

Effects of remittances on health expenditure and types of treatment of international migrants' households in Bangladesh

Mohammad Mainul Islam¹ PhD

Sayema Haque Bidisha² PhD

Israt Jahan³


¹ Associate Professor, Dept. of Population Sciences, University of Dhaka


² Associate Professor, Dept. of Economics, University of Dhaka

³ Research Associate, South Asian Network of Economic Modelling (SANEM)

Background

- The economy of Bangladesh is characterized by remarkable progresses in the area of international migration, resulting in a huge inflow of remittances.
- Between 6.5 and 9.0 million temporary overseas workers implies that 10%-16% of Bangladesh labor force in 2010 was working abroad and on an average the country has been receiving remittance through official channel worth over \$US 14.5 billion (Hayes and Jones, 2015; Titumir, 2014).
- That amounts to around 11% of Bangladesh GDP in 2013 (Rahim and Alam, 2013).

- 
- Over the years since 1976 international remittances in Bangladesh increased steadily and remittances now form an important part of household livelihood strategies.
 - *It is generally assessed that inward remittances' impact on social and economic advancement. Although remittance received from the migrant workers largely contribute to basic consumption of their household members that actually contribute to improve of their living standard of their households.*
 - Although few studies (Traverso, 2016; Raihan, Siddiqui and Mahmood, 2015; Bruyn and Kuddus, 2005) are available to examine the link between international remittances and household expenditure pattern these are not focused to health expenditure and treatment where the samples were random and purposive.

- 
- Although a number of studies have attempted to analyze the effect of foreign remittances on household expenditure pattern, no effort has been made to critically analyze the effect of migration and remittance flow on health expenditure of migrant households and the type of treatments.
 - There is a scope to do research on the relationship between international remittances and households' health expenditure pattern and sources of treatment due to sickness of the individual of the households in the context of Bangladesh.
 - In this regard examining the relationship by using the available ***Household Income and Expenditure Survey 2010*** of Bangladesh- a nationally representative survey can give a clear picture.

Objectives

- ❑ To examine of effect of remittance in the health expenditure of recipient households.
- ❑ To examine the effect on the pattern of treatment chosen by the households those received remittances



Research questions

1. Is there any effect of remittance in the health expenditure of recipient households? &

2. Is there any effect on the pattern of treatment chosen by those households?

Data & methods

■ Cross-sectional survey

- *Household Income and Expenditure Survey (HIES) (2010) of Bangladesh.*

■ Sample of 12,240 households for 55,580 individuals

- International migrant household (*those who has reported to currently have one (or more) member migrated abroad and received remittance in the last 12 months.*

- 9.44% HHs received international remittances.

■ Analyses:

- Univariate statistics

- Cross tabulations & T-tests to check if there is any significant different in the parameters due to the remittance that households receive from abroad.

- Standard micro econometric technique



Results

Figure 1: Percentage of remittance recipient households

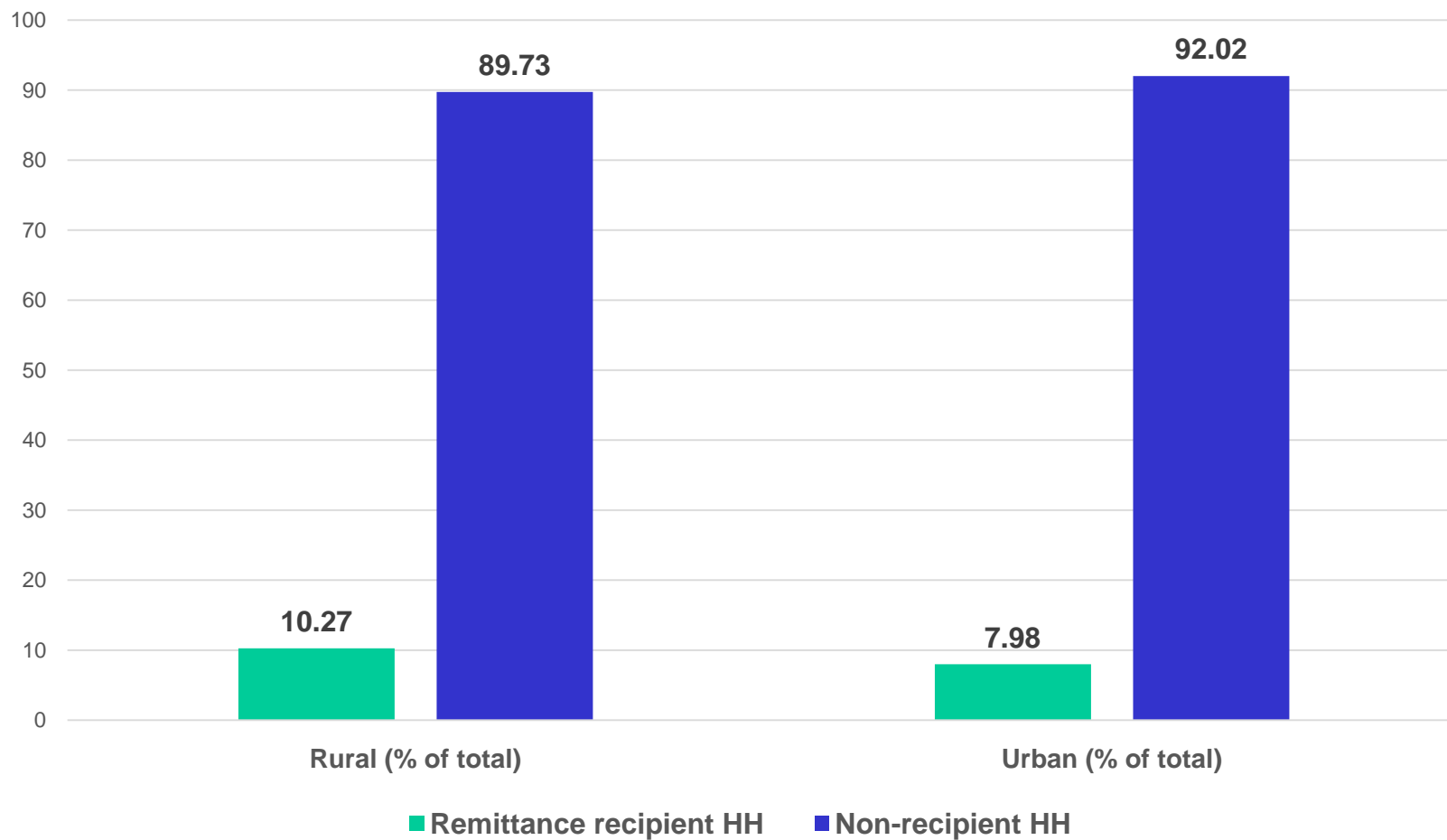


Table 1: Selected characteristics of the households by international migrant remittance status

	Remittance recipient HH	Non-recipient HH	
Rural (% of total)	10.27	89.73	
Urban (% of total)	7.98	92.02	
Household Size (avg.)	4.79	4.51	
Male head (%)	51.04	89.33	
Head Education (avg.)	4.31	4.24	
Per Capita Land (avg. in decimal)	14.49	13.93	
Male Female Ratio (avg.)	0.959	1.259	
Dependency ratio(avg.)	0.168	0.159	



Results

■ Research question 1:

Is there any effects of effect of remittance in the health expenditure of recipient households?

Figure 2: Average Per capita yearly health expenditure of members in a household (Taka), HIES 2010

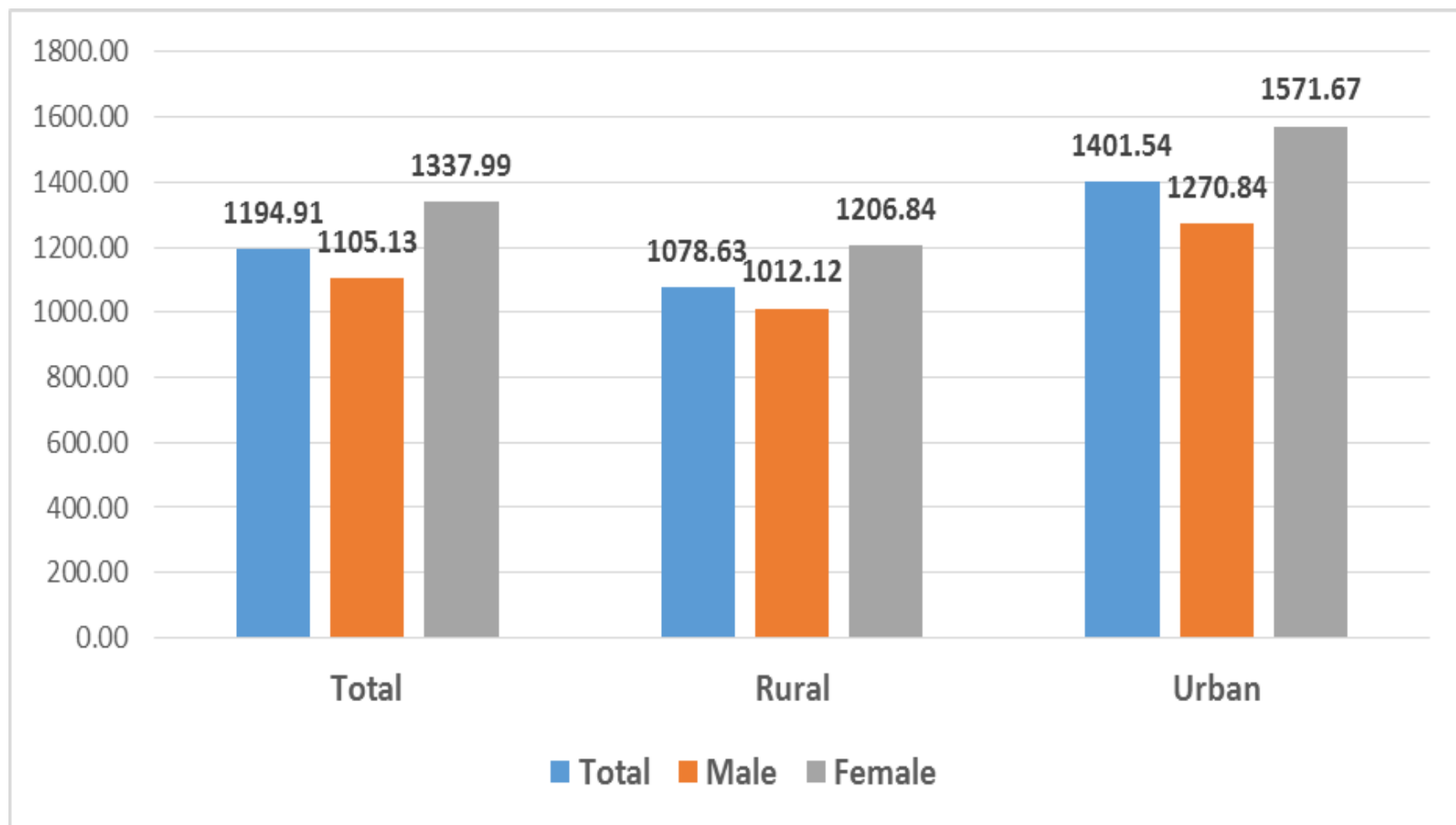


Table 2: Average per capita health expenditure in per capita consumption expenditure

	Remittance recipient HH (%)	Non-recipient HH (%)
Total	4.15836	3.5547
Rural	4.47183	3.74773
Urban	3.44031	3.22029

Figure 3: Average Per capita monthly treatment cost of members in a household (Taka)

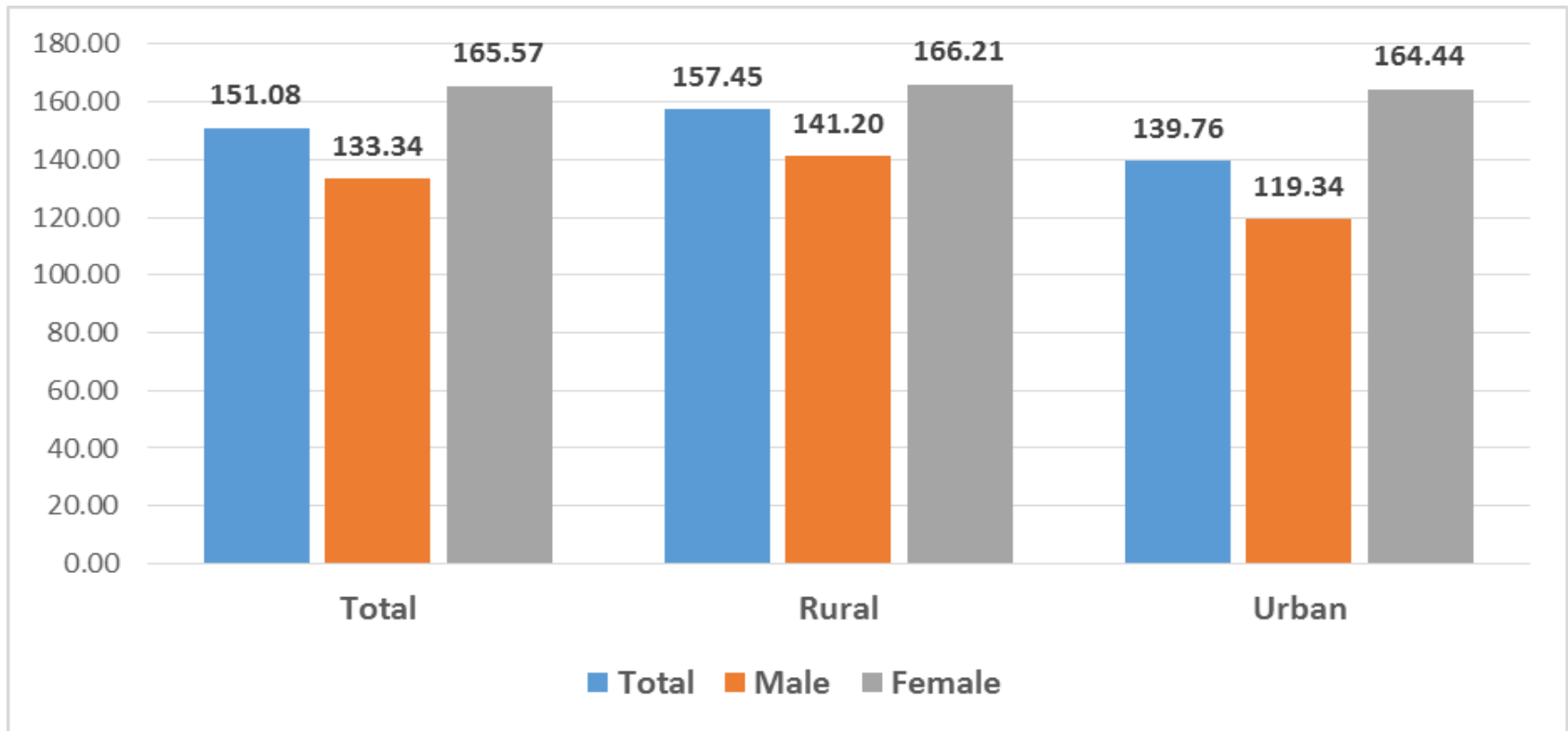


Table 3: Areas of spending the income from remittance

	Percent
Not answered	47.72
Construction	4.08
Business	1.96
Education	1.55
Marriage	1.14
Consumption	34.18
Treatments	1.47
Others	7.91

Table 3: T-test comparing Impact of remittance: Household measures

Category	Remittance recipient Vs non-recipient Households.	
	Difference	t-test
Per capita health expenditure as a percentage of per capita consumption expenditure	-.006	-3.76 ***
Per capita (yearly) health expenditure of male in a household (taka)	-558.58	-3.86***
Per capita (yearly) health expenditure of female in a household (taka)	-792.21	-3.60***
Per capita (monthly) treatment cost of male in a household (taka)	-19.07	-0.55
Per capita (monthly) treatment cost of female in a household (taka)	-106.29	-3.18***

Note: Difference= mean (non-recipient) – mean (recipient).

Significance code: *** p<0.01, ** p<0.05, * p<0.1

Results (continued)

■ Research question 2:

Is there any effect on the pattern of treatment chosen by those households?

Table 4: Percentage of ill people by seeking the source of treatment

	Remittance recipient HH	Non-recipient HH
Govt. Health Worker	2.64	2.47
NGO Health Worker	0.1	0.35
Homeopath	3.45	3.63
Ayurveda/Kabiraji/	0.51	1
Other Traditional/Spiritual/Faith Healer	0	0.39
Govt. Doctor (Govt. Facility)	10.55	10.13
Govt. Doctor (Private Facility)	25.46	14.37
Doctor from NGO Facility	0.1	0.21
Doctor from Private Facility	22.52	23.4
Salesman of a Pharmacy/Dispensary	30.93	40.08
Family treatment	0.51	1.04
Self-treatment	0.41	0.65
Other	2.84	2.27

Table 5: T-test comparing Impact of remittance: Individual level

	Remittance recipient Vs non-recipient Households.	
	Difference	t-test
Govt. Health Worker	-.0001586	-0.1664
NGO Health Worker	.0004589	1.3302
Homeopath	.0066211	0.4658
Ayurveda/Kabiraji/	.0009356	1.5828
Other Traditional/Spiritual/Faith Healer	.0007194	1.9967*
Govt. Doctor (Govt. Facility)	.0019145	-0.0914
Govt. Doctor (Private Facility)	-.0189254	-8.0656***
Doctor from NGO Facility	.0001991	0.7413
Doctor from Private Facility	.0028972	1.0119
Salesman of a Pharmacy/Dispensary	.0185441	5.0744***
Family treatment	.0010155	1.6837*
Self-treatment	.0004767	0.9926
Other	-.00087	-0.9531

Note: Difference = mean (non-recipient) – mean (recipient).

Significance code: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$


- 
- The individuals in remittance recipient households have higher treatment costs. If the household receives remittance from abroad, the individuals increases his treatment cost by 54.4 Taka considering that the other factors are constant.
 - Moreover, one percent increase in average monthly income from remittance increases the monthly treatment cost of an individual from that household by 0.027 percent.
 - Also age of the head, per capita consumption expenditure, total land size, number of dependent members in the household has a positive impact on treatment cost of an individual.

Table 6: Impact of provision of remittance on per capita yearly health expenditure (Taka)

	pc_hlth_exp_yr		pc_male_hlth_exp_yr		pc_female_hlth_exp_yr	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Male headed Household (d)	26.40	112.25	495.22***	160.52	75.95	103.13
Years of education of the head	56.63***	7.14	55.79***	7.91	58.44***	11.61
Household size	-43.90**	18.78	-2.31	23.41	-47.53**	20.44
Regional Dummy (rural, d)	-233.39**	86.63	-175.15	110.68	-237.01*	124.22
Per capita land holding (in decimal)	8.39***	2.01	8.84***	2.94	8.08**	3.12
Ratio of ill members to the not-ill members in the HH	2393.27***	241.48	2297.38***	203.74	2336.74***	420.81
Ratio of members receiving social protection to the other members in the HH	-673.33***	160.62	-438.91**	182.73	-1044.71***	213.79
Ratio of members participating in the labour force to the other members in the HH	137.83	191.41	-63.13	214.12	270.18	250.46
Age dependency ratio in the HH	-99.81	178.74	-395.79**	178.19	-180.74	276.77
HH receiving international remittance (d)	866.01***	175.84	749.83**	265.60	860.34***	165.66
Constant	701.49***	152.87	105.21	164.54	826.76***	172.09
Number of obs	12240.00		12240.00		12240.00	
F(10, 12229)	27.30		17.79		13.37	
R-squared	0.03		0.0239		0.01	
Root MSE	4350.20		4632.00		7093.00	

Significance code: *** p<0.01, ** p<0.05, * p<0.1

Table 7: Impact of yearly remittance on share of health expenditure in total expenditure

Ratio of health expenditure to the total consumption	Coef.	Std. Err.
Male headed Household (d)	0.0024	0.0016
Years of education of the head	0.0001	0.0001
Household size	0.0005**	0.0003
Regional Dummy (rural, d)	0.0053***	0.0010
Per capita land holding (in decimal)	0.0000*	0.0000
Ratio of ill members to the not-ill members in the HH	0.0493***	0.0024
Ratio of members receiving social protection to the other members in the HH	-0.0036	0.0033
Ratio of members participating in the labour force to the other members in the HH	0.0018	0.0028
Age dependency ratio in the HH	0.0116***	0.0028
Log of the income from international remittance (12 months)	0.0003***	0.0001
Constant	0.0198***	0.0020
Number of obs	12202	
F(10, 12229)	52.37	
R-squared	0.0533	
Root MSE	0.05048	

Significance code: *** p<0.01, ** p<0.05, * p<0.1

Table 8: Impact of remittance on the treatment cost of the people for last one month at the Individual level

In_treatment cost_m	Coef.	Std. Err.	Coef.	Std. Err.
Age	-0.122***	0.004	-0.122***	0.004
Sex dummy (Female, d)	-0.335**	0.153	-0.335**	0.153
Years of education	-0.016	0.017	-0.016	0.017
Marital status dummy (Married, d)	-0.886***	0.173	-0.887***	0.173
Earner dummy (d)	-0.421**	0.203	-0.420**	0.203
Getting social protection (d)	0.208	0.224	0.209	0.224
Female headed Household (d)	0.159	0.217	0.154	0.217
Age of HH head	0.010*	0.005	0.010*	0.005
Years of education of head	0.019	0.015	0.019	0.015
Log of per capita consumption expenditure	0.314**	0.143	0.310**	0.144
Regional dummy (Urban, d)	-0.885***	0.136	-0.885***	0.136
Total size of land (ln decimal)	0.099**	0.048	0.099**	0.048
HH member aged under 5	0.884*	0.507	0.879*	0.507
Female HH member in the HH	0.828**	0.401	0.828**	0.401
HH member aged over 65	3.729***	0.561	3.733***	0.561
Ratio of earner members to the total HH members	-0.059	0.423	-0.052	0.423
Receive international remittance (d)	0.544**	0.232		
Log of income from international remittance			0.027**	0.011
Constant	0.969	1.101	1.309	1.135
Number of obs	16316		16316	
F(17, 16298)	184.16		184.17	
R-squared	0.1302		0.1303	
Root MSE	7.5697		7.5696	

Significance code: *** p<0.01, ** p<0.05, * p<0.1

Conclusions

■ **Effects of remittances on health care expenditure (Research question 1)**

- International remittance receiving households have higher predicted probability of per capita health expenditure than non-receiving households.

□ **Effects of remittances on sought treatment (Research question 2)**

- Remittances allow households to increase their consumption of local goods and services where, international remittance receiving households have higher predicted probability of seeking treatment from modern service providers than non-receiving households.



Implications

Thus, in general, international migration appears to be a household strategy characterized by high expected return. This is understudied in Bangladesh. The government of Bangladesh may consider further strategies to address health care services for migrant households including:

- *Pro-actively identifying remittance and non-remittance received households, especially those who are from rural areas may be warranted to ensure optimal use of health care services in their locations.*


Limitations

■ This study has several limitations:

● Use of existing data rather than gathering primary data in which questions more closely related to our research questions could have been asked.

● The main limitation of the data was that the health expenditure was not complete in the individual level. Only treatment cost was available for every member of the household for the last 30 days. The health expenditure was presented yearly and in household level.

● Some data was not complete (e.g. 48% of the remittance recipient household did not reply to the question about the spending of the remittance).

- 
- The number of observation in the household level regression is 12202 out of 12240 as there were some missing values in the variables that we used.
 - In individual level, as only treatment cost was reported for the people who were ill during the last 30 days prior to the survey, the individual level regression could not take all individual in account.
 - We did not take the **duration of remittance receipt** in the study. In future study, we can use the variable of duration of remittance (For how long the HH is receiving Remittance?) as an interest variable.



Acknowledgements

- Government of Bangladesh, Bangladesh Bureau of Statistics, Ministry of Planning for giving the access to *Household Income & Expenditure Survey 2010* Data.



Thank-you!

mainul@du.ac.bd