed by many TUP members. Pharmacists may have also been selected above other treatment choices as participants believed that the medicines sold at these outlets offered a realistic chance of providing a successful cure. Upon further examination of the treatment pathway, rural medical practitioners (RMP) were frequently selected as a third choice. Their selection above other alternatives such as *upazila* health complex or MBBS doctor may again be related to the cost of treatment. Despite TUP members' ranking

dysentery with high severity, the low cost of consultancy fees and flexibility regarding payment for treatment by many RMP's may explain their use by the TUP in treating this condition.

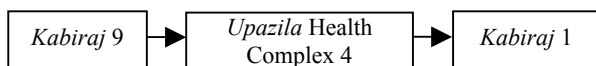
Pathways of seeking treatment for jaundice

The majority of the participants highlighted *Kabiraj* as their first choice of treatment method for the following reasons:

- Without *Kabiraji* treatment jaundice cannot be cured
- Doctors should not be consulted for jaundice
- The locality of *Kabiraj*
- *Kabiraj* is a relative of respondent
- *Kabiraji* is the cheapest form of treatment. Items required by the patient to facilitate treatment process provided by the *Kabiraj*
- The female *Kabiraj* is their neighbour
- Participants preferred the forms of treatment (spiritual blowing, herbal remedies) offered by the *Kabiraj*

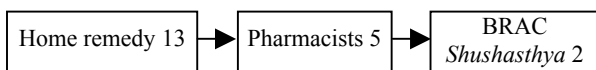
Cost, perception of required treatment methods and particularly pre-existing health beliefs appear to be underlying factors behind the decision to use *Kabiraj*. Cultural explanation for the occurrence of particular illnesses played a prominent role in selection of certain treatment practices. This is particularly interesting to note in light of perceptions on the severity of jaundice previously outlined by participants and avoiding consulting a physician for treatment. As one respondent said "Doctors have nothing to do with jaundice. If it cures at all it will be cured by *Kabirajes*." The failure of *Kabiraj* to provide successful treatment led some participants to use medicines available from pharmacists. Their selection may again be resultant from the belief that medical health facilities cannot provide adequate treatment, or the preference for easily accessible and cost effective medications to cure this illness episode.

Pathways of seeking treatment for meho



A significant number of programme participants prefer *Kabiraj* as the first choice for treating *meho*. They believed that *Kabiraj* provided successful treatment, or because relatives had previously used them. Participants also stated their preference for the methods practiced by *Kabiraj* such as the use of herbal medicines which many participants perceived to be an effective cure for the disease. The decision making process also appeared to be influenced by the close location and ease of access for many participants. Furthermore, the availability of female *Kabiraj* may also have influenced many women's decisions due to the sensitive nature of the condition and the increased levels of stigma attached to women with *meho*. The decision to select *upazila* health complex for treatment as their second choice was firmly based on the progressing severity of the disease requiring treatment through vitamin supplements and intravenous saline. This highlighted participant's knowledge of the severity of the condition and the treatment methods required to alleviate the illness.

Pathways of seeking treatment for gastric illnesses



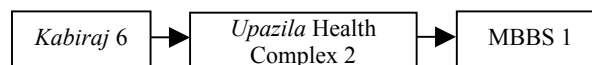
Home remedy for gastric illnesses is presented below with participants stating their preference due to its previous effectiveness in successfully treating these ailments:

- Drink *basi pani* (water kept for the whole night) in the morning
- Reduced consumption of fried and oily foods
- Reduced consumption of oil and chili

The prevalence of this method is also based on cost-effectiveness, availability and ease in

providing required ingredients to treat gastric illness. The decision to seek alternative methods and practitioners was again based on the continuation or increasing severity of symptoms. The most frequently selected second treatment choice was pharmacists based on their provision of the required medication to alleviate the condition. Either through previous successful use of pharmacists or the common nature of gastric illness this health provider was chosen ahead of alternative methods and treatment practitioners. The decision to use *shushasthya* reflected the deteriorating health of the patient and the recognition that this facility provided the necessary treatment methods to reduce the increasing severity of gastric illness.

Pathways of seeking treatment for eye problems



A number of participants identified *Kabiraj* as their first choice in seeking treatment for eye problems. A common explanation for this is related to cultural beliefs and faith in the power vested in *Kabiraj* to successfully deal with these illness episodes. A point reinforced by one participant's comments that her *Kabiraj* was empowered with the presence of *Kali*, and was therefore successfully capable of curing eye problems. This is further supported by claims from other participants regarding treatment methods highlighting the use of *Jharajari* (blowing with a charm) to cure moderate eye problems. Others stated faith in *Kabiraji* to cure *chokher fali* (an infection leaving the eyelids covered in a white sheathing) or used this treatment provider due to kinship, while some participants chose this method on economic grounds. Despite a reputation within the community for indifferent results, one particular *Kabiraj* was frequently identified as a treatment provider for eye problems due to their flexibility in paying fees and cost of medicine. Given the low economic status of TUP members the opportunity to defer payment until greater levels of financial capital could be provided proved to be a popular method.

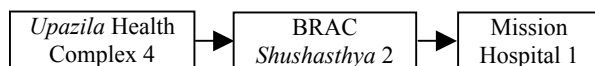
The decision to use *upazila* health complex as second choice and MBBS doctor as third choice appears to be in relation to the severity of health related problems associated with the eyes, labeled by many participants as ‘invaluable’ organs. The perception of health complexes as professional facilities with qualified medical personnel is influential in their choice to access the best levels of service. This is also applicable to the selection of MBBS doctors where the higher cost of consultation fees is accepted due to the value placed upon the eyes.

Pathways of seeking treatment for skin disease



Participants identified the use of *Indian Molom* (ointment made in India) purchased from quack doctors, roaming medicine vendors and pharmacists as their first choice in treating skin diseases. The preference attributed to use of ointment was participants’ belief in the success rate of ointment application to treat *Bauchus* (type of skin disease), *Chulkaani* (itching) and *Dad/Daud* (ringworm/fungal disease). The perceived low severity of the condition by the TUP also played an influential role in the selection of this health provider. A number of participants selected *upazila* health complex stating the provision of good medicine to care the skin complaint as the primary reason for its selection, although the decision to consult practitioners within this facility was based on the failure of ointments and the continuing presence of skin complaints. These participants often purchased ‘white medicine’ for external use on skin. However, a few selected homeopathic medicine to treat skin diseases of children believing this to be a more effective method.

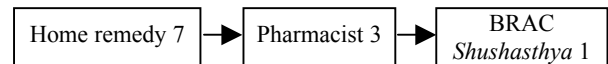
Pathways of seeking treatment for tuberculosis



The selection of three institutional health facilities reflects TUP members’ perceived severity and awareness of required treatment methods provided through these facilities to cure tuberculosis.

Participants stated the need to seek treatment as soon as possible in the event of this illness, citing good doctors, medicines and equipment as the justification for their preferred treatment choices highlighted above. Preferential utilisation of *upazila* health complex was resultant from its close locality in comparison to other treatment providers. The high prevalence of these institutions was reflected throughout all TUP responses to this illness, reinforcing the notion of their recognition of the severity of tuberculosis and required treatment practices. For full details on all TUP choices for tuberculosis, please see Annex 4.

Pathways of seeking treatment for ear disease



According to participants, patients generally use home remedies for ear diseases due to previous success and their perception of its limited severity. As one member stated, “If the disease can be cured at home what is the need to visit a doctor?” The following methods were identified as home remedies:

- Moderately hot *Him Kobory* (oil drip) is used inside the ear hole;
- Use of warm mustard oil and garlic inside the ear;
- Use of lemon juice inside the ear hole after mixing it with burnt *Shakha* (bengle); and
- Use a mixture of *Sindur* (vermilion) and ‘Bishary’.

The persistence or increasing severity of symptoms forced some participants to go to pharmacists as the second choice of treatment provider. Such preference was related to close location and the belief that medicines sold at these venues probably cured episodes of ear diseases. The perception of low severity of the diseases is likely to be the primary reason behind selecting pharmacies before using more qualified practitioners or fully qualified physicians. Only the increasing severity of the illness episode led participants to select more formal institutions like BRAC *Shushasthya*.

Table 6. Pathways of treatment seeking and frequency

Illness	Pathways of treatment seeking and frequency					
	First choice (frequency)		Second choice		Third choice	
Fever	Home remedy	(10)	Pharmacist	(7)	MBBS	(3)
Diarrhoea	Home remedy	(14)	Upazila Health Complex	(5)	Shushasthya (BRAC Health Center)	(4)
Dysentery	Home remedy	(11)	Pharmacist	(8)	RMP	(2)
Jaundice	Kabiraj	(13)	Pharmacist	(4)	Kabiraj	(6)
Meho	Kabiraj	(9)	Upazila Health Complex	(4)	Kabiraj	(1)
Gastric	Home remedy	(13)	Medical assistance	(3)		
Eye problem	Kabiraj	(6)	Government hospital	(2)	MBBS	(1)
Skin disease	Upazila Health Complex	(5)	Upazila Health Complex	(3)	Shushasthya	(1)
Tuberculosis	Upazila Health Complex	(4)	Government hospital	(2)	Hospital	(1)
Ear disease	Home remedy	(7)	Pharmacist	(3)	Shushasthya	(1)

Treatment pathway choice

Exploration of TUP member's health-seeking behaviour and choice of treatment provider is summarized in Table 6. This highlights the consistent preference of home-based care as the primary means in illness treatment and frequent use of traditional methods for certain diseases, with government and NGO health care facilities less frequently used by the ultra poor.

Illness episodes

Ten male and ten female participants gave detailed narration of their illness experiences covering a variety of diseases. This process provided an in-depth description of experiences, signs, symptoms, decision making, treatment-seeking and impacts of ill health upon the household. Examples of information narrated are presented in Box 1 and Box 2. Narratives revealed a number of common symptoms associated in all disease cases, with the majority of illness episodes occurring during the monsoon season (mid May to mid October).

It was not unusual for a combination of treatments to be sought which may be based on participants' perception of pluralistic causes as contributing factors for the occurrence of certain diseases. Of particular interest was comprehension of causes behind the onset of diarrhoea exhibited by a number of TUP women. Examination revealed the belief that visiting diarrhoea patients and transmission from air and animals increased the likelihood of contracting the disease.

However, in the event of experiencing certain illnesses a common feature amongst TUP members was the decision to wait to establish the severity of any ailments. Only the deterioration in patient conditions forced active treatment-seeking behaviour through the various pathways. The decision making process behind the selection of health practitioners was predominantly controlled by male household heads. This often led to quicker treatment-seeking for men as women's health needs were delayed based on decisions made by the males within the household. However, more health assistance is made available for TUP members that is not accessible for their husbands or sons such as increased financial support to BRAC health care facilities. This may result in more rapid and more appropriate treatment strategies being employed which may reduce direct and indirect economic impacts on ultra poor women. The current research also identified a number of factors that influenced decision making for treatment, such as the patients themselves, their household members, social ties, economic relationships and networks (between fellow traders) and patron client relationships. The existing social ties and networks amongst neighbours and the patron client relationship between ward members (elected local government) and villagers played a significant role not only in decision making for individuals treatment, but in required hospitalization of the sick person as well. Within descriptions of the actual treatment process a number of male participants highlighted the role of their wives in providing care both at home and in the hospital. The women's care role was also

extended to the purchase of medicines, treating and feeding their sick husbands.

Importantly, a few participants received institutional support in their health-seeking practices under the CFPR/TUP programme either through health workers or programme officers who provided treatment advice and support during household visits. This enabled one particular patient to undergo a hernia operation at the *upazila* health complex through financial assistance from the CFPR/TUP programme.

The provision of monetary support to facilitate treatment from institutional health care providers highlights one of the major constraints to treatment choice identified by TUP members. The cost of ill health imposed a direct financial burden on TUP households. Such costs were highlighted as time, transportation, and fees for consultation and treatment from private practitioners. The constraint played a prominent role in the selection of low cost home remedies for many illness conditions. However, some participants mentioned distance and traveling costs to reach the *upazila* health complex, BRAC *Shushasthya* and other institutional facilities. Distance was often a salient constraint due to loss

of time on paid employment or household duties. This forced one participant to delay medical consultation until she was able to combine her work commitments with a visit to the health care facility. These constraints also underlined patients' treatment choice to be dictated by the locality of health practitioners.

When seeking external treatment providers in addition to using home remedies, TUP members preferred *Kabiraj* for a number of illnesses such as jaundice and dysentery believing that they offer a greater chance of providing successful treatment compared to other providers. Again cost was identified as an influential factor, particularly with regard to flexibility in payment offered by various *Kabiraj* in the study area. This enabled patients to pay in instalments or occasionally deferred payment. However, *upazila* health complex and Rangpur Medical College hospital were viewed to be effective institutions for diseases the TUP members frequently considered to be of greatest severity, particularly tuberculosis and diarrhoea. The decision to opt for *Kabiraj* was often based on the knowledge of required treatment which the TUP members recognized were available at such facilities compared to less qualified practitioners.

Box 1. Example of a male illness narrative

Shunil is the 45-year old husband of Hembula, a TUP member, who had just recovered from jaundice. He lived in Bujipara as a rice seller which required frequent travel in the local area to sell his product. He recounted that his initial realisation of an illness occurred when his urine turned a reddish colour. He believed that the hot weather and variety of drinking sources were the underlying causes behind this symptom. However, he did not act upon this change, continuing with his normal activities for the next 10 days until neighbours and friends remarked on the yellowish colour of his eyes and face. He, therefore, realized this combination of symptoms were the result of *kaun*, meaning jaundice.

Shunil followed the advice of a fellow rice trader and bought a particular type of medicine from the pharmacist as this had successfully cured jaundice of the trader's son. However, this failed to cure Shunil's condition as his symptoms progressed to loss of appetite, episodes of fever and a general feeling of weakness. The failure of the pharmacist's medication led the patient to drink a mix of water, pulse and sugar cane juice on the advice of a neighbour. However, this home remedy also failed to reduce the severity of symptoms.

The patient's deteriorating condition forced his wife to recommend consultation with a homeopathic doctor, who was a neighbour and therefore easily accessible and perceived as a reliable treatment source. Upon the doctor's advice Shunil bought required medicine for Tk. 30 and followed the treatment for eight days. This method also failed to cure the illness which continued to deteriorate leaving Shunil extremely fatigued and frequently disorientated.

His progressive decline caused high levels of emotional stress for his wife which other neighbours responded to with further treatment advice. One neighbour insisted Shunil be taken to the *upazila* health complex at the first opportunity. However, Shunil's wife did not follow this recommendation as another neighbour interjected with claims that the health complex would be unable to offer the required medical services to cure jaundice. Instead she followed the advice of her elder sister who recommended a particular *Kabiraj* who had successfully treated jaundice in her son.

Treatment with this traditional practitioner lasted for seven days in which the practice of *Jhara* (rubbing the patient's skin, reading holy verses and blowing charms) along with advice to eat Thankani vegetable curry drastically reduced all symptoms. Upon completion of treatment Shunil regained his strength, energy and appetite enabling him to quickly return to his employment and left him very satisfied with the treatment provided by the *Kabiraj*.

However, this illness episode had several detrimental effects on the household through restrictions on the domestic responsibilities of his wife and mother and loss of income due to Shunil's inability to work. This was further accentuated by the total cost of the illness which required the wife to withdraw her savings from BRAC to pay the treatment cost of Tk. 350. Shunil was in the process of repaying his wife to enable reinvestment in the BRAC savings scheme.

Box 2. Example of a female illness narrative

Soru Bala is a 35-year old TUP member whose wrist was badly injured when one of her cows kicked her after becoming startled. The accident generated a significant degree of discomfort forcing Soru to return home to attend to her injury. Her first reaction was to see her sister-in-law who attempted to pull and straighten Soru's hand and wrist; however, this was too painful for the patient. Therefore, they resorted to home remedies by washing the damaged area, rubbing broken eggs on the wrist and applying an ointment (nasir malom). However, these methods failed to alleviate the problem as Soru experienced greater levels of pain, forcing the sister-in-law to purchase pain killers from the local market.

The next day Soru followed the advice of a female neighbour who recommended a particular *Kabiraj* who was able to treat bone complaints by uttering charms and incantations while washing the wrist in warm water and applying a herbal paste to the injured area. The *Kabiraj* also recommended that Soru should refrain from eating hilsha fish, boal fish, pumpkin, duck and pigeon. The patient returned in the evening to have the paste washed off and reapplied, a process repeated for the next seven days in conjunction with regular use of the previously purchased pain killers.

During this period, Soru failed to attend her weekly TUP meeting due to her injury and its treatment. The TUP programme officer (PO) became aware of this situation leading him to consult the patient to discuss the services offered by BRAC *Shushasthya*. Following this meeting, the PO provided a rickshaw van to enable Soru to attend the nearest health centre. Treatment at this facility provided x-rays revealing that she had a serious fracture in her wrist. The consulting doctor heavily bandaged her wrist and hand, placing further bandages around the shoulder to provide additional support to the injured area.

Two weeks after receiving treatment at the *Shushasthya*, Soru's sister-in-law claimed the method had failed to provide a successful cure, insisting that she should return to the *Kabiraj*. She again followed this advice receiving the same treatment over a month. The process cost Tk. 175 but resulted in successful recovery, although Soru said she continued to take pain killers for a further two months to reduce levels of discomfort experienced in the wrist. However, she was satisfied with the *Kabiraj* and was grateful for the advice from her sister-in-law and the additional support she provided in household duties and attending to her cows.

DISCUSSION

The present study explores the health domain of the ultra poor to gain a more comprehensive understanding of their illness perception, knowledge, treatment-seeking behaviour and general health behaviour of this socioeconomic group frequently excluded from development initiatives. Through qualitative methodologies, specific objectives focused on gaining an insight into associated signs, symptoms and cause of illness, as well as how the ultra poor categorize and classify those illnesses. The findings show that the regressive nature of burdens associated with ill health carry a number of similar impacts on the TUP households compared to other poor households in Bangladesh and areas of the developing world. Within this concept, TUP member's experience of illness episodes is compounded by financial and time constraints, lack of health education and awareness of treatment facilities for particular diseases, and cultural rationality in selection of health care practitioners.

Study findings indicate that the treatment-seeking patterns of TUP members carried a strong prevalence towards home-based remedies for the majority of illness episodes. This preference for self care methods, consisting of either natural or biomedical practices, in the event of ill health is consistent with previous research examining health-seeking behaviour in Bangladesh and other areas of Asia and the developing world (Bhatia and Cleland 2001, Leyva-Flores *et al.* 2001, Howlader and Bhuiyan 1999, Barrett 1993), in particular, findings by Ahmed *et al.* (2003) of a 35% increase in self care practices among the rural poor in Bangladesh between 1995 and 1999. Although not without precedent, the findings of this study warrant further explanation to gain a greater understanding of underlying factors behind this treatment choice. Home remedy is a clear function of self treatment, self medication

and self care. Levin (1981) identifies self care as a "process by which people function on their behalf in health promotion and prevention and disease detection" (quoted in Ahmed *et al.* 2003, p312). It involves self diagnosis, use of over the counter medication without concurrent medical advice, or remedies found within the home perceived to be effective forms of treatment (Tipping and Segal 1995). Practices which were identified within the health-seeking behaviour of TUP participants such as, the purchase of ointments from pharmacists without consulting any physician to treat skin disease or the use of particular home remedies perceived to be effective in treating gastric illness.

Previous explanations for the continuing rise in self care and the use of home remedies in Bangladesh found in health-seeking literature identify the availability of free drugs such as ORS packets and water purification tablets introduced by various NGOs. Alternatively, the extensive preventive health education and patient empowerment messages, promoted by NGOs, may also have contributed to intensify self care (Ahmed *et al.* 2003). These ideas do not appear to carry much weight regarding TUP members, as they have not been exposed to or integrated into NGO initiatives due to their ultra poor status and resulting failure to qualify for development interventions pursued by these organisations. However, the ideas and knowledge promoted by these NGOs can diffuse to non-NGO participants explaining their use of various self care methods. Analysis of the treatment pathway interviews and illness episode narratives suggests that the forces underlying their decision to adopt home-based practices for certain illnesses were disease severity perception, previous success with home remedies in disease treatment and the cost of external treatment.

With regard to disease severity perception, some relationships between disease grouping and home remedy use can be identified between results from the pile sorting methodology and treatment pathways. In the event of home remedy failure to alleviate illness conditions, those illnesses grouped because of symptom similarity were then often treated by traditional practitioners. Although the link may be tenuous at times, the relationships do point towards the influence disease perception can have upon resulting treatment pathways and practitioner preference.

Regarding financial constraints a substantial body of research has documented the economic cost of illnesses (Wilkes *et al.* 1997, Russell 1996, Sauberon *et al.* 1996 a/b). Although the poor, in general, spend less on treatment compared to other economic groups due to a lack of access and inability to pay, this spending makes up a higher proportion of their monthly or annual income. Even minor illness costs can exceed household budgets of the poor who often survive on a wage that barely covers minimum food requirements (Russell 2003). Previous studies conducted in Bangladesh indicate poor and vulnerable households with only a few assets were likely to struggle to meet even small extra budgetary expenses (Pryer 1989). The economic burdens of ill health was clearly apparent in TUP members experience with one participant forced to accept loans from their own social networks. However, numerous participants indicate their preference to utilise allopathic practitioners including pharmacists as a first or second choice in treating various ailments, particularly in the failure of home remedies. Although the particular preference for pharmacists over more qualified professionals was in relation to their lower cost for medication, lack of consultancy fees, and flexibility in payment through monthly instalments or deferred payment. Use of these various allopathic methods still requires payment. This study indicates that many TUP members were willing and able to support this treatment method, particularly in the case of diseases ranked with lower degrees of severity such as skin and ear complaints.

This finding is also contrary to research conducted in other developing countries which

suggest the poor attempt to ignore their illness, actively avoiding treatment and continuing with work. A factor which led Corbett (1989) to conclude;

“Coping by not seeking treatment, even when it is fairly accessible, indicates a survival strategy which avoids indebtedness or destitution at the risk of greater risk to health – or even survival of some household members” (p60).

However, findings highlighted that although participants waited to assess the severity and progression of symptoms they also actively sought treatment from various practitioners and facilities available, which involved time and financial costs in using these treatment options. Possible explanations for this reverse of behaviour compared to poor households in other developing countries points towards the pluralistic medical system available to the ultra poor, reducing common barriers through practitioners and health facilities availability and accessibility. This point is reinforced by the range and number of providers identified by TUP participants in this study highlighting 83 health providers grouped into twelve types of treatment practitioners. Therefore, a number of participants stated the close location of various health providers as the justification behind their selection in prioritising treatment choice. With an array of treatment methods available, the majority of TUP members may always find a health practitioner within close proximity, thus reducing detrimental time constraints and facilitating frequency of treatment use.

In relation to the health seeking pathways model (Figure 1) previously outlined, these factors can play a key role in decision making. Through wide availability facilitated by the medical system currently operating in Bangladesh the ultra poor are presented with greater options to alleviate the burden of ill health. This health behaviour differentiation showed by the TUP members, in comparison to other poor groups in the developing world, may also be in relation to BRAC health initiatives and interventions. The organisation’s role in promoting health education and curative services in the form of *Shushathyas*, *Shasthya Sebikas*, and the BRAC health programme has provided greater knowledge,

availability and affordability. With reference to the pathways model the provision of health knowledge can play an important role in influencing individual's symptom perceptions and thus increase successful interpretation of illness conditions enabling the sick individual to make an informed decision, resulting in the use of effective health care services. This was the case amongst the participants who selected institutional facilities in response to the onset of tuberculosis, recognizing the severity of the condition and the facilities to provide treatment for such an illness episode. A similar situation was documented in the event of deteriorating diarrhoeal disease which participants recognised as requiring intravenous saline to alleviate the condition. A procedure available at government and NGO health facilities but often not available through qualified or semi-qualified doctor practices, hence the high preference for institutional facilities in the ultra poor treatment pathway choices. However, given the relative infancy of the CFPR/TUP programme health education dissemination must be continued and extended within the ultra poor group. Their reduced exposure to such information through previous exclusion will require further efforts from the BRAC health programme to allow TUP members greater access to health care provision. For the successful promotion of this message it is important to recognize the multiple range of factors that can influence the health domain and particularly treatment-seeking behaviour of TUP members.

Further exploration of time constraints imposed on individuals by ill health highlight a burden which predominantly falls upon female members of the household. Male participants, either the husbands or sons of TUP women, often expressed care they received from their wives both at home and at health care facilities. Wives also provided further support through buying required medicines in the event of their husband's ill health. This highlights that TUP women are enmeshed in social relationships affecting their own time and work commitments which may also have detrimental impacts on their own health-seeking behaviour. Previous studies provided evidence of a gender bias with women spending less time tending to illness and seeking treatment despite higher rates of morbidity in Asia and

Bangladesh (Bhatia and Cleland 2001, Paul 1992). In illness episode narratives some female participants indicated their decision to delay treatment was based on decisions made by the male head of the household. Despite greater availability of health care services for TUP members that are not accessible for their husbands or sons, the control over treatment decisions is still within the domain of the male household head. However, other illness episode narratives highlighted some decisions of TUP women to delay treatment due to time and financial constraints forcing them to delay seeking treatment from institutional health care providers until it could be combined with work commitments.

The course and extent of disease and ill health are not merely determined by biomedical factors but also by the way individuals and households deal with the illness. The health-seeking behaviour employed may substantially deviate from course and action required for treatment based on individuals' perceptions of illness severity and choice of care (Jayawardene 1993). It may also be based on pre-existing health beliefs, cultural perceptions surrounding various diseases and the methods required to alleviate the condition. Previous studies exploring female perception of their own illnesses found many women had explanations such as supernatural beings and inanimate objects for every illness they experienced. Treatment-seeking, thus, largely depended on beliefs about cause of illness and its cultural explanation, leading them to prefer traditional healers for illnesses caused by supernatural elements (Mahbub and Ahmed 1997). This cognitive process was evident in TUP member's decision to group particular illnesses together during pile sorting such as measles, chicken pox and fever. It may also explain the high propensity for *Kabiraj* treatment methods for a variety of illness episodes as both TUP participants' first or second treatment choice, and why it was most frequently identified during the free listing process.

Cultural influences and the preference for indigenous and traditional treatment methods have previously been documented in Latin America. For example, Barrett (1993) explores this concept

citing a lack of health centres as an influential factor behind the decision to employ such treatment. The study also identifies low socioeconomic status and the high tendency of certain ethnic groups to ascribe illness to spiritual causes as important determinants of traditional treatment behaviours. Although the argument concerning number and location of health centres does not appear to be applicable to TUP member's decision to use traditional treatments, there are similarities between their low socioeconomic status and high spiritual influences. Examination of underlying causes of traditional treatment behaviour in Latin America and Asia revealed least educated respondents to be associated with highest rates of traditional practice. (Barrett 1993, Jayawardene 1993). This may also provide an explanation behind TUP choices as they have previously been excluded from health education programmes and messages, particularly dissemination through *Shasthya Shebika* networks implemented by BRAC. However, the use of these methods may again revert to economic influences as participants stated traditional healers to be a cheaper alternative in comparison to other methods. Given the low economic status of TUP households and their limited financial capital available to treat illness episodes it would seem that the cost of treatment is again a salient factor in their treatment-seeking pathways.

The high prevalence of *Kabiraj* and the limited extent of literature examining this form of treatment indicate a key avenue for future research and policy direction. TUP members' use of this method may have particular implications within the health promotion and education dissemination of the CFPR/TUP programme. An important question is whether this reliance on alternative practices is without adverse consequences for the health of the individual. This was particularly evident in the importance of *Kabiraj* in the treatment pathways for potentially serious conditions such as jaundice, which participants themselves had ranked with high severity. It remains critical that health care decisions and actions taken by sick individuals or their care givers are both safe and appropriate (Abosede 1984). In this respect, efforts to increase health-related knowledge and skills to facilitate decisions about which therapeutic method is appropriate

should be further emphasised within the CFPR/TUP programme. Providing information about health issues and treatment would be a crucial means to empower the ultra poor to make cost-effective decisions about household health care expenditure and enable them to obtain value for money from various health service outlets. However, in these efforts due consideration to the problematic notion of what constitutes 'rational practice' is important. The present study clearly indicates that health behaviours are often guided by cultural or social rationality in the selection of *Kabiraji* treatment, which will not be easily modified to concur with concepts of clinical and scientific logic behind treatment selection. Although these concepts do not necessarily offer 'better' treatment alternatives for the patient.

Furthermore, a note of caution must be adhered to within this health education dissemination as successful and reliable *Kabiraji* methods can alleviate the burden upon institutional facilities and provide easily accessible low cost forms of treatment, especially for the very poor. Therefore, they provide a vital and necessary type of treatment to the ultra poor and their exclusion would further disadvantage the already reduced and restricted health accessibility of vulnerable TUP members. Consequently, a potential avenue to explore is traditional healer's integration into BRAC health interventions within the CFPR/TUP programme, through appropriate training to achieve qualifications and the introduction of measures to standardize practices ensuring higher, more reliable and safer levels of service for TUP members. This process would also be applicable to the range of semi and under-qualified pharmacists and rural medical practitioners (RMP) frequently accessed by the ultra poor (Figure 2) due to low cost and simplicity in obtaining services. However, regulatory measures implemented at this level to provide training for qualifications and to control the misuse of potentially detrimental treatment methods and medications will require careful consideration to prevent the problematic creation of black market activities and non-conformity to implemented regulations (Trostle 1996).

The findings presented above show that health-seeking behaviour is not just a one off

isolated event but the result of integrated and evolving factors. The process of responding to illness or seeking care involves multiple steps rarely translated into a simple singular choice. The study indicates that TUP members' decision to attend particular health care facilities or use certain health practitioners is the composite result of personal need, social forces, location and cost of services, pre-existing health beliefs, and to some extent physical facilities available at a particular service point. The complexity and interactive nature of treatment behaviours show that the process of seeking cannot be identified as the sole result of social, economic or cultural circumstances. Therefore, in this context health promotion needs to be broadened to incorporate all determinants of health domain of the ultra poor.

Furthermore, the high prevalence of traditional health providers in health-seeking behaviour of the ultra poor needs to be acknowledged. The propensity of such services cannot be ignored as they provide a vital and often successful form of treatment for the ultra poor. Therefore, the challenge remains to integrate concepts of programmatic health development with methods of traditional health practices. Through careful incorporation of standardization and orientation practices, the pluralistic medical system available can be strengthened to reinforce available choices and ensure that the burden of ill health is minimized as much as possible for this vulnerable group.

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REFERENCES

- Abosedo OA. Self-medication: an important aspect of primary health care. *Soc Sci Med* 1984;19(7):699–703.
- Ahmed SM, Adams AM, Chowdhury M, Bhuiya A. Changing health-seeking behaviour in Matlab, Bangladesh: do development interventions matter? *Health Policy Plann* 2003;18(3):306-15.
- Barrett B. Health care behaviour on Nicaragua's atlantic coast. *Soc Sci Med* 1993;37(3):355-68.
- Barnett A and Whiteside A. The world development report 2000/1: HIV/AIDS still not properly considered. *J Int Dev* 2001;13:369-76.
- Bhatia JC and Cleland C. Health seeking and expenditure by young Indian mothers in the public and private sectors. *Health Policy Plann* 2001;16(1):55-61.
- Bloom G and Standing H. Pluralism and marketisation in the health sector: meeting health needs in contexts of social change in low and middle income countries. Brighton: Institute of Development Studies, 2001. (IDS Working Paper 136)
- CFPR/TUP Research Team. Stories of targeting: process documentation of selecting the ultra poor for CFPR/TUP programme. Dhaka and Ottawa: BRAC and Aga Khan Foundation Canada, 2004.xii,34p. (CFPR-TUP Working Paper Series No. 1)
- Corbett J. Poverty and sickness: the high cost of ill health. *IDS Bull* 1989;20(2):58-62.
- DFID. Better health for poor people. London: Department for International Development, 1999. (International Development Target Strategy Paper)
- Gilbert N. Researching social life. London: Sage Publications, 1995.
- Howlader AA and Bhuiyan MU. Mothers' health seeking behaviour and infant and child mortality in Bangladesh. *Asia-Pacific Pop J* 1999;14(1):59-75.
- Jayawardene R. Illness perception – social cost and coping strategies of malaria cases. *Soc Sci Med* 1993;37(9):1169-76.
- Levin LS. Self-care in health: potentials and pitfalls. *World Health Forum* 1981;2(1):177–84.
- Levy-Flores R, Kageyama ML, Erviti-Erice J. How people respond to illness in Mexico: self-care or medical care? *Health Policy* 2001;57(1):15–26.
- Mahbub A and Ahmed SM. Perspective of women about their own illness. Dhaka: BRAC Research and Evaluation Division, 1997. (BRAC-ICDDR,B Joint Research Project Working Paper. No. 16)
- Matin I and Halder SR. Combining methodologies for better targeting of the extreme poor: lessons from BRAC's CFPR/TUP programme. Dhaka and Ottawa: BRAC and Aga Khan Foundation Canada, 2002. vi,19p. (CFPR-TUP Working Paper Series No. 2)
- May T. Social Research. Bristol: Open University Press, 2002.
- Muela SH and Hausmann S. Treatment Seeking Pathways 1997. (DCPP Background Paper) (www.fic.nih.gov/dcpp/ppts/hausmann.)
- Muela SH, Ribera JM, Nyamongo I. Health seeking behaviour and the health system response 2003. (DCPP Working Paper No. 14)
- Needham DM and Bowman. Patient seeking care barriers and tuberculosis programme reform: a qualitative study. *Health Policy* 2003;67(1):93-106.
- Paul BK. Health search behaviour of parents in rural Bangladesh: an empirical study. *Environment Plann* 1992;24(7):963-73.
- Pryer J. When breadwinners fall ill: preliminary findings from a case study in Bangladesh. *IDS Bulletin*. 1989;20(2):49-57.
- Rugalema G. Coping or struggling? a journey into the impact of HIV/AIDS in southern Africa. *Rev African Political Econ* 2000;86:537-45.
- Russell S. Ability to pay for health care: concepts and evidence. *Health Policy Plann* 1996;11(3):219-37.
- Russell S. The economic burden of illness for households. A review of illness and coping strategy studies focussing on malaria, tuberculosis and HIV/AIDS 2003. (DCPP Working Paper No. 15)

Sauberon R, Adams A, Hien M. Household strategies to cope with the economic costs of illness. *Soc Sci Med* 1996;43(3):291-301.

Sauberon R, Noutgtara A, Hein M, Diesfeld HJ. Seasonal variations of household costs of illness in Burkina Faso. *Soc Sci Med* 1996;43(3):281-90.

Tipping G and Segall M. Health care seeking behaviour in developing countries: an annotated bibliography and literature review. University of Sussex, 1995. (Development Bibliography 12)

Trostle J. Inappropriate distribution of medicines by professional in developing countries. *Soc Sci Med* 1996;42(8):1117-20.

Ward H, Mertens TE, Thomas C. Health-seeking behaviour and the control of sexually transmitted disease. *Health Policy Plann* 1996;12(1):19-28.

WHO. Improving health outcomes of the poor: the report of working group 5 of the commission on macroeconomics and health. Geneva: World Health Organization, 2001.

Wilkes A, Hao Y, Bloom G. Coping with the cost of severe illness in rural China. Brighton: Institute of Development Studies, 1997. (IDS Working Paper No. 58)

World Bank. Confronting AIDS: public priorities in a global epidemic. Washington D. C: World Bank, 1997.

World Bank. World development report: attacking poverty. Washington D. C: World Bank, 2000.

Annex 1

Illness illustration cards prepared for pile sorting

Illness illustration card no.	Illnesses (English equivalent)
1	Jwar (Fever)
2	Jaksma/Jakkha (Tuberculosis)
3	Odhango/Ordhogaholi (Paralysis)
4	Chulkaani/Unapak gha/ Pachari/Pachra (Skin disease)
5	Dad/Daud (Ring worm)
6	Ham/ Khesara ham (Measles)
7	Basonto (Chicken pox)
8	Bater byatha (Arthritis/Rheumatism)
9	Kaner Oshukh (Ear Disease/ Problem)
10	Krimi (Worm)
11	Danter oshukh (Dental disease)
12	Tumar (Tumour)
13	Galar sangkromon (Throat infection)
14	Rat kana or aait kana (Night blindness)
15	Sordi kashi (Cold and cough)
16	Dhanustongkar (Tetanus)
17	Hapani (Asthma)
18	Ekshira (Hydrocele)
19	Masiker samosya (Menstrual problem)
20	Meho/Marua dhat/Sada srab (White discharge/ Spermatozoa)
21	Pancho thakur/Pancha bibir hawa (Evil spirit)
22	Chokher oshukh /chokh uthha ba ulla/(Eyes infection/conjunctivitis)
23	Amasha (Dysentery)
24	Dairia (Diarrhoea)
25	Jandis, Kaunia (Jaundice)
26	Durbalota (Weakness)
27	Gastik (Gastrick)

Annex 2

Compiled information based on male and female free listing interviews on illnesses

Sl. No.	Illness	Signs and symptoms	English equivalent	Frequency		
				Male	Female	Total
1	Jwar	Body temperature goes up; cold and cough and nasal catarrh; almost continuous running nose; restlessness or palpitation or flapping; losing willingness to go out for walk and/ or work; headache and body pain; body pain; chest pain; biting sensation; losing eating appetite; weakness; to perspire on the eve of being relieved of fever/ sweating/perspiring	Fever	19	20	39
2	Dairia	Frequent watery stool/loose motion; stomach upset; vomiting; indigestion; flatulence; weakness; ill-health; dehydration; thirst for drinking water goes up, etc.	Diarrhoea	20	17	37
3	Gastik		Gastric	19	18	37
4	Jandis	Body, specially eyes and face become yellowish; urine become yellow; weakness	Jaundice	17	19	36
5	Amasha	Yellow coloured ' <i>nelta/bijla/shiner moto</i> ' (jelly like) stool; stomach ache; white stool (like white part of egg); paining and/ or biting (' <i>bish korey/shulai/kamrai</i> ') in anus; has to go to latrine for defecation as quick as possible; blood is passed away with stool; biting and twisting sensation in the abdomen; losing eating appetite, etc.	Dysentery	17	17	34
6	Meho/Marua Dhat/Sada srab	Weakness; urinal inflammation; calcium passes away from the body; losing eating appetite; breaking of health; white rice water/catarrh/coconut oil like discharge is noticed with urine; cannot have sex; inflammation as if body is touched with chili; cannot tolerate fire-heat; abdomenache; hands and legs encounter a feeling, which is locally called 'sar sar'; cannot walk or bad feeling in walking; body jerks during urination; white discharge happens before urination; white discharge is happened mixing with stool	White discharge/Spermatorrhoea/Semen Emission	16	17	33
7	Chokher oshukh/Chokh uthha ba ulla	Eyes become red; ' <i>Nebor</i> ' is produced in the eyes; intolerable ' <i>Khas khas</i> ' sensation is felt in eyes; eyes encountered ' <i>Kit kitai</i> ' (biting sensation)	Eye illnesses	13	8	31
8	Chulkaani/Unapak gha/Pachari/Pachra	Vesicle/boil grows; blood and watery substance oozes due to itching; pus oozes from infection/ulcer; ulceration; allergy; blood turns into bad; bodily pain	Itching	12	16	28
9	Danter oshukh	Tooth is attacked by worm; toothache; losing eating appetite; bad smell comes out from the mouth due to ' <i>Danter mari fold</i> '; black spot is created on the tooth; ' <i>pairia</i> causes bleeding from the root of the tooth	Dental illnesses	12	16	28
10	Jaksma/Jakkha	' <i>Khukut khukut kashi</i> ' (a typical cough signifying tuberculosis); bleeding with cough through mouth and nose; cough causes the ribs/ thorax to encounter pain	Tuberculosis	16	10	26

[continued]

Annex 2 (continued)

Sl. No.	Illness	Signs and symptoms	English equivalent	Frequency		
				Male	Female	Total
11	Hapani	Breathing congestion or trouble; frequent cough; weakness; chest pain; restlessness/discomfort feeling and suddenly encounter this condition	Asthma	10	15	25
12	Basonto	Somewhat bigger blisters/vesicles grow in the whole body along with fever and inflammation and sudden pain	Pox (Small and chicken)	15	10	25
13	Dad/Daud	Small boils/vesicles look like somewhat prickly heat grow in small circle shaped and gradually that grow into bigger shape and couldn't get recover without treatment, even sometimes medicine cannot cure ringworm	Fungal disease/ Ringworm	13	12	25
14	Galar sangkromon	' <i>Tutit</i> ' swelling with infection; fever; pain around throat; pain around ears is resulted; 'ghyagh' or 'tonsil' grows; body shivering/jherking; cannot eat	Infection in the throat	8	16	24
15	Rat kana or Aait kana/ Rat chora	Cannot see during night; weakness; blur vision;	Night blindness	12	11	23
16	Ekshira/ harnia	Testicle swelling and intolerable pain	Hydrocele/ Hernia	14	8	22
17	Ham/Khesara ham	Reddish coloured prickly heat like small boils grow on the whole body along with fever and boils are infected;	Measles	9	11	20
18	Sordi kashi	' <i>Khush khushi kash</i> '; palpitation; breathing about to be blocked due to continuous cough; the chest is weighed; Continuous passing of nasal mucus/catarrh; don't feel better to do work; if cough is dried, then no ' <i>ghangra</i> ' (cough) is passed out because of cough	Cold and cough/ catarrh	8	10	18
19	Masiker samosya	Menstruation occurs twice in a lunar month; excessive bleeding as if a cattle is slaughtered; hands and legs encounter a feeling 'shir shir'; discharge looks black; ' <i>Gulum</i> ' is occurred due to stoppage of menstruation; weakness; menstruation does not occur in every lunar month; does not feel good because of stoppage of menstruation	Menstruation problem	5	11	16
20	Kaner oshukh	Ear infection; ear pain; bad/odorous smell comes out; ears lose power of hearing ('thosa howa') or ears can hear less or ears cannot hear talks from far away	Ear illness	8	7	15
21	Durbalota	Weakness; whirling sensation around head; cannot rise head up; cannot walk; power of the legs losses; does not want to walk; body lacks blood; sense is lost; hands and legs encounter 'sar sar' sensation; losing eating appetite; Ill- health; cannot do work; losing willingness to do work; body and head shake; cannot carry load	Weakness	4	9	13
22	Kusthho	Big illness; hands and legs infection; hands and legs have to spoiled, so patient cannot move or walk	Leprosy	7	4	11
23	Odhangon/ Ordhogaholi/ Paralysis	Hands and legs couldn't be rise/move; have to lie on the bed; spoken language becomes 'thyalbyal' (non-understandable talks); face becomes somewhat deformed; numbness feeling in one hand and/or one leg; cannot move; have to defecate and urinate lying on the bed	Paralysis	5	6	11

[continued]

Annex 2 (continued)

Sl. No.	Illness	Signs and symptoms	English equivalent	Frequency		
				Male	Female	Total
24	Krimi	Losing eating appetite; worms are passed out with stool; twisting sensation is felt in side stomach/ abdomen; irritating sensation in anus because of worms' movement and sucking	Worm	3	8	11
25	Bater byatha	Joint pain and inflammation; ' <i>Jhimjhimai kopkopai</i> and ' <i>Sor sorai</i> '	Arthritis	7	3	10
26	Chheyal	A kind of skin disease causes whitish spots to appear around face	Urticaria	5	5	10
27	Chokher chhani/ Fuli Pora/Kharap/ Jhapsa dekha		Vision problem	6	4	10
28	Pancho thakur dhora/Pancho bibir hawa	Evil spirit catches pregnant mother/woman, then it again catches the baby at his or her three months age; affected person speaks inconsistent talks	Evil spirit	5	4	9
29	Dhanustongkar	Hands and legs become ' <i>Terong berong</i> ' (bend); body bends (' <i>Baka hoi</i> ') like vow (' <i>Dhanuker</i> '); body continues to jerk; cannot speak clearly; during pregnancy and after delivery of baby woman may be attacked by tetanus; foam like liquid substance comes out from mouth; body turns into blue colour like the patient who has taken poison	Tetanus	3	5	8
30	Godh	The Legs are swelled in elephantiasis and pain is encountered	Elephantiasis	3	5	8
31	Tumar	Nasal passage is blocked due to tumour grown inside nasal passage, consequently the patient has to continue breathing through mouth; potato shaped tumours grown in the outer surface of abdomen or nasal passage or other organ of the body; tumour on the abdomen becomes like ' <i>gulmo</i> '; tumour dispersed its ' <i>shipa</i> ' (roots)	Tumour	1	6	7
32	Jihba o mukher gha	Ulcer in the mouth and corners of lips	Oral ulceration	5	2	7
33	Kane kam shona/Thhasa/ Tala laga		Hearing problem	4	3	7
34	Mrigee	Body jerking; ' <i>Golla/fena/golta</i> ' comes out from mouth; ' <i>Arong barong teria hoi</i> '	Epilepsy	3	4	7
35	Raktoshunyota	Blood decrease; body feels ' <i>Jhim jhim</i> ' and ' <i>Sar sar</i> ' sensation	Anaemia	3	3	6
36	Bukdaba/Buk byatha	Breathing congestion and pain; sometime pain is encountered; chest swelling in the right part of the chest; cannot do work	Chest pain	3	2	5
37	Chatak beram/ Byaram	Body becomes white	Leucoderma	4	1	5
38	Nimonia	Quickening breathing along with ' <i>Buk dabi dhare</i> '	Pneumonia	0	4	4

[continued]

Annex 2 (continued)

Sl. No.	Illness	Signs and symptoms	English equivalent	Frequency		
				Male	Female	Total
39	Hart atak/ Haar atak	'Attak' is occurred as the result of mixing of two bloods in side the chest; Breathing trouble; Fever may be resulted; 'Bukker bhitor hare hare jora lege har attak hoi' (Bones getting joined in side the chest and caused Heart Attack); Heart Weakness	Heart attack	1	3	4
40	Jaraur samosya	Air enter into the uterus during delivery of baby and caused uterus to be swelled; uterus problem may be resulted if the uterus comes out during delivery of baby; water is discharged from the uterus	Uterus problem	1	3	4
41	Malaria	Fever is occurred in alternate days; fever with body shivering; mosquito bites cause boils to grow on the body; weakness; cannot walk	Malaria	2	2	4
42	Bish fonra/ Foat	Boils/ Abscess	Boil/ Abscess	2	2	4
43	Kancer	Abdomen, throat/ gullet and intestines are affected by cancer; weakness is resulted, but the patient could not feel that	Cancer	2	1	3
44	Presar/Pesar	Low pressure; weakness; eyes and face become 'ghola' (dim/ hazy/ pale); bad feeling/sensation	Blood pressure	3	0	3
45	Kalera	Loose motion; vomiting; hands and legs become 'teria'	Cholera	1	2	3
46	Dayabetis	Frequent urination; weakness; cannot do work	Diabetes	1	2	3
47	Sutika/ Chhutika	Diarrhoea/ loose motion after delivery of baby; body becomes skinny; weakness; Indigestion	Post partum diarrhoea	2	1	3
48	Sannik	A complex health condition (losing power of hearing, eyes becomes blind/spoiled, hair dropping), which is caused due to emission of heat from inner body through ear hole. 'Bhap' (heat) is emitted through ear hole, hearing the sounds like 'Gum gum'; to be deafened temporarily	A kind of ear disease	1	2	3
49	Bindushwar	Bleeding from anus	Bleeding from anus	2	1	3
50	Gulmo/ Gulum	Pain and 'Al Bal' sensations are felt, along with breathing trouble, and the organ above the navel gets swelling		1	2	3
51	Nar utha/Nai nara	Severe pain around the navel		0	2	2
52	Pesaber/ Prosraber jala	Inflammation and trouble is felt during urination; urination gets splitting	Urinal inflammation	0	2	2
53	Din rat payer talujaley	Always the sole of the foot is burned	Continuous inflammation around the sole of the foot	1	1	2
54	Kidni durbal/ pani laga	Water accumulated hands and legs, especially in the palm of the hands and legs	Kidney problem	1	1	2
55	Horish	Bleeding from nose; breathing trouble	Bleeding from nose	1	0	1

[continued]

Annex 2 (continued)

Sl. No.	Illness	Signs and symptoms	English equivalent	Frequency		
				Male	Female	Total
56	Jarkata	'Jar Kata' (small nodule with sharp spike) grow in the whole body due to cold	A kind of skin disease	1	0	1
57	Puria batas			0	1	1
58	Chokher anjanai/ anjono	The upper eyelid is swelled and it may caused eye to be even closed	Stye	1	0	1
59	Kostho kathhinno	'Dasto' (Defecation) could not be taken place; losing of eating; abdomenache	Constipation	0	1	1
60	Barun/boron	Acne/pimple grow around the face; pain	Acne/pimple	0	1	1
61	Nasu			0	1	1
62	Kadban	Cannot urinate and defecate	Severest stage of constipation	0	1	1

Annex 3

Free listing of health providers

Sl No.	Name of health practitioners, hospital, clinic, etc.	Location	Type of treatment	Frequency
1	Thana health complex	Boragari, Domar	Allopathic	16
2	Paresh RMP	Mahigonj	Allopathic	8
3	Hasan pharmacist	Boragari, Domar	Allopathic	8
4	Haider medical assistant	Boragari, Domar	Allopathic	7
5	Mizanur MBBS	Boragari, Domar	Allopathic	7
6	BRAC <i>Shushasthya</i>	Domar	Allopathic	6
7	Hamidul pharmacist	Boragari	Allopathic	6
8	Basu BHMS	Domar <i>Upazila</i> Mor	Homeopathic	6
9	Mostaque pharmacist	Dhanjanpur Bazar	Allopathic	5
10	Rangpur medical college	Rangpur	Allopathic	4
11	Azizul LMP	Domar	Allopathic	3
12	Shariful MBBS	Domar	Allopathic	3
13	Khoka non-trained	Domar	Allopathic	3
14	Sanowar <i>Kabiraj</i>	Betgara daskminpara	<i>Kabiraji</i>	3
15	Karim <i>Kabiraj</i>	Betgara Baupara	<i>Kabiraji</i>	3
16	Drug shop/pharmacy/chemist shop	Not known	Allopathic	2
17	Amal pharmacist	Andharur Mor	Allopathic	2
18	Doctor practices at Rangpur	Rangpur	Allopathic	2
19	Mojammel RMP	Baro Masjidpara	Allopathic	2
20	Babho pharmacist	Boragari Bazar	Allopathic	2
21	Raj Kishor BHMS	Boragari Hat	Homeopathic	2
22	Atiar BHMS	Domar Bazar	Homeopathic	2
23	Moshiar compounder	Mahigonj/Domar	Homeopathic	2
24	Ranjit non-trained	Not known	Homeopathic	2
25	Hamidul <i>Kabiraj</i> -1	Boragari Dangapara	<i>Kabiraji</i>	2
26	Lutfar <i>Kabiraj</i>	Betgar Babupara	<i>Kabiraji</i>	2
27	Nabo Uddin	Betgara, Daskminpara	<i>Kabiraji</i>	2
28	Hamidul <i>Kabiraj</i> -2	Babupara/ Betgara	<i>Kabiraji</i>	2
29	Dadhi <i>Kabiraj</i>	Ramgonj	<i>Kabiraji</i>	2
30	Hori Das <i>Kabiraj</i>	Sadhupara, Haldiaban	<i>Kabiraji</i>	2
31	Horen <i>Kabiraj</i>	Sadhupara, Halhaliaban	<i>Kabiraji</i>	2
32	Horen	Sadhupara, Haldiaban	<i>Kabiraji</i>	2
33	Mafijul <i>Kabiraj</i> /	Babupara	<i>Kabiraji</i>	2

[continued]

Annex 3 (continued)

Sl No.	Name of health practitioners, hospital, clinic, etc.	Location	Type of treatment	Frequency
34	Mahesh	Not known	Type not mentioned	2
35	Mostofa doktor	Dhanjanpur	Do	2
36	Doktor Anukul	Not known	Allopathic	1
37	Lok Nath	Boragari	Allopathic	1
38	Habibur	Not known	Allopathic	1
39	Gani doktor	Domar	Allopathic	1
40	Hasanur	Boragari	Allopathic	1
41	Shahidul doktor	Mahigonj	Allopathic	1
42	Nazrul	Thana health complex	Allopathic	1
43	Doktor practiced at Domar	Domar	Allopathic	1
44	Repoti	Boragari Bazar	Allopathic	1
45	Rouf	Boragari Bazar	Allopathic	1
46	Mirzagonj clinic	Mirzagonj	Allopathic	1
47	Moshiur Rahman	Not known	Allopathic	1
48	Probhat	Boragari Bazar	Homeopathic	1
49	(Manu) Thhakur	Boragari	Homeopathic	1
50	Thhakur	Boragari	Homeopathic	1
51	Hasibul doktor	Betgara	Homeopathic	1
52	Hasibul	Domar	Homeopathic	1
53	Fatak	Boragari Bazaar	Homeopathic	1
54	Kalin doktor	Mahigonj	Homeopathic	1
55	Rasho Nath	Boragari	Homeopathic	1
56	Noka <i>Kabiraj</i>	Betgara	<i>Kabiraji</i>	1
57	Hobi <i>Kabiraj</i>	Dangapara	<i>Kabiraji</i>	1
58	Hobibar <i>Kabiraj</i>	Purba Boragari	<i>Kabiraji</i>	1
59	Guru <i>Kabiraj</i>	Not known	<i>Kabiraji</i>	1
60	Buri <i>Kabiraj</i>	Babupara	<i>Kabiraji</i>	1
61	Guri <i>Kabiraj</i>	Betgara	<i>Kabiraji</i>	1
62	Aibul <i>Kabiraj</i>	Betgara	<i>Kabiraji</i>	1
63	Son of Yaar Uddin <i>Kabiraj</i>	Babupara	<i>Kabiraji</i>	1
64	Neel Madhob Chaukidar	Betgara	<i>Kabiraji</i>	1
65	Swapan Mistri	Baagorkara	<i>Kabiraji</i>	1
66	Torab Ali Munshi	Betgara	<i>Kabiraji</i>	1
67	Dharendro Nath Bania	Bargipara, Haldiaban	<i>Kabiraji</i>	1
68	Sekondani <i>Kabiraj</i>	Haldiaban	<i>Kabiraji</i>	1

[continued]

Annex 3 (continued)

Sl No.	Name of health practitioners, hospital, clinic, etc.	Location	Type of treatment	Frequency
70	Mozibor <i>Kabiraj</i>	Purba Boragari	<i>Kabiraji</i>	1
71	Ojha Gani <i>Kabiraj</i>	Boragari	<i>Kabiraji</i>	1
72	Chhatish <i>Kabiraj</i>	Ramgonj	<i>Kabiraji</i>	1
73	Dhirendra Mahanta <i>Kabiraj</i>	Halhalia	<i>Kabiraji</i>	1
74	Purnima <i>Kabiraj</i>	Boragari, Ghatpara	<i>Kabiraji</i>	1
75	Mazibor <i>Kabiraj</i>	Purba Boragari	<i>Kabiraj</i>	1
76	Ansar <i>Kabiraj</i>	Domar	<i>Kabiraji</i>	1
77	Sabder	Not known	Type not mentioned	1
78	Azizul	Not known	„	1
79	Belal Dakktar	Dhanjanpur	„	1
80	Wife of Emdadul	Not known	„	1
81	Musa	Not known	„	1
82	Baro daktar	Domar	„	1
83	Fatema	Baro Masjidpara	„	1

Annex 4

Compiled information based on male and female pile sorting of illnesses

Illnesses placed in the same pile(s)	No. of illnesses placed in the same pile(s)	Why the following illnesses are placed in the same pile(s)		Frequency of the same pile(s)	
		Male respondents	Female respondents	Male respondents	Female respondents
Skin disease and ringworm	2	Itching, similar type of illnesses	Similar type of illnesses (sores, boils, itching), ointment can cure these illnesses	6	9
Skin disease, ringworm, ear disease	3	Itching, similar type of illnesses	*Not applicable	1	0
Skin disease, ring worm, measles, chicken pox	4	Skin is affected (itching) by all of these four diseases	Not applicable	2	0
Night blindness and eyes disease	2	Both the illnesses occur around the eyes	Both illnesses are occurred around the eyes; cannot see during night or tears ooze/ roll done and dim/ blurred vision; eyes swelling; ' <i>Chokher osukh</i> ' turns into night blindness	6	8
Night blindness, menstrual problem, ear disease, jaundice	4	Jaundice causes weakness which further causes night blindness	Not Applicable	1	0
Measles, chicken pox	2	Fever is resulted in both cases	Fever turns into measles or chicken pox due to ' <i>Hawa batas laga</i> ' (imposition of evil spirit); both are boils, one kind is small (<i>chhot thhakrani</i>) and other is big (<i>Baro thhakrani</i>); ' <i>Barota katha mane na, Chhotota mane</i> '; both are two brothers	5	7
Menstrual problem, white discharge	2	For women both illnesses cause abdominal pain; weakness resulted; both are similar type; watery discharge is noticed in both cases	' <i>Blood Besi Gele</i> ' (excessive bleeding) and ' <i>Meho</i> ' (white discharge) are harmful; emission of ' <i>Masik ebong meho</i> ' from body; both illnesses cause weakness	4	4
Arthritis, menstrual problem, white discharge and weakness	4	Weakness; cannot move/ walk	Not applicable	1	0
Fever, arthritis, asthma, weakness	4	Pain is encountered in both cases; fever and arthritis; cold and cough associated with fever may cause asthma; all these illnesses cause weakness	Not applicable	1	0

* Not applicable (Reasons were not mentioned as they did not make any pile with these diseases)

[continued]

Annex 4 (continued)

Illnesses placed in the same pile(s)	No. of illnesses placed in the same pile(s)	Why the following illnesses are placed in the same pile(s)		Frequency of the same pile(s)	
		Male respondents	Female respondents	Male respondents	Female respondents
Paralysis, tetanus	2	Not applicable	Cannot walk or move as hands and legs become ' <i>Beka hoi</i> ' (bend); cannot do any work and bed rest; both cause the patient be motionless on their own physical capability	0	4
Paralysis, measles, chicken pox	3	Fever turns into measles then into chicken pox which causes paralysis	Not applicable	1	0
Paralysis, tetanus, evil spirit	3	Evil spirit causes paralysis/ tetanus	Not applicable	2	0
Paralysis, arthritis, tetanus	3	Cannot walk/ move	Not applicable	1	0
Paralysis, hydrocele, tetanus	3	Cannot walk/ move	Not applicable	1	0
Paralysis, fever, jaundice	3	Jaundice precedes fever and combination of both illnesses may cause paralysis	Not applicable	1	0
Dysentery, diarrhoea	2	Not applicable	Have to defecate; dysentery turns into diarrhoea and vice versa	0	3
Fever, cold and cough	2	Not applicable	Both illnesses are occurred almost simultaneously	0	2
Evil spirit, jaundice	2	Not applicable	' <i>Jhar Fuk Lagey</i> ' (exorcising of evil spirit by uttering charms; incantation with water and oil to cure jaundice; according to one respondent; doctors cannot cure jaundice, <i>Kabiraj</i> can cure jaundice)	0	2
Throat infection, hydrocele	2	Not applicable	Pain is one of the sign and symptom of both illnesses; swelling is occurred in case of both illnesses; operation can cure both illnesses	0	2
Arthritis, dental disease	2	Not applicable	Pain is one of the sign and symptom of both illnesses	0	2
Ear disease, dental disease, tumour and throat infection	4	Pain in side nose causes pain around ear; toothache causes throat to swell and pain around ear is resulted eventually; breathing is troubled as well	Not applicable	1	0
Dental disease, throat infection, night blindness, eyes disease	4	Throat swells due to dental disease and causes eye problem; as result power of eye vision decreases as well	Not applicable	1	0

[continued]

Annex 4 (continued)

Illnesses placed in the same pile(s)	No. of illnesses placed in the same pile(s)	Why the following illnesses are placed in the same pile(s)		Frequency of the same pile(s)	
		Male respondents	Female respondents	Male respondents	Female respondents
Ear disease, tumour, throat infection and hydrocele	4		Not applicable	1	0
TB, cold and cough	2	Cold causes cough which turns into tuberculosis	Cold and cough turns into TB; ' <i>Haf kash</i> ' (cough associated with asthma) turns into TB	2	2
TB, asthma	2	Not Applicable	' <i>Hapani kash</i> ' (Cough with asthma) turns into TB, cough is one of the sign and symptom of both illnesses and bleeding is occurred in both cases	0	2
TB, cold and cough, asthma	3	Nasal catarrh causes cough which turns into TB and/or Asthma, cough is major sign and symptom of these illnesses; breathing trouble	Not applicable	6	0
TB, cold and cough, tetanus, asthma	4	If cold, cough and nasal catarrh turns into ' <i>Buke basey</i> ' (chronic condition); then asthma can be occurred; which health condition further causes TB; tetanus can be occurred from asthma as well	Not applicable	1	0
Tumour, hydrocele	2	The patients with any one of these diseases are in need to go under operation	Not applicable	2	0

Annex 5

Compiled information based on male and female ranking interviews with illness illustration cards

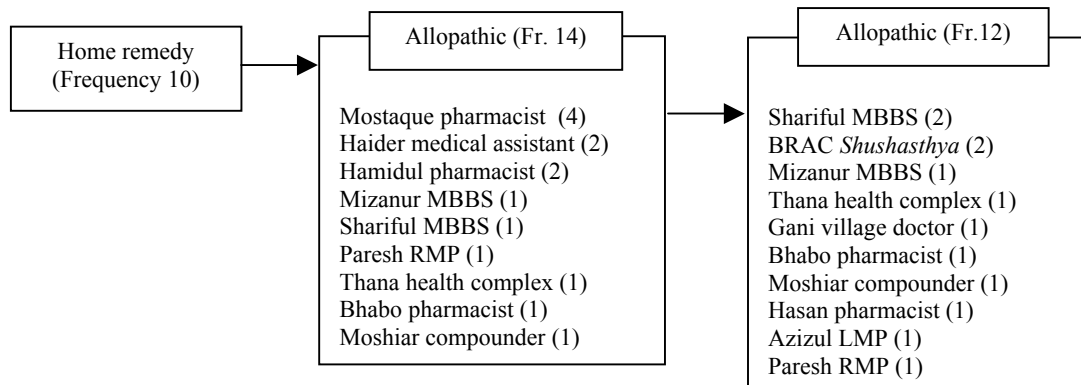
Illnesses	Severity ranking																					
	Male respondents											Female respondents										
	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	Total	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	Total
Tuberculosis	M	I	M	M	M	M	M	M	I	M	28	M	M	M	M	M	M	M	M	M	I	29
Paralysis	M	M	M	M	M	I	M	M	M	M	29	M	I	M	M	M	M	M	M	M	M	29
Tetanus	M	M	M	M	M	I	M	M	M	I	28	M	M	I	I	M	M	M	M	M	M	28
Chicken pox	M	M	M	M	M	M	M	M	M	M	30	I	I	I	M	M	M	M	M	M	M	27
Asthma	M	L	M	M	I	M	M	I	I	I	24	I	I	M	M	M	M	I	M	I	M	26
Jaundice	M	M	M	M	M	M	M	I	M	M	29	M	M	M	I	M	M	L	M	M	I	26
Measles	I	M	M	I	I	M	M	I	M	I	25	M	L	I	I	M	M	M	I	M	M	25
Worm	L	M	I	M	I	M	L	M	I	I	22	M	L	I	I	M	M	M	M	I	M	25
Meho	L	M	M	M	M	M	M	M	M	M	28	M	I	M	I	M	M	I	M	L	M	25
Tumour	L	L	L	M	M	L	M	M	I	I	20	M	M	L	L	M	M	I	M	I	M	24
Night blindness	I	M	M	L	M	L	L	M	I	I	21	M	I	M	M	M	I	L	M	L	M	24
Hydrocele	I	M	I	I	M	I	I	M	M	M	25	L	M	L	M	M	I	I	M	M	M	24
Menstrual problem	I	M	I	L	M	M	L	M	M	M	24	M	L	I	L	M	M	L	M	M	M	23
Eye disease	L	I	M	I	M	I	L	M	I	M	22	M	I	M	M	M	I	L	L	I	M	23
Gastric	M	I	M	L	L	I	M	I	L	M	21	M	L	I	L	I	I	M	M	I	I	21
Throat infection	L	M	I	I	I	L	I	M	I	L	19	M	L	L	M	I	M	L	M	L	M	21
Weakness	M	L	M	M	I	M	L	M	L	L	21	M	I	I	I	I	L	L	M	L	M	20
Dysentery	I	I	I	I	M	M	I	I	M	L	22	I	L	I	I	I	M	I	I	L	M	20
Arthritis	I	L	I	M	I	L	I	I	L	L	17	I	L	M	I	I	L	L	M	I	M	20
Fever	L	L	L	M	I	M	M	M	L	L	19	M	L	I	I	I	L	I	I	L	M	19
Ear disease	L	L	L	L	L	L	M	I	M	I	16	M	L	L	M	M	L	I	I	L	I	19
Cold and cough	I	I	L	M	M	M	M	M	L	L	22	I	L	L	L	I	M	M	I	L	I	18
Evil spirit	M	M	L	I	I	L	L	I	L	I	18	L	L	L	M	M	I	L	L	M	I	18
Dental disease	L	M	I	L	M	L	I	I	I	I	19	L	L	L	M	I	L	I	M	I	L	17
Skin disease	L	L	L	L	L	L	L	L	L	L	10	L	L	I	L	L	M	I	L	L	L	14
Ring worm	I	L	I	L	L	L	L	L	L	L	12	I	L	L	L	L	M	L	L	L	L	13

Note: M, I and L stand for most severe, intermediate severe and low severe respectively.

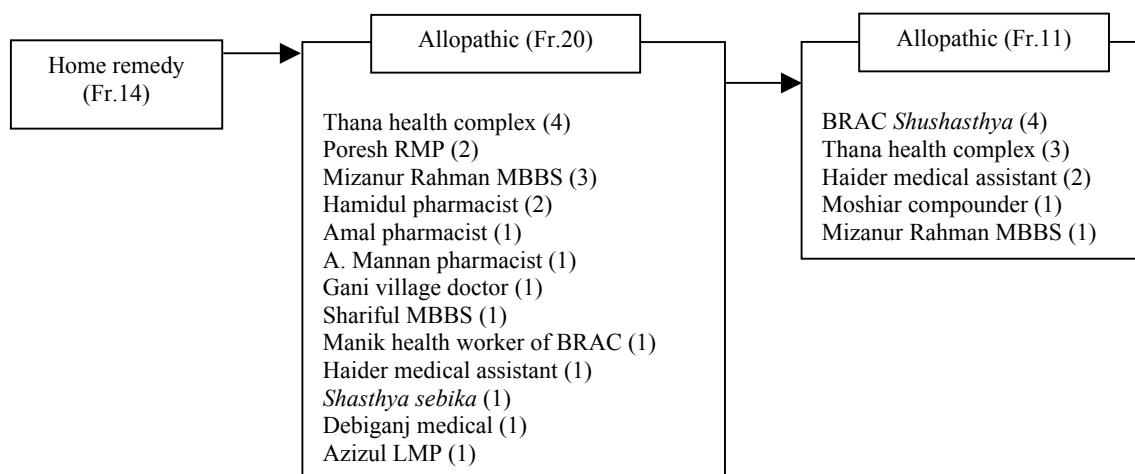
Annex 6

Detailed treatment pathway diagrams

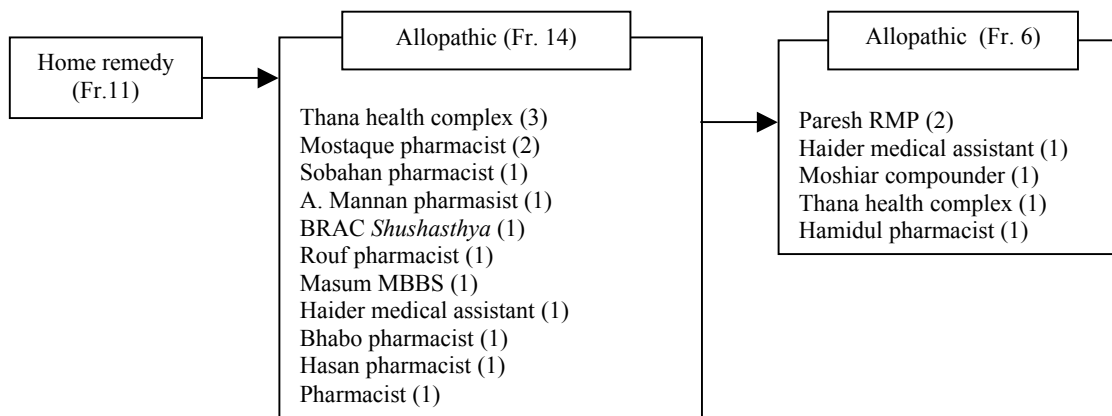
Detailed pathway treatment choice for fever



Detailed pathway treatment choice for diarrhoea



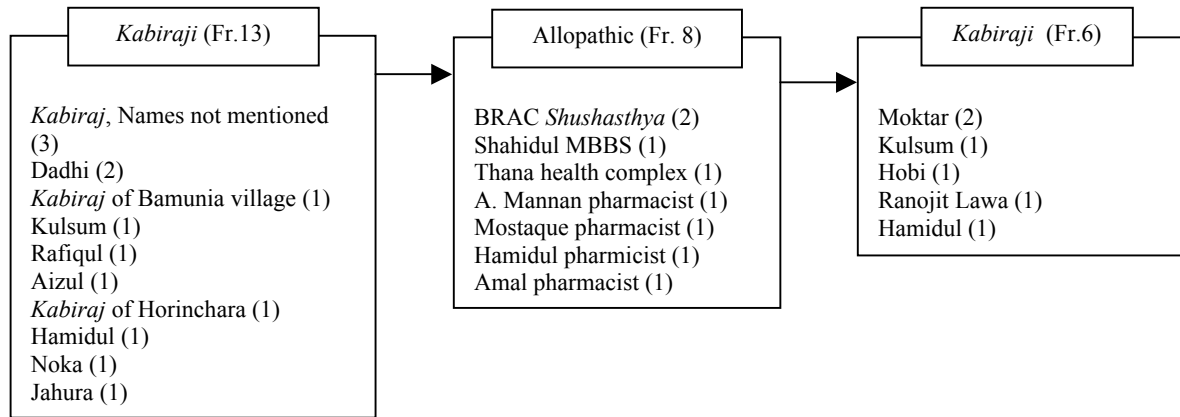
Detailed pathway treatment choice for dysentery



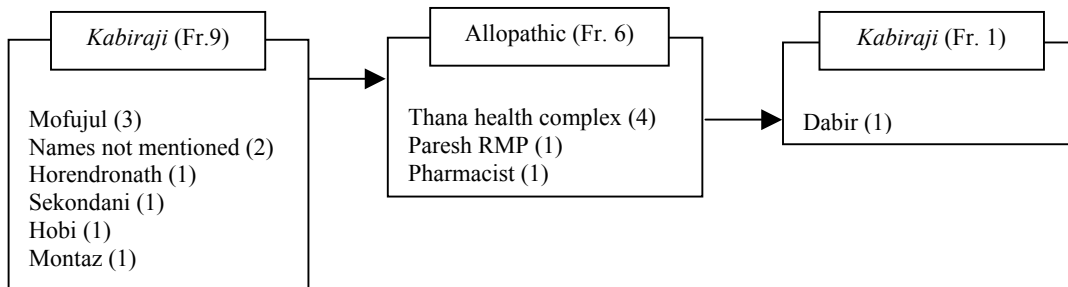
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Annex 6 (continued)

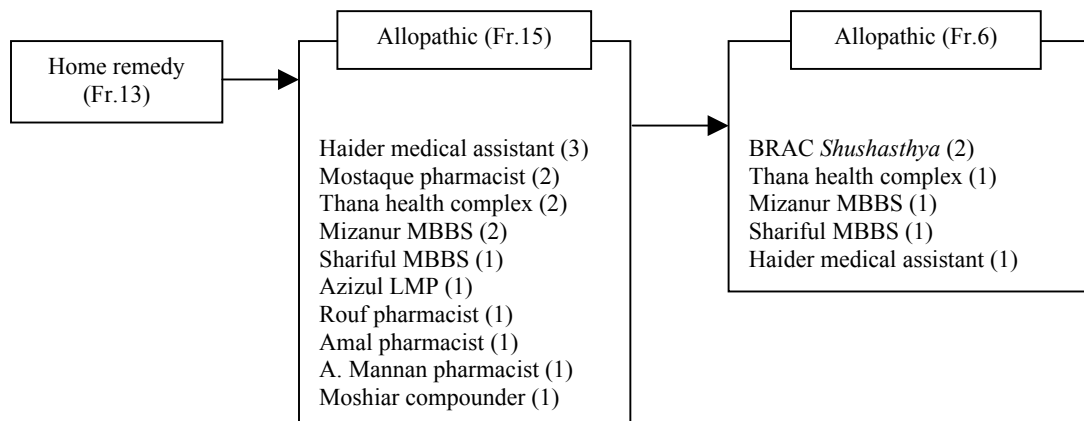
Detailed pathway treatment choice for jaundice



Detailed pathway treatment choice for meho



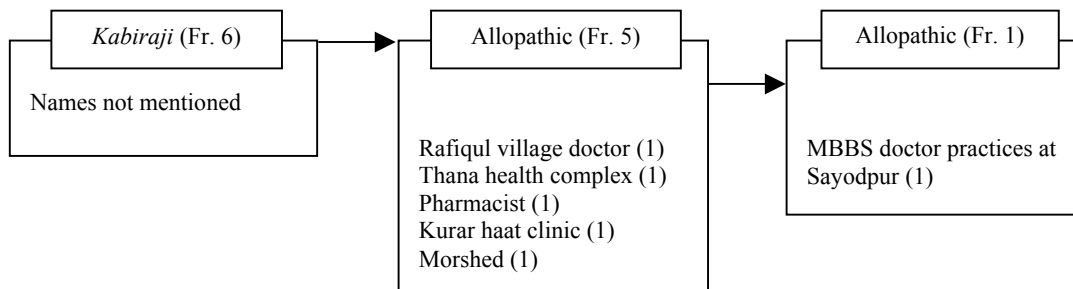
Detailed pathway treatment choice for gastric illness



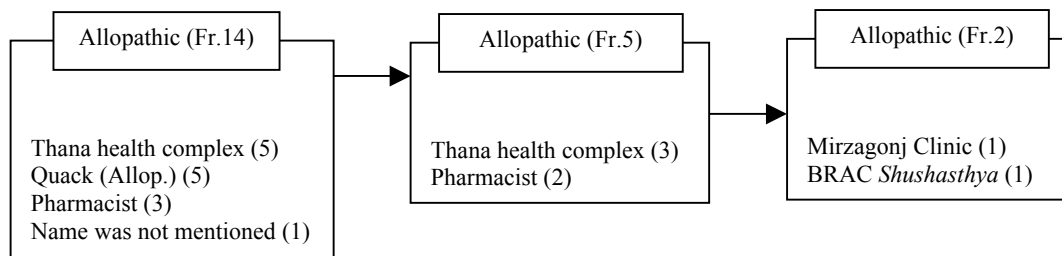
[continued]

Annex 6 (continued)

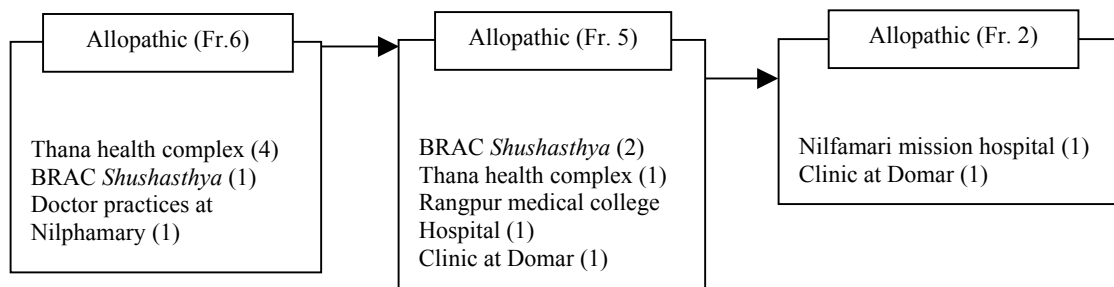
Detailed pathway treatment choice for eye problems



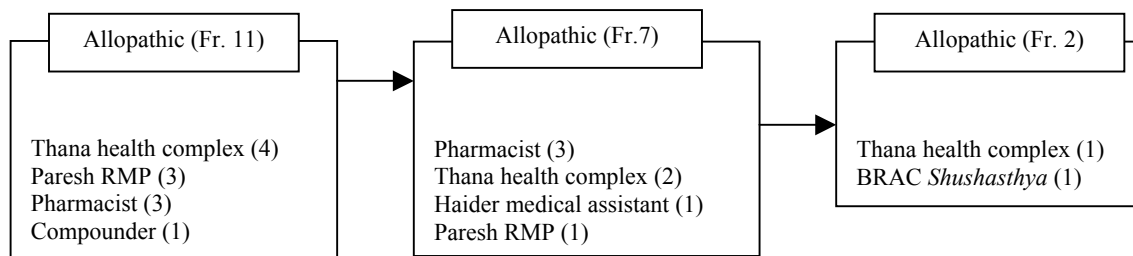
Detailed pathway treatment choice for skin disease



Detailed pathway treatment choice for tuberculosis



Detailed pathway treatment choice for ear disease



Annex 7

Cumulative choices of health providers

Fever

Health providers	Frequency of names of particular health providers mentioned
Home remedy	10
Mostaque pharmacist	7
Thana health complex	4
Hamidul pharmacist	3
Shariful MBBS	3
Haider medical assistant	2
Mizanur MBBS	2
Bhabo pharmacist	2
Moshiar compounder	2
BRAC <i>Shushasthya</i>	2
Atiar BHMS	2
Amal pharmacist	1
Pharmacist (name not mentioned)	1
Ansar homeopathic BHMS	1
Hasen pharmacist	1
Gani village doctor	1
Chhayadebi <i>Kabiraj</i>	1
Azizul LMP	1
Debar Munshi <i>Kabiraj</i>	1
Manu Homeopathic (Non- trained)	1
Rangpur Medical	1
Hasibul BHMS	1

Diarrhoea

Health providers	Frequency of names of particular health providers mentioned
Home remedy	14
Thana health complex	9
Mizanur MBBS	4
BRAC <i>Shushasthya</i>	4
Haider medical assistant	3
Hamidul pharmacist	2
Paresh RMP	2
Amal pharmacist	1
A Mannan pharmacist	1
Gani village doctor	1
Manik health worker (BRAC)	1
Shariful MBBS	1
<i>Shasthya Sebika</i>	1
Debigonj Medical	1
Azizul	1
Chhayadebi <i>Kabiraj</i>	1
Moshiar compounder	1
Aizul <i>Kabiraj</i>	1

[continued]

Annex 7 (continued)

Dysentery

Health providers	Frequency of names of particular health providers mentioned
Home remedy	11
Thana health complex	6
Haider medical assistant	3
Pharmacist names not mentioned	2
Mostaque pharmacist	2
Paresh RMP	2
Ansar BHMS	2
Hamidul pharmacist	1
Shariful MBBS	1
Motiar	1
Dharendro	1
Mofijul	1
A. Mannan pharmacist	1
Rouf pharmacist	1
Sobahan	1
Bhabo pharmacist	1
Manu homeopathic having no training	1

Jaundice

Health providers	Frequency of names of particular health providers mentioned
<i>Kabiraj's</i> names were not mentioned	3
Dadhi <i>Kabiraj</i>	2
Bamuniar <i>Kabiraj</i>	1
Kulsum <i>Kabiraj</i>	1
Rafiqul <i>Kabiraj</i>	1
Aizul <i>Kabiraj</i>	1
Horincharar <i>Kabiraj</i>	1
Hamidul <i>Kabiraj</i>	1
Noka <i>Kabiraj</i>	1
Jahura <i>Kabiraj</i>	1
Thana health complex	4
Home remedy	3
Hamidul pharmacist	3
Basu BHMS	2
Aizul <i>Kabiraj</i>	2
Amal pharmacist	2
<i>Shushasthya</i>	2
Kulsum <i>Kabiraj</i>	2
Paresh RMP	2
Moktar <i>Kabiraj</i>	2
Rofiqul	1
Horicharar <i>Kabiraj</i>	1
Noka <i>Kabiraj</i>	1
Jahura <i>Kabiraj</i>	1
Bamuniar <i>Kabiraj</i>	1
A. Mannan pharmacist	1
Mostaque pharmacist	1
Mofijul	1
Jibon <i>Kabiraj</i>	1
Shahidul MBBS	1
Ranojit Lawa <i>Kabiraj</i>	1
TNM	1
Rouf	1

[continued]

Annex 7 (continued)

Meho

Health providers	Frequency of names of particular health providers mentioned
Home remedy	6
Thana health complex	4
Mofijul <i>Kabiraj</i>	4
Hobi	3
<i>Kabiraj</i> names not mentioned	2
Horendro <i>Kabiraj</i>	1
Sekondani <i>Kabiraj</i>	1
Montaj <i>Kabiraj</i>	1
Atiar <i>Kabiraj</i>	1
Basu BHMS	1
Khoka Non- trained	1
Paresh RMP	1
Pharmacy	1
Dabir <i>Kabiraj</i>	1

Gastric

Health providers	Frequency of names of particular health providers mentioned
Home remedy	13
Haider medical assistant	5
Mizanur MBBS	3
Thana health complex	3
BRAC <i>Shushasthya</i>	3
Pharmacist names not mentioned	2
Amal pharmacist	2
Mostaque pharmacist	2
Shariful MBBS	2
Paresh RMP	1
Azizul RMP	1
Rouf pharmacist	1
Raj Kishor BHMS	1
A Mannan pharmacist	1
Moshiar compounder	1

Eye problem

Health providers	Frequency of names of particular health providers mentioned
Home remedy	5
Subol <i>Kabiraj</i>	1
Chhayadebi <i>Kabiraj</i>	1
Jabeda <i>Kabiraj</i>	1
Amir <i>Kabiraj</i>	1
Kamala <i>Kabiraj</i>	1
Allopathic Doctor	6
Hasibul BHMS	1

[continued]

Annex 7 (continued)**Skin disease**

Health providers	Frequency of names of particular health providers mentioned
Thana health complex	8
Quack	5
Pharmacist names not mentioned	3
<i>Kabiraj</i> names not mentioned	4
Type not mentioned	1
Amal pharmacist	1
Ansar BHMS	1
Mirzagonj clinic	1
BRAC <i>Shushasthya</i>	1

Tuberculosis

Health providers	Frequency of names of particular health providers mentioned
Thana health complex	5
BRAC <i>Shushasthya</i>	4
Clinic at Domar	2
Doctor at Nilphamari	1
Name of <i>Kabiraj</i> was not mentioned	1
Rangpur medical college hospital	1
Mission hospital at Nilphamari	1

Ear disease

Health providers	Frequency of names of particular health providers mentioned
Home remedy	8
Thana health complex	7
Paresh RMP	4
Name of <i>Kabiraj(es)</i> was/were not mentioned	2
Hasen pharmacist	1
Hamidul pharmacist	1
Moshiar compounder	1
Amal pharmacist	1
Haider medical assistant	1
Bhabo pharmacist	1
Pharmacist	1
Mostaque pharmacist	1
Ansar	1
BRAC <i>Shushasthya</i>	1