

Annual Performance Report

(October 2003-September 2004)



Family Health Research Project
ICDDR,B: Centre for Health and Population Research

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List of Abbreviations

ACD	:	Acute Childhood Diarrhoea
AIDS	:	Acute Immunodeficiency Syndrome
BCC	:	Behaviour Change Communication
BDHS	:	Bangladesh Demographic and Health Survey
CM	:	Community Mobilizers
DFP	:	Directorate of Family Planning
EPI	:	Expanded Programme on Immunization
ERC	:	Ethical Review Committee
ESP	:	Essential Services Package
FHRP	:	Family Health Research Project
GoB	:	Government of Bangladesh
Hib	:	Haemophilus Influenzae type b
HIV	:	Human Immunodeficiency Virus
HSIDSS	:	Health Systems and Infectious Diseases Surveillance System
ICDDR,B	:	International Centre for Diarrhoeal Disease Research, Bangladesh
ICMH	:	Institute of Child and Mother Health
IMCI	:	Integrated Management of Childhood Illness
IUD	:	Intrauterine Device
LCRD	:	Leadership, Coordination and Research Development
MCH-FP	:	Maternal and Child Health-Family Planning
MCHI	:	Mother and Child Health Institute
MOHFW	:	Ministry of Health and Family Welfare
MWRA	:	Married Women of Reproductive Age
NGO	:	Non-government Organization
NNP	:	National Nutrition Project
NSDP	:	NGO Service Delivery Program
NTP	:	National Tuberculosis Control Programme
ORP	:	Operations Research Project
ORS	:	Oral Rehydration Solution
PCD	:	Persistent Childhood Diarrhoea
PHC	:	Primary Health Care
PPH	:	Post-partum Haemorrhage
RPR	:	Rapid Plasma Reagin
RRC	:	Research Review Committee
STI	:	Sexually Transmitted Infections
TFR	:	Total Fertility Rate
TIG	:	Technical Interest Group
TPHA	:	Treponema Pallidum Haemagglutination Assay
USAID	:	United States Agency for International Development

BACKGROUND

The Family Health Research Project has been in operation since 2001 through an evolution from Operations Research Project. Since its inception, with the funding from USAID, the Project has been conducting applied research, disseminating results, and providing technical assistance to the scientists and clients of the researches, as needed. The major focus of the studies undertaken is to develop and implement appropriate and sustainable service delivery and support systems for the Essential Services Package (ESP), design and evaluate specialized interventions, and assist partners to replicate those interventions successfully.

The FHRP aims at “improving the health of the people of Bangladesh by improving the effectiveness of the Essential Services Package (ESP) that provides basic medical services to the families of the country with emphasis on improving services to vulnerable populations, and on developing new, more cost-effective methods for using resources.” The Project is directly contributing to achieve USAID/Bangladesh Strategic Objective 1 and Intermediate Result 1.1.

The scope of the research falls within the following broad headings¹

- Population Sciences
- Child Health
- Reproductive Health
- Nutrition
- Communicable Diseases and vaccines
- ESP services
- Improving equity

However, both PHN Team of USAID and ICDDR, B jointly set research priorities for the year 2004 and onward on maternal health, neonatal health and family planning to develop practical and cost-effective service delivery strategies for improving maternal and neonatal health outcomes and reducing Total Fertility Rate (TFR).

The main achievements of FHRP fall under three broad headings: (a) Summary of completed research protocols, (b) Summary of ongoing research protocols, and (c) Leadership, Coordination and Research Development (LCRD). These broad headings describe the information that should be helpful to policy makers and programme implementers to improve ESP services who are attempting to develop cost-effective service delivery systems, collect surveillance data on selected demographic health indicators.

¹ Co-operative Agreement (388-A-00-97-00032-00), modification 5, Section 6.1

A. SUMMARY OF COMPLETED RESEARCH PROTOCOLS

Provision of research generated information for policy makers and programme implementers

Over the year seven studies were completed. The studies provided evidence-based information to the policy makers and programme implementers in improving current Essential Services Delivery policies and programme implementation strategies.

The studies spanned many disciplines and subject areas to include research into the introduction and evaluation of new tools to promote healthcare delivery and management, effectiveness of community-based strategies, risks of HIV/AIDS and sexually transmitted diseases and ways to identify and protect. These included areas of population sciences, emergency obstetric care, neonatal care, general health, family planning, and HIV/AIDS.

A table illustrating name of the completed protocols and name of the PIs is provided as Annexure A.

1. Effectiveness study of *Haemophilus Influenzae* type B Vaccine

Most infants in industrialized countries are now protected against serious infections due to *Haemophilus influenzae* type B with a safe and effective conjugated Hib vaccine. The vaccine has virtually eliminated this pathogen as a risk for these infants. Formerly this bacteria was the major cause of meningitis and a common cause of pneumonia. Though extremely successful in industrialized countries, the vaccine has seen very little use in developed countries because of insufficient information on the relative cost effectiveness of the vaccine in these settings.

This vaccine effectiveness study was carried out among infants immunized in clinics in the Dhaka area. The clinics were randomized such that infants visiting certain clinics received the Hib vaccine along with their other routine vaccines, while those visiting other clinics received the standard vaccines which do not include Hib. Surveillance was then carried out for meningitis and pneumonia among these infants. Using case-control methods, the vaccine was found to be very effective in reducing meningitis and also to reduce pneumonia significantly.

The study demonstrated that the Hib vaccine could improve child health significantly and that Hib vaccine should be considered as part of the routine vaccine schedule if logistical issues and financial issues were solved.

2 Community-based protocols management of severe child malnutrition

Malnutrition continues to be a common condition among infants and children. Treatment of severely malnourished children has, until recently required hospital care which, though effective is costly and cannot accommodate the numbers of patients who require treatment. Also, children attending clinics for common illnesses, such as diarrhea or pneumonia are often not recognized to also be severely malnourished and thus do not receive treatment for this important underlying condition. Recently, scientists at the ICDDR,B have demonstrated that children with severe malnutrition can be rehabilitated in outpatient clinics and such a strategy could bring successful treatment to many more children than are currently receiving it.



This study was aimed at assessing the additional cost of integrating a nutrition intervention with the existing service delivery system of selected urban NGO clinics. The intervention was based on the protocol developed by ICDDR,B for management of non-complicated severely malnourished weaning-age children through adopting a combination of clinic and home-based approach. The cost exercise was specifically focused on estimating cost of the intervention-related activities that took place at the field level with respect to provider and client cost and to relate the cost with the outcomes. Ingredients approach was applied to identify, quantify and value for each of the additional resources used to produce the outcome. For estimating provider cost, total intervention period of twenty-five months (1 March 2001-31 March 2003) was considered while for assessing client cost and their socioeconomic characteristics three-month observational period was taken into account. Therefore, provider costs were calculated for all children enrolled during the twenty-five month long intervention which was 465 child.

Results showed that provider's average cost per child enrolled and managed irrespective of outcome was US\$ 42.20. With replacement of a food supplement (*pustipack* and *soyabean* oil was replaced by *multimix*) the average cost was reduced to US\$ 38.55. It was observed that cost per selected outcome decreased with increase in actual number of beneficiaries, i.e. number of children graduated, achieved adequate weight gain, rehabilitated and then sustained weight gain. Client's unit cost for obtaining care was low (US\$ 3).

We conclude that clinic based nutritional rehabilitation can be cost effective, but that this will require additional staffing for clinics and that the cost effectiveness increases with the number of clients served.

3 Programmatic and non-programmatic determinants of low immunization coverage

Bangladesh has made remarkable success in improving immunization coverage. But in many areas, about 40% of the children still do not receive the complete schedule of EPI vaccines. Several studies have explored risk factors associated with failure to receive vaccine, but these used retrospective data and the causes of low coverage remained unclear.



Therefore, this prospective study aimed at (a) identifying the programmatic and non-programmatic determinants of low immunization coverage, (b) gaining an in-depth understanding of the programmatic and non-programmatic factors, and (c) formulating recommendations for addressing the identified factors.

The study has documented multiple factors for dropouts, notably irregular EPI sessions, perceived experience with side effects, lack of effective supervision, and insufficient dialogue regarding subsequent doses. Those who did not complete vaccines often had fears of side effects, did not know about time and place of the vaccine session, had sick babies on the day of the clinic, did not find the provider present at the vaccine clinic or they lived in remote areas that were hard to reach. A few depended on fate.

The study provided several programmatic recommendations:

- Managers have to ensure regular scheduling of sessions and regular supervision, even if some additional measures are required. Some form of community involvement may be considered for ensuring regular sessions,
- Addition of separate text in the EPI manual and guidelines regarding invalid doses,
- Alternative strategies need to be formulated for difficult to reach locations,
- Vacancy of the providers need to be filled up timely,
- All stakeholders should reach a common consensus on minimum incentives to the providers at the grass-root level,
- Better explanations of side effects,
- Knowledge by provider and client that mild illness is not a contraindication to vaccination.

Past studies have tended to focus on the clients who were not compliant with the vaccine schedule, but this study has highlighted primarily the factors by the providers that need to be improved if the country is to achieve high EPI coverage rates.

4. Plateauing of Bangladesh fertility decline

The total fertility rate in Bangladesh has declined rapidly from nearly 7 to about 3.3; however, it has remained at about 3.3 for the last decade (though the last DHS has estimated the rate currently at 3.0). It is imperative that TFR is reduced further, down to replacement levels (about 2.1) if the country is to achieve a stable population. Various sets of projections for Bangladesh indicate that the population will double even after reaching replacement fertility level. The recent stalling of the fertility decline throws doubt on when replacement level will be reached, and thus on the intermediate and final population size as well as the means by which TFR can be reduced.

This study was designed and is being conducted to understand if this fertility plateau is 'real', and if so, what factors underlie it. Since TFR is a "calculated number," there is some uncertainty as to its accuracy in terms of reflecting the "true" fertility of a cohort of women passing through their reproductive period. One uncertainty is that of the "tempo effect" which may have artificially lowered the estimated TFR during the period of rapid decline in fertility. Now that the TFR has been stable, the tempo effect should now be negligible. The other effect is the "population momentum" that will result in continued population increase even after the TFR has dropped to replacement.

The study attempted to understand what social policies and programmatic options are available to minimize the massive future population growth built into the momentum resulting from the young age structure and to examine possible reasons why the TFR continues to be higher than expected since surveys generally show a preference for 2.4 children.

Three factors appear to be prominent in explaining the continued high TFR: a) gender preference which results in more pregnancies to achieve the ideal family size, b) unintended pregnancies among couples who were not intending to have additional children, and c) some families who do not wish to restrict their family size. Other societal factors are also key, such as age at marriage, women's educational level and status of women in society. These factors are largely outside the domain of the Health Ministry, but nevertheless, are critical to a programme designed to reduce TFR.

5. Introduction of new hypo-osmolar ORS to routine use

Oral rehydration solution, originally developed at the ICDDR,B has been used around the world. The formula recommended by the World Health Organization for many years was effective, but a slight change in the formula to lower its osmolarity has improved its efficacy. The new hypo-osmolar solution was validated in clinical trials (primarily at the ICDDR,B) to have fewer ORS failures and to be safe, even in severely purging cholera patients. Thus, the new, improved Oral Rehydration Solution is now recommended as the new standard ORS by the World Health Organisation and UNICEF.

However along with the recommendation for its widespread use was the recommendation that the risk, if any, of symptomatic hyponatraemia in patients with diarrhoea treated with new hypo-osmolar ORS be examined in a phase 4 study. Therefore, the study intended to examine whether patients experienced any symptomatic hyponatraemia (seizure/altered consciousness) during treatment of diarrhoea with the newly recommended ORS formulation.



In Dhaka hospital, 43,711 patients and in Matlab hospital, 9,588 patients were monitored in one complete year (December, 2002 to November 2003 in Dhaka hospital and February, 2003 to January 2004 in Matlab hospital). Majority of children \leq 5 years under surveillance in Dhaka

hospital attended with some dehydration (children \leq 6 months, 60% and 7-60 months, 59%), and few with severe dehydration (children \leq 6 months, 4% and 7-60 months, 14%). About half of the older children (6 years-15 years, 50%) and adults (>15 yrs, 47%) under surveillance presented with severe dehydration. In Matlab hospital, majority (children \leq 6 months, 73% and children 7-60 months, 65%) of children \leq 6 years attended with no sign of dehydration; about 1/4th -1/3rd children (children \leq 6 months, 26% and children 7-60 months, 30%) presented with some degree of dehydration. As in Dhaka hospital nearly half of the older children and adults (53%) presented with some dehydration; no single adult patient experienced any symptoms (seizure/altered consciousness) associated with hyponatraemia. Some younger children experienced seizure/altered consciousness during the treatment with the new ORS formulation. Frequency of symptomatic (seizure/altered consciousness) hyponatraemia (serum sodium <130 mmol/L) in one year of observation was 21 in Dhaka hospital. Overall incidence rate of symptomatic hyponatraemia was 0.05% per year. In Matlab hospital 3 children had symptoms with borderline hyponatraemia. The incidence rate was estimated to be 0.03% per year. Review of the hospital records of the corresponding previous year in Dhaka hospital, the frequency of symptomatic hyponatraemia was 47 and incidence rate of symptomatic hyponatraemia revealed 0.09% per year.

The study concluded that the new hypo-osmolar rehydration solution in the treatment of all causes of diarrhoea in all age groups is safe and its recommendation by WHO and UNICEF for use in diarrhoea universally is justified. One private drug company has already been marketing this new ORS and Social Marketing Company is in the process of introducing this new ORS to Bangladesh Market.

6. Introduce Depot-holders in NSDP urban service delivery area

The NGO Service Delivery Program (NSDP) supports 41 local NGOs to deliver ESP in Bangladesh through urban and rural static and satellite clinics and uses about 8,700 female service provider/promoters, known as depot-holders, in rural areas. The depot-holders have two basic roles, as providers and promoters. As providers, they distribute oral contraceptive pills and condoms and oral rehydration salts (ORS). As promoters, they raise awareness of Essential Service Package (ESP) services available at the NGO clinics; educate women about contraceptive methods and care during pregnancy and delivery; help to organize satellite clinics; and refer customers for clinical contraception, child and maternal health, curative services and for side effects of contraception.

Depot-holders were introduced in three types of urban area by NSDP. There were five components for collection of data from different sources: cross-sectional surveys of married women of reproductive age (MWRAs), cross-sectional survey of depot-holders, review of service statistics, qualitative data collection, and cost analysis estimating the additional programme costs of introducing depot-holders.



This study aimed at providing a baseline evaluation of depot-holders as they are being introduced in urban areas, which will allow for monitoring of changes in practice over time.

In general, positive changes were observed relating to the introduction of depot-holders in the study areas. However, there were some programmatic issues that need to be addressed if the intervention is to be scaled up. Dropout was a major concern, particularly in Dhaka. Record keeping was not uniform in all areas and depot-holders did not use any written work plan for field visits. Most of the non-recipients interviewed, who could be potential clients of depot-holders, were unaware of the range of services being offered by NSDP service sites and the depot-holders. For effective program implementation, depot-holders need to have strong back up support from the NGOs.

The study concluded that the depot-holders can be introduced in urban areas and women will use their services. In regard to efficiency of interventions of service promotion vis-à-vis service provision, the study recommended more emphasis on service promotion and supervision for greater impact. It was identified that the cost of per depot-holder per year was US \$ 156. Finally, the study recommended scaling up the intervention in selected areas.

7. The acceptability, effectiveness and cost of strategies designed to improve access to basic obstetric care

The overall objective of this research was to support the GOB in its efforts to design effective strategies to increase access to basic obstetric care for all women and to monitor progress in Safe Motherhood. The study examines the unique experience of a maternity care programme in Matlab, where two different approaches to basic obstetric care have been put into place. These two approaches consist of: (1) the training and posting of nurse-midwives in villages to attend home deliveries, and (2) the upgrading of health centres to encourage women to give birth in a health facility. The evaluation of the successes and failures of these contrasting strategies will provide the government with invaluable information on the best strategy to improve access to basic obstetric care in Bangladesh where almost all births (91%) occur at home, generally with an unskilled attendant. The findings of this research will also be fed directly into an ongoing project in the broader Matlab administrative area (Matlab Thana), where the GOB and the ICDDR,B are making concerted efforts to strengthen obstetric services.



Effectiveness Component

The study analyzed 42,766 birth records collected through a surveillance system and pregnancy monitoring records. Between the years 1987-2001, utilization of trained attendants increased from 5.0% to 26.0%. Among the least poor, the utilization rose from 10.0 to 39.3% compared to 5.3 to 14.2% among the most poor. For both home- and facility-based strategies, the least poor was about 2 times more likely to use the services as compared

to the most poor. While free obstetric services improved utilization, it did not reduce the socio-economic inequalities.

Uptake of care was much higher among women who are educated. Specifically, among women who had completed 10 or more years of schooling, utilization increased from 17.9% to 53.2% from 1987 to 2001 whereas among women with no formal education the increase was 6.3% to 18.6%. There was also a strong effect of distance to the nearest facility. Within 1 km from the home to facility, 46.7% utilized skilled care in 1997-2001 compared to 24.4% among women who lived within 1.1 to 2.0 km.

From 1987 to 2001, there was virtually no reduction in the rate of stillbirths in both the MCH-FP and comparison areas. In regard to neonatal mortality, there was an overall 33% reduction in the MCH-FP from 1987-2001. During this period, the early neonatal mortality declined from 30.5 to 19.9 per 1,000 live births whereas in the comparison area the corresponding decline was 35.1 to 30.6 only (overall reduction 14%) which was not significant ($p>0.05$). For late neonatal mortality, the reduction was substantial in both MCH-FP and comparison areas (overall reduction over 50% in both areas). Between 1987-01 in MCH-FP and comparison areas the late neonatal mortality declined from 11.4 to 6.2 and 18.3 to 9.6.

Acceptability Component

Major constraints to accessing skilled attendants can be divided according to cultural, structural and care-related factors. The preliminary analysis indicate that the biggest barriers to utilizing the obstetric services offered by trained birthing attendants include the following: (a) the delivery position, (b) concerns about the possibility of under going an episiotomy, (c) shame attached to delivering in a hospital setting, (d) distance to the midwives, (e) economic concerns related to further referral to the government hospital, (f) absence of a substitute care provider, (g) concerns about household responsibilities that would not be attended to during the woman's stay in the delivery facility, and (h) inappropriate behaviour on the part of the midwives.

The data also illuminate the difficulties skilled attendants faced in performing deliveries at the household level. Specifically, the trained attendants were constrained by the conditions within the household environment including lack of access to electricity and adequate lighting, poor hygiene in the household, and lack of supplies and equipment. In addition, they faced many pressures from family and community members to adhere to traditional birthing practices and social norms, and confronted many problems convincing families to accept referrals of complicated cases to health facilities.

Costing Component

The results show that costs incurred to families are higher in the facility (213 *Taka*) than when deliveries are performed at home by midwives or TTBAAs (130 *Taka* with skilled attendants, 184 *Taka* with unskilled attendants). Costs incurred for emergency care was substantially higher, at 7,800 *Taka* in the government facility and 21,750 *Taka* in private clinics. The average unit cost of basic obstetric care was 753 in the home setting compared to 1,100 for facility deliveries. In comparison, unit costs for emergency care are much higher, at 7,600 *Taka* for a c-section delivery.

The findings show that it is less expensive for skilled attendants to perform deliveries at home than in the facility. However, an increase in utilization of facilities for deliveries would lead to a decrease in unit costs. Further cost reduction is possible if higher risk pregnancies deliver in the sub-centres. Clearly, a financial protection scheme is needed for poor families seeking care at higher levels.

The key findings of the study were:

- In terms of effectiveness, no differences between home and facility based strategy: Home-based delivery is cheaper at current utilization rates. Elders specially mother in law has huge influence on making decision on choosing the strategy;
- The household has more control in home-based strategy where is in facility-based strategy and/or in referral the household member having no control. Especially in referral cases the cost went up to 25,000 *Taka*. The increasing trend in utilization of maternity care was maintained even after shifting from home-based to facility-based strategy.

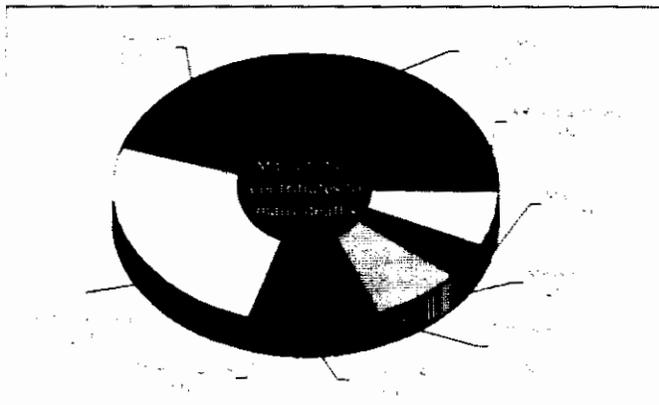
B. SUMMARY OF ON-GOING RESEARCH PROTOCOLS

Activities for an additional 12 studies were being conducted throughout the reporting period. A brief description of the relevance of each study is provided below. The M&E plan for the ongoing research protocols is attached as Annexure B.

1. The Community-based component of the evaluation of the health and economic impact of the IMCI Strategy in Bangladesh

Integrated Management of Childhood Illness (IMCI) is a global strategy, also adopted in Bangladesh, which targets the major causes of child ill-health and death in developing countries.

Causes of under-5 child deaths: Bangladesh, 1992-1996



Source: Verbal autopsy study of ICDDR,B 1998 -- using Bangladesh Demographic and Health Survey 1996-97 data

In addition to improvement of clinical provider skills and health systems, IMCI also focuses on improving key family and community practices. ICDDR,B is implementing with GoB an evaluation of IMCI in Matlab as part of the multi-country evaluation of IMCI supported by WHO and USAID. As part of this effort, USAID Dhaka is supporting the development and evaluation of the community component of IMCI. A preliminary strategy has been developed and is being implemented. This strategy now

also forms the basis of the national community-IMCI strategy, to be further developed and implemented by GoB and NGOs.

Current status: The early findings of the IMCI study including the community IMCI effort has recently been published in the Lancet. The early findings indicated 94% of health workers in the intervention facilities were trained in IMCI. Health systems supports were generally available, but implementation of the community activities was slow. The mean index of correct treatment for sick children was 54 in IMCI facilities compared with 9 in comparison facilities (range 0-100). Use of the IMCI facilities increased from 0.6 visits per child per year at baseline to 1.9 visits per child per year about 21 months after IMCI introduction. Nineteen percent of sick children in the IMCI area were taken to a health worker compared with 9% in the non-IMCI area.

The protocol may require some additional time and has a current end-date of March 03, 2005.

2. Community-based interventions to reduce neonatal mortality in Bangladesh

Although infant mortality has declined over the past thirty years in Bangladesh neonatal mortality has declined at a much slower rate and now counts for the majority of infant deaths. The vast majorities of newborns spend their first days in the home environment and are not easily reached by health services. Effective strategies will require a mix of safe delivery and safe newborn care practices with a strong emphasis on provision of good quality care and communication. This research, a collaborative effort with Saving Newborn Lives Initiative and Johns Hopkins University, Shimantik (an NSDP NGO), and other partners, aims to provide information required to significantly reduce neonatal mortality through community-based interventions.

Current status: So far, the protocol developed and established the project management tools and systems, including information system forms and procedures, trained about 722 staff compared to the originally planned 468 staff, obtained approval from Drug Administration to produce the antibiotic procaine penicillin injections through a local manufacturer, and completed usual community trials testing single interventions. In February 2003 a group of experts participated in a "Healthy Newborn Partnership" including USAID, Dhaka, PHN Team Leader. In June 2003 visits were made by a representative from USAID, Washington, while USAID/Dhaka/PHN Team members visited in October 2003. The primary recommendation made during these visits was to strengthen the community mobilization efforts. To respond to this, the protocol requested SNL for more funds and following approval of additional funds from SNL, the protocol were able to recruit, train and place 10 additional Community Mobilizers (CM) from January 2004, particularly in the clinic care arm.



The protocol has requested a 19-months cost-extension. The original 36 months project was started in March 2002 and has a current end-date of February 2005.

3. Levels, trends, and determinants of unintended pregnancies in rural Bangladesh

The purpose of this protocol is to determine the levels and trends of unintended pregnancy from 1982-2000 in the MCH-FP Extension/Operations Research Project areas operated by the ICDDR,B. Unintended pregnancies constitute a significant proportion of the overall number of children born in Bangladesh each year. An unintended pregnancies thus represents an opportunity for improvement in the family planning programme. Understanding the causes or risk factors for unintended pregnancies will help to improve the family planning programme.

The protocol has employed a prospective measure of pregnancy intention using cross-sectional surveys and longitudinal pregnancy data, in contrast to the retrospective measure of intention employed in such surveys as the Demographic and Health Survey. This protocol

also seeks to understand the determinants of unintended pregnancies, as well as the health consequences to children born from unintended pregnancies.

A total of 25,047 pregnancies were abstracted from the MCH-FP Extension/Operations Research Project areas over the period of 1982-2000. The intention status was determined for 80% of these pregnancies (n = 21,736). The prevalence of unintended pregnancy in the six MCH-FP areas ranged from 21% to 40% throughout the study period. The six study areas are comprised of both intervention (I) and comparison (C) areas. No significant differences were found between Sirajgong and Gopalpur for the study period of 1983-89; however, Abhoynagar had lower levels of unintended pregnancy than the comparison areas of Bagherpara and Keshobpur in 1995-1998. The prospective measure of pregnancy intention employed in this study estimated that 21-40% of pregnancies were unintended, as compared to the DHS measures of approximately 12% from the period of 1993-99. The prospective measure is less likely to be biased by the rationalization of intentions with time and after the birth of a child.



Current status: The protocol is at end stage and currently reviewing the programmatic implications regarding the determinants and performing consequences analyses. The final report will be ready and a dissemination seminar will be organized soon.

4. Investigation of the Nipah Virus outbreak in the Faridpur district: An in-depth examination of beliefs and practices associated with the disease

Three outbreaks of Nipah encephalitis have occurred in Bangladesh since 2001 raising questions about prevention and control strategies. The outbreaks have had devastating effects on the villages where they have occurred. In a recent epidemic, 33 cases were identified with 24 deaths. A primary focus of the recent outbreak involving MoHFW, WHO, ICDDR,B, CDC and Health Canada was on restricting the transmission of the virus both at the community level and in the hospital setting.



The study aims at developing preventive strategies to reduce the likelihood of direct exposure to secretions produced by the Pteropus bats (fruit bats), the suspected main reservoir for Nipah viruses. The study will also provide detailed information to assist the MoHFW with the design of communication messages aimed at decreasing exposure to the virus. In addition, the information can guide the outbreak.

In order to understand perceptions of the outbreak and associated behaviors, an in-depth, qualitative study is being carried out in households of confirmed cases and neighboring

households located in the recent outbreak sites. The overall aim of the study is to collect information to guide the development of communication messages aimed at reducing behaviours that increase the risk of exposure and decreasing the spread of the virus during times of outbreak. Data collection has focused on family caring practices during the illness episode as well as physical contact with the dead body. Information is also being gathered on the local explanatory model of the disease, including perceptions of associated signs and symptoms, causal explanations, and perspectives of appropriate treatment and preventative measures. Another important component of this study is to describe health care providers' causal explanations and treatment for the disease. In this regard, a range of biomedical and traditional practitioners are being interviewed.

Current status: Data collection has been completed in one outbreak area and is continuing in the second. Results to date demonstrate that the most common causal explanation is *asmani bala* a curse from the sky inflicted by Allah, which respondents linked to sin committed by community members. This was rationalized by the sudden onset of the outbreaks, the high case fatality, and the fact that it affected healthy individuals, the primary symptom was fever, and there is no known treatment. Striking was the absence of explanations related to contagion despite efforts to educate communities on risk of infection at the time of outbreak. Care-seeking also reflects the causal interpretation. While initial care-seeking patterns involved taking patients to the hospital, over time and as more patients died, afflicted community members sought treatment with local spiritual healers and homeopathic doctors who provided care within the household setting. Due to the causal explanation and the high case fatality rate, surviving family members of cases were stigmatized.

An examination of caring practices illuminates many potentially dangerous practices. The findings highlight that the expectation of family members is to maintain physical contact during times of illness, and provision of care is rooted in emotional support. Care providers continued to share eating utensil and glasses with the sick patient, and leftovers of food offered to afflicted individuals were commonly distributed to other family members. Family members maintained their regular sleeping arrangements, which often involved sleeping with a sick Nipah patient. The findings also reveal a particularly strong desire to have close physical contact at the time of death, demonstrated by such behaviors as feeding the patient by hand or hugging and kissing the sick patient. Family members and religious leaders are also responsible for the preparation of the dead body for burial, which focuses on special cleansing of the orifices.

Study findings also illuminate reasons for dissatisfaction of hospital care. Specifically, the respondents complained that the health care providers were unable to determine whether patient had Nipah, failed to provide free medication, were unwilling to give hands-on care and, most importantly, treatment was unavailable. In fact, the medication administered was perceived to be increasing the symptoms and, over time, as more people died in the hospital setting, a common reaction was that the hospital workers were actually killing patients.

The study is in midway and expected to complete by the end of February 2005.

5. The effectiveness and utility of a green banana diet in the home management of acute and persistent children diarrhoea.

Over the past 5 years scientists at the ICDDR,B: Centre for Health and Population Research (Centre) have been examining the effects of unripe, green bananas in the treatment of childhood diarrhoea. Green bananas have, for centuries, been a traditional remedy for acute diarrhoea. However, it is only recently that it has been seriously considered and tested. Randomized clinical trials conducted at the Centre have demonstrated that the administration of a green banana diet to hospitalized children with prolonged diarrhoea (for greater than 7 days) or persistent diarrhoea (over 14 days in duration) significantly shortened the duration of illness. After 4 days of treatment 80% of control subjects receiving conventional treatments continued to have diarrhoea, as opposed to only 20% of those receiving green banana. Another double-blind trial showed that green banana also significantly reduced the severity of childhood shigellosis in Bangladesh.



The study aims to determine, in a rural field setting, the effectiveness of the addition of green banana (*kanch kola*) to the diet of young children (6 to 36 months) being treated for acute (7 days or less) or persistent (>14 days) diarrhoea, as measured by: duration of diarrhoea and proportion of acute childhood diarrhoea (ACD) evolving into persistent childhood diarrhoea (PCD), change in stool consistency, and ORS requirements.

Current status: This study is under implementation since FY 2004 and expected to be completed in FY 2005.

6. Management of tuberculosis by private practitioner

The overall aim of the study is to better understand management of symptomatic adults TB suspects and TB cases by private practitioners in urban areas of Bangladesh as a basis for formulating strategies to improve case detection and referral and thereby the effectiveness of the NTP/DOTS.

This is a collaborative study involving Family Health Research Project (FHRP) and National Tuberculosis Control Programme (NTP). As per work plan, the initial activities of the study have been completed which include a survey of licensed and non-licensed private practitioners in Chittagong and collection of referral information from DOTS centres in Chittagong. Data management and processing is ongoing. Field level activities in Dhaka are recently being initiated.



The study results will provide useful information to NTP managers about suspected TB cases managed by the private practitioners and referral pattern. This will also provide information regarding

barriers to and factors, which facilitate referral to DOTS and cooperation with NTP by the PPs. The research finding will contribute to the improvement in the case finding and referral to DOTS and will provide objective guidance in developing intervention options to ensure appropriate management, diagnosis and treatment of suspected TB cases.

Current status: This study is in operation since May 2004 and expected to be completed by October 2005.

7. Vulnerability to HIV/AIDS of migration-affected families

HIV prevalence remains low in Bangladesh despite HIV cases being found in successive rounds of sero-surveillance among injecting drug users, sex workers and other vulnerable populations. High rates of unprotected sex with sex workers reported by selected groups of men (both married and single), and the prevalence of other high risk behaviour in Bangladesh, suggests that HIV prevalence is likely to increase. The vulnerability to HIV/AIDS of married men and women temporarily separated due to work migration has not been sufficiently researched in Bangladesh.

The results of the study will provide a better understanding of the level of knowledge of HIV/AIDS among married men and women temporarily separated by work-migration, their perception of risks relating to work migration, and the extent of their reported risky sexual behaviour, compared with those not living apart. Together with data collected on contraceptive use, this will provide a basis for developing targeted behaviour change communication (BCC) if the data indicate that migration-affected men and women in Bangladesh have special needs for information and advice.

Current status: The protocol so far completed staff recruitment and training, data collection from Mirsarai of Chittagong area. This protocol started its activity since August 2004 and is expected to complete by August 2005.

8. Field evaluation of simple rapid tests in the diagnosis of syphilis

Syphilis is one of the most common sexually transmitted infections (STI) in developing countries. In Bangladesh the prevalence of syphilis in general population ranged between 1-5% and 18-43% in the groups vulnerable to HIV infection. Untreated syphilis causes congenital infections and neurological illness, which has social and economical importance. Beside this, active syphilis potentiates transmission of HIV. Rapid plasma reagin (RPR) card test for syphilis is used as screening test in antenatal clinics in developing countries. In Bangladesh, the performance of RPR test by low skilled staff is very poor (13% sensitivity, 96% specificity, 5% positive predictive value and 98% negative predictive value). Therefore, there is a need for simpler treponemal specific rapid diagnostic testing, which could be more easily performed by low skilled staff in non-laboratory settings to guide clinical decision-making.

Current status: The study is clinic based cross sectional and conducted among the population of floating female sex workers of Dhaka city. All sex workers attending the clinic are eligible for enrolment in the study. Enrolled subjects are informed of the result of the test and treatment is given according to laboratory findings. Total 175 patients are enrolled during

the period of August 16th 2004-December 8th 2004. Among them TPPA positive found in 36 (20.6%) and both RPR and TPPA positive in lab found 30 (17.1%). During the period the study personnel have done 350 rapid test devices, 350 ICS, 344 RPR tests in the field and in the laboratory. There was no patient enrollment from October 15th- November 15th 2004 due to Holy month of Ramadan. The study is in progress and expected to complete by the end of August 2005.

9. Reinitiating fertility decline by meeting the needs of high parity couples with long-term family planning methods in Bangladesh

The general aim of this study is to find ways to increase the use of family planning methods, especially long-term methods, among the couples with three or more living children to reduce fertility rate further. The project is being implemented jointly with DGFP, NIPORT, and Engenderhealth. The project has three stages: situation assessment, intervention, and evaluation. The first stage is of four months, second is of 16 months and the third is of four months duration.

Current status: The study has just been started and so far, the recruitment and identification of staff members has mostly been completed. Basic information of the project sites has also been collected. Meetings with partners have been held and DG NIPORT has agreed to be the chairman of the steering committee. Analysis of the BDHS data to identify the determinants of contraceptive use and demand for additional children among high parity couples has been carried out. It is revealed that the frequency of visit by the family planning workers is an important determinant of family planning use. This finding will be used in designing the intervention package. This is a 24-month study and expected to complete at the beginning of October 2006.

10. Community-based intervention to reduce childhood drowning in Bangladesh

The Global Burden of Disease study (Murray 1996) has provided initial information about the impact of drowning globally for the first time. This study was updated for the year 1998 and published by the WHO. Globally, in the 0-4 years age group, drowning was the 11th leading cause of death for both sexes resulting in more than 125 thousand deaths a year, and the 13th leading cause of the burden of disease in terms of DALYs lost. The Matlab health and demographic surveillance system maintained by ICDDR,B for over 30 years provides interesting information on trends in drowning deaths over the years and some characteristics of these deaths. The overall goal of the study is to demonstrate that strategies for childhood drowning will reduce the mortality and morbidity from drowning in children <5 years in Bangladesh.

The study is employing a mix of qualitative research methods, including cognitive mapping procedures, in-depth interviews and group discussions to understand better the specifics related to drowning events, to assess local perceptions of the importance of drowning in relation to other causes of childhood deaths, to elicit input from the community regarding feasible and culturally appropriate interventions,



and to gather information to design messages and appropriate venues for the intervention strategy. The data gathered from this combination of methods will also allow us to understand better views on the vulnerability of children to drowning, learn why these deaths or near deaths occur, and define better how we can address the problem. Information is being obtained from parents and caretakers, healthcare workers, and other stakeholders, particularly those who influence how interventions get implemented at the community level.

Current status: The protocol obtained approval from USAID at the end month of FY 2004 and has just been started. To date, the study has completed the in-depth interviews, which were carried out with three different groups of respondents. Freelisting exercises were also carried out with 30 mothers and 30 fathers of at least one child less than 5 years to assess the perceived importance of drowning in relation to other causes of childhood death. Rating exercises have also been conducted to assess the "severity" or perceived danger associated with drowning in relation to other causes of childhood death.

The next step is to hold six group discussions to assess the acceptability of the drowning prevention strategies identified through the in-depth interviews and to elicit additional input regarding the approaches to message dissemination from care providers and other stakeholders. This is a 5-month protocol and current end date is March 2005.

11. Feasibility, acceptability and program effectiveness of misoprostol in preventing post-partum haemorrhage (PPH) in rural Bangladesh

In Bangladesh, every year more than 12,000 women are dying due to pregnancy or pregnancy related causes. Immediate postpartum hemorrhage (PPH) caused almost half of all postpartum maternal deaths in developing countries, and nearly one-third of all maternal deaths in Bangladesh. An alternative uterotonic drug to the injectable drugs is misoprostol, available in tablet form. This has been found very effective in controlling, as well as preventing PPH. Misoprostol is inexpensive and stable at room temperature, it also can be given orally, buccally, or rectally. In developing countries like Bangladesh, where 80-90% of births occur at home and most are not attended by a skilled provider, 400-600 µg misoprostol as a part of active management is clearly useful. Use of misoprostol in these situations has been given a category A recommendation (good and consistent scientific evidence to support the recommendation) based on the review of the literature. In addition, prevention of PPH has recently been recommended as an acceptable indication for misoprostol by the United States Pharmacopoeia, especially in settings where injectable uterotonic drugs are not available.

Large scale community based trial is needed to demonstrate the feasibility of distribution of misoprostol by different cadres of health workers, acceptability and effective use of the drug by pregnant women for prevention of PPH, its side-effects and programme effectiveness in reducing PPH in a setting like Bangladesh where the standard active management of third stage of labour is neither feasible nor available in time. An easily implement able method of measuring the amount of the postpartum blood loss among Bangladeshi women needs to be tested in a controlled environment before any prophylaxis measure can be tested in a community situation.

The study will contribute in formulating strategies to incorporate misoprostol in the maternal health program of Bangladesh both by government and NGOs to reduce morbidity and mortality from PPH.

Current status: This protocol obtained approval from USAID at the end month of FY 2004 and is being reviewed by the ICDDR,B's Research Review Committee (RRC) and Ethical Review Committee (ERC).

12. Essential Laboratory Services

The goal of achieving "Health For All by the year 2000" is far from being achieved in Southeast Asian countries, including Bangladesh. The strategy adopted for achieving this goal is the effective delivery of primary health care (PHC)/Essential Services Package (ESP), reaching all segments of the population. Despite concerted efforts in government and non-government sectors, the successful delivery of PHC/ESP has only partially been accomplished in Bangladesh. One of the important PHC/ESP activities is the early and correct diagnosis of common morbidities and their proper management, including referral to appropriate facilities.

Laboratory services provided at the PHC level in Bangladesh have long been neglected due to i) a shortage of laboratory personnel, ii) the lack of material resources, iii) the absence of continuing training/education and supervision, and iv) inadequate quality assurance programs. Unlike the case for essential medications, there does not exist a consensus among experts of what constitutes an essential laboratory service that stems from applied research and evidence-based reviews of effectiveness. This lack of laboratory-based information severely hampers appropriate therapy and leads to improper and inappropriate testing and case management. This is costly to the government and NGO service delivery systems and to clients.

The study aims to address two issues: First, to complete a comprehensive baseline assessment of available laboratory services in NSDP PHC/ESP delivery facilities located in urban and rural Bangladesh and to assess the need and rationale for prescribing laboratory tests in PHC's with and without laboratory facilities. Second, based upon these findings and an evidence-based systematic review of the literature, to estimate the unmet needs for an essential package of laboratory services provided through NGO PHC delivery units.

Current status: The study has already been approved by the USAID-Dhaka and RRC of ICDDR,B and its implementation will be started soon after approval from the ICDDR,B review committees.

C. LEADERSHIP, COORDINATION AND RESEARCH DEVELOPMENT (LCRD)

The LCRD is an important component that set directions, priorities of high quality research, dissemination of research findings to appropriate audiences and ensures compliances of the USAID regulations, organizational policies and procedures, and the Cooperative Agreement. The major activities of LCRD are to:

- a) Facilitate development of new research projects in line with specific priority areas;
- b) Provide guidance to the individual research projects through mentoring, critique, and reviews;
- c) Provide the administration and support staff to manage the logistics, financial and supervision of the project; and
- d) Ensure compliance with the USAID regulations and the Cooperative Agreement.

1. Facilitate development of new research and provide administrative support

Over the reporting period LCRD facilitated and organized development of new research concepts/protocols through a process of consultation with stakeholders from within and outside the Centre. The unit also organized periodic meeting with USAID PHN programme technical staff to discuss research ideas, progress and other issues, meetings within the Centre to gain an awareness of research carried out within the Centre that could be brought under FHRP. About 30 new face sheets for research protocols were developed over the reporting period of which 22 new face sheets were submitted to USAID-PHN team. A list of submitted face sheets presented as Annexure C.

LCRD ensured financial monitoring of protocol budgets, submission of financial reports, maintained accurate database for tracking expenditure and projections for FHRP (LCDR and Targeted Research). FHRP administration provided continued support to scientists across the Centre. This included; scientific support on health systems research by the Operations Research Scientists, both in development of proposals and in report writing and in the dissemination of findings; logistic support to scientists in conducting the studies; budgetary advice in preparation and maintenance of budgets under FHRP; and ensuring adherence to USAID regulations. In addition to the routine activities of report preparation, work-plan development and approval and assistance to auditors, several ad hoc requests from USAID PHN team were responded to.

The Project Coordinator for FHRP resigned as she got a better career opportunity. A new Project Coordinator was recruited in her place and provided with in-house training and orientation.

Summary of Activities Accomplished in FY 2004

Activities	Quantity	Remarks
Research		
1. New concept papers developed	21	
2. Studies ongoing	12	
3. Studies completed	7	Dissemination pending for 04 studies.
4. Studies in pipeline	4	
Dissemination		
5. Interest Group meeting held	1	
6. Workshop/Dissemination seminars organized	8	
Coordination		
7. FHRP Coordination meeting	2	
8. Scientific Council meeting	3	
9. Meeting with NIPHP partners	2	
Reports		
10. Reports on completed studies	4	
Publications		
11. Working papers and special publications	5	
12. Semi annual performance report	1	
13. Annual performance report	1	
14. Annual Work Plan and budget	1	

2. Dissemination of research findings

FHRP organized 8 (eight) workshop and dissemination seminars over the reporting period to share the major research findings among the researchers, academicians, policy makers, programme implementers, physicians, national and international NGOs, and donor agencies. These dissemination seminars are the platform to share research findings, obtain constructive criticisms, collect new ideas and campaign for changing policy and/or programme implementation strategy through providing evidences and results. FHRP also participated in the America Week held in Rajshahi from February 29-March 2, 2004.

A list of publications and workshop/dissemination seminars for the completed protocols is provided as Annexure D.

3. Collaboration with Government and NGO

FHRP maintained close collaboration with different government departments of MOHFW, national and international NGOs, and development agencies working in health field. The collaborations taking place with the Ministry of Health and Family Welfare, NIPORT, Institute of Child and Mother Health (ICMH), Mother and Child Health Institute (MCHI), National Nutrition Project (NNP), National Tuberculosis Control Program, DMCH, Upazila Health Complex, WHO, BRAC, CONCERN Bangladesh, NSDP, etc. Please note that this is

not a complete list of all the partners with whom FHRP worked last year and will be working in the upcoming year.

4. Formation of Technical Interest Group

FHRP forms **Technical Interest Groups (TIG)** for each of the studies with a view to get expert opinion on the study for translating research findings into policy and practice. The TIG members are usually the key persons involved in policy and planning in related disciplines. The meetings were used as a forum for dialogue between researchers and potential users of research. As a result of this dialogue studies have been adapted to ensure that the study results are used by policy makers, implementers for further improvement of health services. Furthermore, the interest groups were instrumental in designing and participating for the dissemination seminars.

5. Supervision and management of surveillance sites

The Project partially supports three demographic and epidemiological surveillance sites: one at Abhoynagar in Jessore district, another one at Mirsarai in Chittagong district, and other one in the Dhaka metropolitan area. The surveillance data that are being collected through these three field sites are providing information on use and practice of health, economic, societal changes within these communities over a longitudinal period of time. This has huge importance and value as the data are being used as resources to different researches carrying out by the researchers within and outside the Centre.

Publication of Surveillance Report of 2000-2001

The surveillance report 2000-2001 presents the results of analysis of some of data collected during 2000-2001 by the Health Systems and Infectious Diseases Surveillance System (HSIDSS) of ICDDR,B: Centre for Health and Population Research. HSIDSS collects a wide variety of data from the surveyed population. In addition to providing the most important indicators, this report gives researchers an overview of the available surveillance data. It is not intended to be an exhaustive source of data.

Health Systems and Infectious Diseases Surveillance System Report, 2000-2001



ICDDR,B: Centre for Health and Population Research
Gatapada, Dhaka 1212, Bangladesh

Results of the surveillance showed that the average household size fell from 5.4 persons in 1999 to 5.3 in 2000. As the surveillance was discontinued in several sites at the end of 2000, aggregate figures for 2001 cannot be compared with those for the previous year. However, in 2 of the 3 still active areas, the average household size also fell by 0.1, while it remained the same in the third site.

Compared to 1999, mortality rate continued to decline in the rural areas. Life expectancy at birth for males increased from 62.5 years in 1999 to 66.4 years in 2000, and 68.4 years in 2001. For females, the increase was from 63.9 years to 67.4 years in 2000, and 71.1 years in 2001. The same trend was found in the urban areas: for men from 58.7 years in 1999 to

62.4 years in 2000 and for women from 61.1 years in 1999 to 66.0 years in 2000. There are no urban data for 2001 as the sites were changed in that year (see Introduction).

The total fertility rates for the different surveillance areas were not very different from 1999, except in Lohagara, where the rate increased from 3.4 to 4.6 in 2000. This was the smallest site and was, therefore, more prone to annual fluctuations.

The mean age at first marriage for men in the rural areas was 26.2 years in 2000 and 26.1 years in 2001, and for women it was 19.2 and 19.1 years respectively. The mean age at first marriage in the urban surveillance sites in 2000 was 23.6 years for men and 18.6 years for women.

Contraceptive prevalence was the highest in the sites in Jessore district and the lowest in the sites in Chittagong district, while the urban sites had values between these.

Vaccination coverage was high or very high in all the areas, except for vaccinations against measles in the urban sites and tetanus toxoid vaccinations for women of reproductive age in all the areas.

Spending on health was much higher in the southeastern sites than in the other surveillance areas.

For the first time, there is a special feature chapter in this report, which describes the causes of death in Abhoynagar and Keshobpur. As these are the two oldest, and still active sites, in the surveillance system, it allows a comparison to be made with causes of death in the 1980s.

Annexes

Annexure A

List of Completed Protocols

Sl. No.	Name of the Protocol	Name of PI
1.	Introduction of new hypo-osmolar ORS into routine use in the management of diarrhoeal disease	Dr. N.H. Alam
2.	Evaluation of a six-month pilot to introduce depot-holders in three types of urban areas	Dr. Rukhsana Gazi
3.	Programmatic and non-programmatic determinants of low immunization coverage in Bangladesh	Dr. M.A. Quaiyum
4.	Plateauing of the Bangladesh fertility decline	Dr. Kim Streatfield
5.	Integration of child nutrition services into ESP delivery by urban clinics: Cost analysis	Dr. Ziaul Islam
6.	The acceptability, effectiveness and cost of strategies designed to improve access to basic obstetric care in rural Bangladesh	Dr. Lauren S. Blum
7.	An effectiveness study of haemophilus influenzae type b vaccine	Dr. Shams El Arifeen

Monitoring and Evaluation Plan of Ongoing Researches Protocols

1. The Community-based component of the evaluation of the health and economic impact of the IMCI strategy in Bangladesh: Development and evaluation of a community-based intervention

Principal Investigator: Dr. Shams El Arifeen
Approved Study Period: March 06, 2002 to March 05, 2005

Study Hypothesis: Practical and realistic package of community-based interventions will have a significant impact on child caring and care-seeking practices by families, especially for childhood illness.

Study Objectives: To understand whether a practical and realistic package of community based interventions can be developed and implemented which will have a significant impact on child caring and care-seeking practices by families.

	<i>Main activities</i>	<i>Measurable output</i>	<i>Time frame</i>	<i>Assumptions (comments)</i>
1a	Expand the intervention to include the 20 excluded villages	20 new villages included	January 05	Related activities completed within the stipulated time frame.
1b.	Data collection of the larger on-going IMCI evaluation study	Data collected	February 05	
1c	Close tracking of utilization at the first level facilities		February 05	
1d	Evaluate the combined effect of facility-based and community-based intervention in the entire study area	Preliminary report	March 05	
1e	Continuous monitoring of care seeking based on six monthly household visits and tracking of active illness	Monitoring reports	March 05	
1f	Dissemination seminar	Seminar held	March 05	

2. Community-based interventions to reduce neonatal mortality in Bangladesh

Principal Investigator: Dr. Shams El Arifeen
Approved Study Period: March 06, 2002 to February 28, 2005

Study Hypothesis: Neonatal mortality rates will be at least 40 percent lower in communities in which trained, skilled, and supervised community-based workers provide packages of essential obstetric and neonatal care, including community health education, provision of clean delivery, essential newborn care, as well as management of serious neonatal infections compared to communities in which such training and services are not provided.

Study Objectives:

- To improve newborn care and recognition and management of infections in neonates by mothers and trained, skilled and supervised first-line health workers;
- To evaluate the impact of packages of obstetric care practices including community health education, provision of clean delivery, essential newborn care, and management of neonatal infections by first-line health workers, either in the home or at community clinics, on neonatal mortality rates.

	<i>Main activities</i>	<i>Measurable output</i>	<i>Time frame</i>	<i>Assumptions (comments)</i>
2a	Conduct final evaluation survey	Final evaluation survey completed	January 2005	Related activities completed within the stipulated time frame.
2b	Prepare final evaluation report and arrange dissemination seminar	Report on final evaluation submitted and dissemination seminar held	February 28, 2005	

3. *The effectiveness and utility of a green banana diet in the home management of acute and persistent children diarrhoea*

Principal Investigator: Dr. G. H. Rabbani

Approved Study Period: January 01, 2004 to August 31, 2005

Study Hypothesis:

- H 1. that children with ACD who receive the green banana (*kanch kola*) treatment, when compared to those who do not, will
 - a. have a significantly shorter duration of illness, and
 - b. will be significantly less likely to evolve into persistent childhood diarrhoea (PCD);
- H 2. that children with PCD who receive the green banana (*kanch kola*) treatment, when compared to those who do not, will be significantly more likely to have stopped their diarrhoea within 7 days following onset of treatment.

Study Objectives: To determine, in a rural field setting, the effectiveness of the addition of green banana (*kanch kola*) to the diet of young children (6 to 36 months) being treated for acute (7 days or less) or persistent (>14 days) diarrhoea, as measured by: duration of diarrhoea and proportion of acute childhood diarrhoea (ACD) evolving into persistent childhood diarrhoea (PCD), change in stool consistency, and ORS requirements.

	<i>Main activities</i>	<i>Measurable output</i>	<i>Time frame</i>	<i>Assumptions (comments)</i>
3a	Preliminary analysis to establish trends		Nov 2004	The availability identification and willingness to participate of 2664 eligible cases by December 2005.
3b	Identification of cases by village health workers	Visits and data collection reports and cases	December 2004	
3c	Data analysis	Analysis report	June 2005	
3d	Dissemination seminar and report preparation	Dissemination seminar held and report submitted	August 2005	

4. *Management of tuberculosis by private practitioners and health seeking behavior of symptomatic adults/TB suspects*

Principal Investigator: Dr. Sk. Shahed Hossain

Approved Study Period: May 01, 2004 to October 31, 2005

Hypothesis:

- H.1 Large number of TB suspects and patient seek care from private sectors outside NTP;
- H.2 TB management practices by private practitioners are influenced by the presence of DOTS programme in the locality;
- H.3 Management of TB by private practitioners varies widely; and
- H.4 Referral of TB patients varies by the awareness of the private practitioners of the presence of DOTS programme.

Study Objectives:

- To document the management practices for symptomatic adults TB suspects by PPs in Chittagong with longstanding DOTS; and in Dhaka with recent introduction of DOTS to compare their practices;
- To provide a baseline assessment of care seeking behaviours of symptomatic adults TB suspects and practices of PPs in urban Dhaka;
- To document referral pattern of symptomatic adults TB suspects to DOTS centres in Chittagong and Dhaka;
- To document barriers to and factors facilitating referral and collaboration of PPs with NTP.

	<i>Main activities</i>	<i>Measurable output</i>	<i>Time frame</i>	<i>Assumptions (comments)</i>
4a	Complete interviewing TB suspects in Chittagong and Dhaka area	Interviews held	May 2005	
4b	Complete interviewing private practitioners	Interviews held	May 2005	Respondents available for interview
4c	Data analysis and preparation of final report	Final report	September 2005	
4d	Dissemination of findings	Final dissemination seminar	October 2005	

5. Vulnerability to HIV/AIDS of migration-affected families

Principal Investigator: Dr. Rasheda Khanum

Approved Study Period: August 17, 2004 to August 16, 2005

Hypothesis: Married men and women who have been living temporarily apart from their spouse because of work migration are vulnerable to HIV infection.

Study Objectives:

- To improve understanding of the vulnerability to HIV/AIDS of migration-affected families in Bangladesh.
- To identify the level of knowledge about HIV/AIDS, awareness of particular risks for migrant workers and reported risky sexual behaviour, among married people who have been living apart due to work migration and those who have not.

	<i>Main activities</i>	<i>Measurable output</i>	<i>Time frame</i>	<i>Assumptions (comments)</i>
5a	Fieldwork for the household surveys (3,354 structured interviews)	Interviews held	November 2004	<ul style="list-style-type: none"> • Flood situation remains favourable to conduct the field surveys • Selected HH members are willing to contribute their data
5b	Data entry and analysis	Data analysis report	January 2005	
5c	Preparation of draft report	Draft report	April 2005	
5d	Dissemination and finalization of report	Final report	June 2005	

6. Field evaluation of simple rapid tests in the diagnosis of syphilis

Principal Investigator: Dr. Motiur Rahman

Approved Study Period: July 01, 2004 to August 31, 2005

Hypothesis:

- H.1 When compared with Treponema Pallidum Haemagglutination Assay (TPHA), rapid diagnostic tests (RPR, ICS and Syphilis Rapid Test Device) will have at least 90% sensitivity and 90% specificity for the diagnosis of syphilis performed by high-skilled staff;
- H.2 There will be no alteration in the sensitivity and specificity of the rapid diagnostic tests performed by high- and low-skilled staff.

Study Objectives:

- To validate the different methods (RPR, ICS and Syphilis Rapid Test Device) of rapid diagnostic assays to the standard tests in the diagnosis of syphilis;
- To compare the skill of the workers (high- and low-skilled staff) performing different methods of rapid diagnostic assays.

	<i>Main Activities</i>	<i>Measurable output</i>	<i>Timeframe</i>	<i>Assumptions or comments</i>
	Recruitment and training	Recruitment done and trained manpower available	June - July 2004	Completed
	Procurement	Logistic available for activity	June - February 2004	Most of the procurement completed
	Enrollment of subjects	No of subject enrolled	August 04 - April 05	Started from 14 th August and till Dec 160 subject enrolled
	Data entry	Actual data entered	Sept 05 - April 05	Data from enrolled subject is being enrolled
	Data analysis	Data analysis being done	May 2005	
	Interest group meeting	Meeting was done	May 2005	
	Draft report	Report prepared	June 2005	
	Final dissemination	Dissemination done	June 2005	

7. *Investigation of the Nipah Virus outbreak in the Faridpur district: An in-depth examination of beliefs and practices associated with the disease.*

Principal Investigator: Dr. Lauren S. Blum

Approved Study Period: August 10, 2004 to January 09, 2005

Study Objective: The study aims at developing preventive strategies to reduce the likelihood of direct exposure to secretions produced by the Pteropus bats (fruit bats), the suspected main reservoir for Nipah viruses. The study will also provide detailed information to assist the MoHFW with the design of communication messages aimed at decreasing exposure to the virus. In addition, the information can guide the outbreak.

	<i>Main activities</i>	<i>Measurable output</i>	<i>Time frame</i>	<i>Assumptions (comments)</i>
7a	Conduct in-depth interviews in Guholokhipur and Goalanda	Interview sheets	October 2004	
7b	Data transcription and analysis	Analysis Report	December 2004	
7c	Report write-up and dissemination	Dissemination seminar and final report	January 2005	

8. *Reinitiating fertility decline by meeting the needs of high parity couples with long-term family planning methods in Bangladesh*

Principal Investigator: Dr. Abbas Bhuiya

Approved Study Period: Yet to get approval

Hypothesis: The study envisages testing the following hypotheses in relation to interventions:

- H.1 Improved knowledge about the family planning methods especially of the clinical methods among the men and women, the family planning field workers, and the opinion leaders can develop a positive perception in the community about the methods and can lead to high use rate;
- H.2 Improved availability and quality of services by way of screening clients, managing side effects, controlling post-adoption infections, and physical facilities can lead to high and sustained use rate of the methods;
- H.3 Quick feedback to the programme regarding performance of the programme in relation to process (knowledge, supply etc) and outcome (use of methods) indicators can lead to timely remedial action and improve use rate.

Study Objectives: To find ways to increase the use of family planning methods, especially long-term methods, among the couples with three or more living children to reduce fertility rate further.

	<i>Main Activities</i>	<i>Measurable output</i>	<i>Timeframe</i>	<i>Assumptions or comments</i>
Situation Assessment	Baseline survey	Field work	Feb '05	
	Report	Report	Jun '05	
Intervention	Identification	Document	Feb '05	No delay from GoB side
	Implementation			
	Training of GoB service providers Providing the services by GoB	Training sessions Document	Mar – Apr '05 Apr '05	
End line survey	Data collection	Field work	Jul – Aug '06	
	Data analysis & Reporting	Report	Sep – Oct '06	

9. *Community-based intervention to reduce childhood drowning in Bangladesh.*

Principal Investigator: Dr. Lauren Blum
Approved Study Period: Yet to get approval

Hypothesis: Strategies for childhood drowning will reduce the mortality and morbidity from drowning in children <5 years in Bangladesh.

Study objective: To develop and evaluate an appropriate childhood drowning prevention intervention package.

	<i>Main activities</i>	<i>Measurable output</i>	<i>Time frame</i>	<i>Assumptions (comments)</i>
9a	Data collection and analysis	<ul style="list-style-type: none"> Analysis report 	November 04	USAID approval obtained timely
9b	Development of the messages	<ul style="list-style-type: none"> Field testing of the messages completed and dissemination started 	December 04	
9c	Training of the field worker	<ul style="list-style-type: none"> Staff on board and carrying out their responsibilities 	December 04	
9d	Implementation of the study at field	<ul style="list-style-type: none"> Activities on going 	January 05	
9e	Write up and dissemination	<ul style="list-style-type: none"> Dissemination workshop and final report 	March 05	

10. *Feasibility, acceptability and program effectiveness of misoprostol in preventing post-partum haemorrhage (PPH) in rural Bangladesh*

Principal Investigator: Dr. M A Quaiyum
Approved Study Period: Yet to get approval

Hypothesis: Appropriate strategy to distribute misoprostol to pregnant women along with necessary information will result in reducing post-partum haemorrhage in the community settings.

Study Objectives:

1. To develop an appropriate strategy to distribute misoprostol to pregnant women along with appropriate information on correct timing and use of misoprostol for PPH prevention;
2. To assess acceptance and use of misoprostol by pregnant women immediately after the birth of the baby;
3. To determine the effectiveness of misoprostol in reducing post-partum haemorrhage in the community settings.

	<i>Main activities</i>	<i>Measurable output</i>	<i>Time frame</i>	<i>Assumptions (comments)</i>
10a	Staff recruitment and orientation	<ul style="list-style-type: none"> Staff is in place 		ERC approval obtained
10b	Tools design and finalization	<ul style="list-style-type: none"> Tools are ready for use 		
10c	Collect 1000 cases from MCHTI, DMCH and ICMH. analysis of cases to set a standard for post partum hemorrhage	<ul style="list-style-type: none"> A standard has been set to measure PPH at community intervention 		

11. *ESSENTIAL LABORATORY SERVICES: A baseline assessment of existing laboratory services in urban and rural Primary Health Care (PHC)/Essential Services Package (ESP) delivery facilities of partner NGO's of National Service Delivery Program (NSDP) in Bangladesh.*

Principal Investigator: Dr. Motiur Rahman
Approved Study Period: Yet to get approval

Study Objectives:

1. To complete a comprehensive baseline assessment of available laboratory services in NSDP PHC ESP delivery facilities located in urban and rural Bangladesh and to assess the need and rationale for prescribing laboratory tests in PHCs with and without laboratory facilities;
2. Based upon the findings and an evidence-based systematic review of the literature, to estimate the unmet needs for an essential package of laboratory services provided through NGO PHC delivery units.

<i>Main activities</i>	<i>Measurable output</i>	<i>Time frame</i>	<i>Assumptions (comments)</i>
			Major activities, measurable outputs, and time frame will be projected after obtaining final approval from the ERC

Annexure C**List of Face Sheet Submitted to the USAID, Dhaka**

Sl #	Title of the Protocol	Name of the PI	Date of submission
1	Health needs and health seeking behaviour of street dwellers in Dhaka city	Md. Jasim Uddin	March 16, 2003
2	Integration of child nutrition into ESP service delivery: Impact of hoe-based nutrition education and growth monitoring on nutrition status of weaning-age children under two from urban slums and on use of other child health and reproductive health services	Dr. Petra Osinski	January 4, 2004
3	Investigation of Nipah Virus outbreak in the Faridpur district: An in-depth examination of beliefs and practices associated with disease	Dr. Lauren Blum	January 9, 2004
4	Alternative strategy to improve Intrauterine Device (IUD) acceptance among women of reproductive age in Bangladesh	Dr. Charles Larson	January 19, 2004
5	Determinants o partners of care seeking and pluralism in child and neonatal health care seeking in Bangladesh	M. Habib Seraji Dr. Shams El Anfeen	February 5, 2004
6	An evaluation of childhood diarrhea treatment practices, service utilization and equity through national coverage surveys in rural and urban populations of Bangladesh	Dr. Charles Larson	February 8, 04
7	Vulnerability to HIV/AIDS of migration affected families	Dr. Rasheda Khanam	February 8, 2004
8	Field evaluation of simple rapid tests in the diagnosis of syphilis	Dr. Motiur Rahman	March 9, 2004
9	Management of tuberculosis by private practitioners and health seeking behavior of symptomatic adults TB suspects	Dr. SA Shahed Hossain	March 8, 2004
10	Demand side financing for a community clinic service delivery model: Implementation and evaluation of a replicable pilot scheme to improve access for the poor to quality ESP services	Md. Jasim Uddin	March 24, 2004
11	Reinitiating fertility decline in Bangladesh by meeting the needs of high parity couples	Dr. Abbas Bhuiya	June 2004 (Submitted revised phase sheet)
12	Determinants and management of hospitalized cases of poisoning in two areas of Bangladesh: An exploratory study	Ali Ashraf	July 2004
13	Feasibility, acceptability and program effectiveness of misoprostol in preventing post-partum haemorrhage (PPH) in rural Bangladesh	Dr. M. A. Quaiyum	July 6, 2004
14	Community-based intervention to reduce childhood drowning in Bangladesh: Phase-1 formative research	Dr. Lauren Blum	July 7, 2004
15	A baseline assessment of existing services in urban and rural Primary Health Care (PHC) Essential Services Package (ESP) delivery facilities of partner NGO's of NGO Service Delivery Program (NSDP) in Bangladesh	Dr. Matur Rahman	August 8, 2004
16	Programmatic requirements for scaling up use of systemic screening for additional service needs and meeting them in urban and rural NGO clinic in Bangladesh	Jahanara Khatun	August 10, 2004
17	Met and unmet need for specialized obstetric care (life saving obstetric surgery) in different districts of Bangladesh using a new indicator (MOI for AMI)	Dr. Roslin Boulero	September 27, 2004
18	Use of a simple, clinical algorithm for identification of children with tuberculosis in rural Bangladesh and their management	Dr. Tahmeed Ahmed	September 27, 2004
19	Work and family: Poor urban working women and their children's nutritional status	Dr. Beena Varghees	September 27, 2004
20	Design and evaluation of community-based interventions to manage birth asphyxia in Bangladesh	Dr. Abdullah H. Baqui Dr. Shams El Anfeen	November 11, 2004
21	Cost effectiveness and quality of domiciliary services provided by fieldworkers in the Government and two large NGO programs	Dr. Rukhsana Gazi	November 22, 2004

List of Interest Group Meetings, Workshop/Seminars and Publications

Interest Group Meeting

1. Technical Interest Group Meeting on The effectiveness and utility of a green banana diet in managing acute children diarrhoea held on 01 December 2004 at HSID Conference Room, ICDDR,B, Presenter: *Dr. G.H. Rabbani and Dr. Rafiqul Islam.*

Workshop

1. Workshop on Management of tuberculosis by private practitioner held on 21 October 2004 in Chittagong.

Dissemination Seminar

1. Seminar on Cost Analysis of Child Nutrition Intervention at PSKP Clinic held on 20 October 2003 at Sasakawa Auditorium, ICDDR,B, Speaker: *Dr. Ziaul Islam, Dr. Petra Osinski.*
2. Seminar on Programmatic and non-programmatic determinants of low immunization coverage in Bangladesh held on 16 March 2004 at Sasakawa Auditorium, ICDDR,B, Speaker: *Dr. M.A. Quaiyum, Dr. Azharul Islam Khan and Dr. Rukhsana Gazi.*
3. Seminar on Plateauing of the Bangladesh Fertility Decline held on 13 April 2004 at Sasakawa Auditorium, ICDDR,B, Speaker: *Dr. Kim Streatfield and others.*
4. Seminar on Rapid Assessment Tools held on 13 April 2004 at Sasakawa Auditorium, ICDDR,B, Speaker: *Dr. Abbas Uddin Bhuiya, Mr. SMA Hanifi, Mr. Nikhil Ch. Roy, and Dr. Kim Streatfield.*
5. Seminar on The acceptability, effectiveness and cost of strategies designed to improve access to basic obstetric care in rural Bangladesh held on 16 September 2004 in the Sasakawa Auditorium, ICDDR,B, Speaker: *Dr. Iqbal Anwar, Dr. M.E. Elahi Khan Chowdhury, Dr. Carine Ronsmans, Ms. Josephine Borghi, Dr. Lauren Blum, Ms. Nahid Kalim, and Dr. Roslin Botlero.*
6. Seminar on Introduction of a new hypo-osmolar oral rehydration solution into routine use in the management of diarrhoeal disease: Phase IV clinical trial held on 22 September 2004 in the Sasakawa Auditorium, ICDDR,B, Speaker: *Dr. NH Alam and others*
7. Seminar on Introduction of Urban Depot-holders under the NGO Service Delivery Program held on 23 September 2004 in the Sasakawa Auditorium, ICDDR,B, Speaker: *Rukhsana Gazi, Jahanara Khatun, and Alec Mercer.*

Publications

1. Khatun J, Roy NC, and Azim T.
Unmet reproductive and child-health needs and use of essential services package in urban NGO clinics of Bangladesh. Dhaka: ICDDR,B: Centre for Health and Population Research. 2003. (ICDDR,B Working Paper No. 156).
2. Gazi R, Khatun J, Ashraf A, Alam M, and Kabir H.
Assessment of retention, perceived usefulness, and use of family health card in the Bangladesh Health and Population Sector Programme. Dhaka: ICDDR,B: Centre for Health and Population Research, 2003. (ICDDR,B Working Paper No. 157).
3. Rahman S, Bogaerts J, Rahman M, Razzak R, Nessa K, and Reza M.
Validity assessment of flowcharts for syndromic management of vaginal discharge. Dhaka: ICDDR,B: Centre for Health and Population Research. 2003. (ICDDR,B Working Paper No. 158).
4. Hossain S, Mercer A, Khatun J, Hasan Y, Uddin J, Kabir H, Uddin N, and Saha NC.
Operations Research on ESP Delivery: Addressing Missed Opportunities for Service Provisions in Primary Healthcare Clinics. Dhaka: ICDDR,B: Centre for Health and Population Research, 2003. (ICDDR,B Working Paper No. 159).
5. Health Systems and Infectious Diseases Surveillance System Report, 2000-2001. ICDDR,B: Centre for Health and Population Research, 2004. (ICDDR,B Special Publication No. 119).

Others

1. Prepared and displayed the products and current activities of FHRP in a booth for ICDDR,B at America Week in Rajshahi organized by US Embassy held on February 29 – March 2, 2004.