Survey on Implementation status of Safe blood Transfusion programme

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Preface

Safe blood transfusion programme is an important component of Bangladesh. It is the responsibility of governments to assure a safe and sufficient supply of blood and blood products for all patients requiring transfusion. Each country should formulate a national blood policy and plan, as part of the national health policy, to define how safe blood and food products will be made available and accessible to address the transfusion needs of its population, including how blood transfusion services will be organized and managed. The provision of safe and efficacious blood and blood components for transfusion or manufacturing use involves a number of processes, from the selection of blood donors and the collection, processing and testing of blood donations to the testing of patient samples, the issue of compatible blood and its administration to the patient. There is a risk of error in each process in this “transfusion chain” and a failure at any of these stages can have serious implications for the recipients of blood and blood products. Thus, while blood transfusion can be life-saving, there are associated risks, particularly the transmission of bloodborne infections. Screening for transfusion-transmissible infections (TTIs) to exclude blood donations at risk of transmitting infection from donors to recipients is a critical part of the process of ensuring that transfusion is as safe as possible. Effective screening for evidence of the presence of the most common and dangerous TTIs can reduce the risk of transmission to very low levels. Proper monitoring & effective implementation of safe blood transfusion programme would be able to play an important role to control TTI.

Contents

Introduction

The efficient coordination of blood transfusion services at national level is a prerequisite for an effective and sustainable national blood screening programme. It is also required for the uniform application of national standards and procedures across an entire country. Coordination is essential to maintain continuity in operations and consistency in performance in all facilities in which screening is performed, including blood centres and hospital-based services. Each screening facility requires a specific and sufficient budget, a suitable infrastructure, with reliable water and power supplies, well-maintained equipment and efficient transportation and telecommunications systems.

Greater efficiency and safety can be achieved by by Screening of donated blood for TTIs represents one element of strategies for blood safety and availability. The first line of defense in providing a safe blood supply and minimizing the risk of transfusion-transmitted infection is to collect blood from well-selected, voluntary non-remunerated blood donors from low-risk populations, particularly those who donate regularly.

- l. It involves building on and developing the practices that already accompany the process of policy development by deepening the analysis and formalizing the results in a report. Health impacts are the overall effects, direct or indirect, of a policy, strategy, programme, or project on the health of a population. This may include direct effects on the health of the members of the population and more indirect effects through intermediate factors that influence the determinants of the health of the population. Such impacts may be felt immediately, in the short term, or after a longer period.

During evaluation of any program we always need to examine the three areas namely effectiveness of the program, relevancy of the program and impact assessment.

After launching the safe blood transfusion program under HPSP from July 1998 we have some achievement and also some failure. Now we are providing safe blood through 98 safe blood transfusion centre situated at different level of hospital. The

program initiated under the UNDP and govt. funding. WHO provided support from mid 2000 to 31st December for the strengthening of the program. The main areas of the support are capacity development of the service providers of Blood transfusion centers through conduction of training on blood safety, orientation workshop, and support to reference lab. and BCC activities , supply of logistics, improvement of quality . According to the documentation produced by the SBT program authority significant changes already marked in the blood donor status and also in the five disease marker. To ascertain the changes we need to examine the following indicators:

- Declined in disease prevalence
- Declined in professional blood donor
- Increase number of voluntary and family donor
- Increase proficiency of testing
- Skilled manpower to provide safe blood transfusion
- Effective monitoring and evaluation system for SBT
- Internal and external quality control system

In this study attempt was made to asses the impact due to WHO intervention activities mainly but also other areas examined simultaneously to make it more comprehensive .The areas examined for the assessment of the impact are:

- Existing manpower in comparison to the previous state
- Existing service delivery offered by the SBT center in relation to blood safety
- Logistic supply status
- MIS in relation to blood safety
- Blood donor status
- Blood disease marker status
- Blood transfusion management activities
- Procedural practice and QC system
- Safety measure
- BCC activities for growing awareness of the community
- Skill and capacity development status of the service providers

The attempt was made to explore the answer of some questions -

- To what extent has the intervention contributed to positive changes in the lives of beneficiaries?
- Have there been any unintended or negative changes that can be attributed to the intervention?
- Can beneficiaries identify the changes made by the intervention?
- Are there any trends that the intervention has influenced?

The findings of this impact assessment will guide us to formulate better strategy, development of policy guideline and planning in respect of upholding blood safety.

Background:

The emergence of HIV in the 1980s highlighted the importance of ensuring the safety, as well as the adequacy, of national blood supplies. In many countries, even where blood is available, many recipients remain at risk of transfusion-transmissible infections (TTIs) as a result of poor blood donor recruitment and selection practices and the use of untested units of blood.

Every country has a common need to ensure: Availability of adequate supplies of blood and blood products and their accessibility to all patients requiring transfusion; Safety of blood and blood products; Safe and appropriate clinical use of blood and blood products.

The WHO Blood Transfusion Safety (BTS) team supports the establishment of sustainable of national blood programmes that can ensure the provision of safe, high quality blood and blood products that are accessible to all patients requiring transfusion and their safe and appropriate use. In support of this mission, the WHO BTS team recommends the following integrated strategy to national health authorities

The scenario was not satisfactory in respect of donor selection, screening of five diseases .The country felt need for ensuring safe blood by

- Establishment of a nationally coordinated blood transfusion service.
- Collection of blood from voluntary blood donor from low risk population.
- Testing of all donated blood including screening for TTI.
- Reduction in unnecessary transfusion through the effective clinical use of blood.

There was no quality screening facility available for the blood centre in public, & private sector before the introduction of safe blood transfusion program. Considering the disease scenario and the importance of blood safety one project as a TAPP was approved on 25/5/1998 by the MOH&FW in the name" of Implementation of Safe blood Transfusion ". The total budget of the project was TK 1602.82 lakh. Later activities of the project were included in the HPSP as a Safe blood transfusion program. The main objective of the program was -

1) Establishment of a reference laboratory and building up capacity of 97 blood centre for blood screening (53-District hospital, 13-MCH, 5-Specialist hospital,

13-Combined Military Hospital, other 10- Big Hospital, BDR, Red Crescent and BIRDEM) by providing kit reagents and equipment for detection of HIV, Hepatitis B and C , Syphilis and Malaria.

2) Training of doctor and technologist
3) Enhancement of Voluntary blood donation through motivation program and IEC campaign.

The expected output of the program:

- Mandatory screening of blood for HbsAg, Anti HIV, Anti HCV, Syphilis and Malaria Parasite (MP) in all blood transfusion services in the country.
- Provide support to management and program development for safe use of blood.
- Improvement of the manpower skill in blood transfusion services for maintenance of SOP and quality control of blood screening for HIV and transfusion transmissible disease.
- Development and reinforcement of the capacity of NGO's for the improvement of voluntary blood donation.
- Development of awareness on voluntary blood donation.
- Organize special national days for blood collection on regular basis

After introduction of the safe blood transfusion program in 97 blood centre of Bangladesh the following are the major achievements:

- Capacity developed in the 97 blood centre for blood screening to prevent TTI , like HIV/AIDS, Hepatitis B and C, Syphilis and Malaria.
- The trend of paid donors is declining.
- Skill in respect of SBT developed among the manpower working in the centre.
- Regular monthly blood screening report from all the centers.

- Availability of national data for prevalence of transfusion transmissible infection in different type of blood donors in Bangladesh.
- Transmission of awareness building by TV spot in BTV.
- Introduction of lab based waste disposable system.
- One law "Safe blood transfusion law-2002" already passed by the parliament and also published in the Gazette for blood safety.

The passed law is a regulatory law for setting blood transfusion centre, management, blood collection, blood storage, blood testing and transfusion to prevent unauthorized practices of human blood transfusion. Establishment of private blood transfusion centre, operation, licensing system, inspection committee and punishment for violation of rule etc. is clearly stated in the law.

Blood Transfusion Services in South-East Asia

The blood transfusion services (BTS) in Member Countries of SEAR, are in varying stages of development. Against an estimated annual requirement of 15 million units of blood, around 9.3 million units are collected. Voluntary non-remunerated donations vary from 40-93% in different countries. Paid donors continue to be a source in Bangladesh. Almost three fourth of the collected blood is utilized as whole blood. Quality of screening for major infections such as HIV and hepatitis B & C is a critical issue in SEAR where number of people living with HIV, hepatitis B and hepatitis C is estimated to be 6 million, 85 million and 25 million respectively.

WHO strategy for safe blood

WHO has a global strategy for safe blood which recommends the following integrated strategy to national health authorities?

- Establishment of a well-organized, nationally coordinated blood transfusion service that can provide adequate and timely supplies of safe blood for all patients in need;

- Collection of blood only from voluntary unpaid blood donors at low risk of acquiring transfusion-transmissible infections and stringent blood donor selection criteria;
- Testing of all donated blood for transfusion-transmissible infections, blood groups and compatibility;
- Productions of blood components to maximize the use of donated blood and enable the provision of therapeutic support for patients with special transfusion requirements;
- Appropriate clinical use of blood and the use of alternatives, where possible, to minimize unnecessary transfusions;
- Safe transfusion practice at the bedside;

Under the assistance of WHO, the SBT program planned the following activities to perform. The areas are:

- Training of different categories of personnel on different aspect of SBT
- Workshop on voluntary blood donation, rational and clinical use of blood
- Distribution of equipment and screening testing kits to 98 blood transfusion centers
- Preparation of billboard, poster, leaflet and souvenir to grow community awareness
- Development of MIS and quality control system

Rational

In the absence of substitutes, the use of blood components remains essential in therapy. Blood Transfusion Service (BTS) in Bangladesh is an integral and indispensable part of the healthcare system. The priority objective of BTS is to ensure safety, adequacy, accessibility and efficiency of blood supply at all levels. BTS in Bangladesh started in 1950 at the Dhaka Medical College Hospital. In the year 1968, three more blood transfusion centers were opened at Mitford Hospital, Dhaka; Chittagong Medical College Hospital and Rajshahi Medical College Hospital. Later, blood transfusion departments became operational in different hospitals. In 1992 the government constituted a committee called "Blood Transfusion Committee" to offer advice on the introduction of donor selection criteria, matters relating to blood safety and introduction of various tests and other technical issues. In 1976 the "Bangladesh Council of Blood Transfusion Service" was established to supervise and monitor improvement of BTS in the country. Presently SBTP fulfils its goals through 118 blood centers which are located throughout the country to meet the demands for blood.

Evaluation of any program is very much important in respect of its effectiveness. The results of evaluation can be used for the programmatic management of the program and also taking corrective measures for the future. The findings of the evaluation can guide us whether the outcomes of different activities are according to the expectation, utilization status of resources, strength and weakness of the program. More over it will guide us to identify the areas where we need to address for improving the quality as well as to improve the programmatic management.

The main aim of this activity is to give an update on the blood safety situation in Bangladesh. It
also aims at determining the level of attainment of the targets for blood safety as well as the status of the Quality Management Program. This is to identify successes, gaps and constraining factors as well as make recommendations to Government and other stakeholders so as to consolidate the achievements made, devise mechanisms to bridge the gaps and minimize the constraining factors.

Study Objectives:

- To assess the capacity of the service provider in the blood transfusion centers after getting the training under safe blood transfusion program.
- To identify the changes in the practice pattern among the blood transfusion centre service providers.
- To explore the five bloods disease marker trend among the patient and donors due to program intervention.
- To identify any changes visible regarding responsibility & accountability.
- To review the different tools using the safe blood transfusion centre.
- To identify screening reagents and equipment supply status among different safe blood transfusion centers.
- To identify the management problem of safe blood transfusion program..

Methodology

Approach: The methodology of the was figured out on the basis of submitted proposal. The following things were considered during the formulation of impact assessment:

- Development of questionnaire
- Sampling procedure including sample size.
- Pre-testing of the drafted questionnaire
- Finalization of the questionnaire
- Data collection procedure
- Identification of data collector
- Data collection

- Data processing and analysis
- Report writing.

Development of questionnaire for data collection

One draft questionnaire for the collection of data was developed, considering the predetermined objectives. The draft questionnaire also shared with the personnel working in the SBT program. The main areas addressed in the questionnaire were type of personnel working in the different level of blood transfusion centers along with strength, equipment and other logistic status, reagent supply status, wastage status, , manpower, quality assurance, record keeping, type of donor and blood disease marker , capacity development as a result of training and significant changes in the service delivery as a result of training and knowledge and opinion on blood safety activities. The main focus of the questionnaire was to assess the impact of safe blood transfusion program due to WHO activities in relation to blood safety program.

The usual step of designing a questionnaire was followed. Firstly the contents of the questionnaire were developed considering the objectives and variables. Secondly on the basis of each variable the questions were selected. Thirdly the sequencing of questionnaire was done. Lastly the formatting of questionnaire was completed.

Sampling procedure and sample size

Purposive sampling procedures were followed due to shortage of time and resources. The blood transfusion centers samples were divided mainly into MCH, Specialized Hospital and District Hospital blood transfusion centers running under SBTP. The selection of government MCH, Specialized Hospital and District Hospital blood transfusion centers were done by lottery method. The reference laboratories activities were included purposively to express a clear picture of impact. . The sample size was influenced by the allocated fund for data collection. The total sample size was 18 and among them 5-MCH, 01specialized hospital blood transfusion centre, 12-DH blood transfusion centre.

Data Collection Procedure

After the selection of resource persons they, were oriented about the task, questionnaire and the process of data collection. The selected resource persons collected data from their assigned place/institution. They collected data in the following way:

- In-depth interview with the personnel working in the blood transfusion centre.
- Observing physically.
- Review of the documentation used in the blood transfusion centres.
- Filling up of the questionnaires form on the basis of findings and discussion.

Data processing and analysis

Data was processed by hand and analysis was done with the help of electronic calculator. Tables were made and analyzed on the basis of collected data.

Limitation of the impact assessment

1. The impact of safe blood transfusion program is not only due to the WHO intervention, but also other donor activities intervention. So only WHO impact assessment can not conduct alone.
2. The study/assessment reflects the different findings of impact assessment, but we can not say the findings are hundred percent representations due to its small sample size.
3. During data collection some information was not ready at hand and some personnel were also not present although informed earlier.
4. The study design especially sample size was influenced by the allocated budget of WHO.
5. Some service providers were not willing to provide different data on their activities.

Results:

In this study the data were collected from 18-Blood Transfusion Centre (BTC) situated at different level of public hospitals. Among them are Medical College Hospital BTC, Specialized Hospital BTC and District Hospital BTC. During data collection of reviewing capacity development on blood safety, all the service providers (Medical Officer and Medical Technologist) were not available because of the shifting duty roster.

Table no - 1
Type and number of blood transfusion centre where review conducted

In this APW 12-DH, 5-MCH and 01-Specialized Hospital BTC were included in the sample size to review the impact assessment of blood safety activities intervene by the WHO. The arena of the assessment was made a bit comprehensive because only WHO activities assessment conduction was difficult. Because the output of blood safety activities were not only influenced by WHO activities but also by the activities initiated from others. The percentage of District Hospital, MCH and Specialized Hospital BTC included in the sample size were 66.67%, 27.78% and 5.55% accordingly.

Table no 2
Type of personnel working among the study sample area (blood transfusion centre)

The categories of personnel working at MCH, DH and Spl. Hosp. BTC were not similar. In District Hospital BTC 05-categories personnel are working and there namely MO, MT, MLSS/Ward Boy, Lab Assistant and Cleaner. Junior Consultant (Pathology) are working only 02-Hospitals. In MCH BTC in addition to mentioned posts some additional personnel are also working in different post. The types of personnel are Professor, Assoc. Professor and Asst. Professor. Emergency Medical Officer (EMO) was also working in the MCH BTC. Lastly the specialized Hospital BTC scenario were more or less similar MCH BTC.

Table-03.
Type of service delivery offered by the blood transfusion centre among the samples

ABO grouping and typing, Cross matching, VDRL/RPR, Hbs Ag, HCV and HIV screening were available 100% in the DH BTC, Similar scenario exists in MCH and Spl. Hosp. BTC. Coombs test, Antibody detection, Antibody titre, Rhesus typing and Malaria screening facility were available 33.33%, 41.67%, 41.67, 41.67 and 83.33% accordingly the DH BTC. But in the MCH and Spl. Hosp. BTC those mentioned services were available 83.33%, 66.67%, 66.67%, 100%, and 100% accordingly. The services like Rhesus genotype and phenotype, Haemolysin test, ABH secretory status were available 33.33%, 33.33% and 50% in the MCH and Spl. Hosp. BTC, but on the other hand the percentage were Nil., 16.69% and Nil in respect of DH BTC. Auto antibody examination were not available in any hospital among the sample sizes.

Table – 4:
Review of the supply status of five diseases screening reagent (July'06 – June'07)

The shortage of five diseases screening reagent were not marked in any MCH and Spl. Hosp. BTC and in the DH BTC only one hospital experienced shortage of reagent and the percentage was 8.33%. The local purchases of screening reagents were done in 100% of MCH and Spl. Hosp. BTC but it was only 41.67% in the DH BTC. 58.33% of DH BTC were not purchase any screening reagents locally.

Table-05
Document review findings of DH, MCH & Specialized Hospital blood transfusion centre

In respect of record keeping and proper maintenance status of Blood grouping register (donor), Screening register, Cross match register, Blood grouping register were done properly only 50% and 50% were done partially and not done status were Nil. The scenario of those mentioned areas were 33.33%, 66.67%, 50%, and 30% accordingly i.e. properly done and the partially done status were 66.67%, 33.33%, 50%, 66.67% accordingly in the MCH and Spl. Hosp. BTC. The status of blood requisition form, Medical examination form, Cross match report form and blood grouping register (patient) in respect of properly maintained were 33.33% 25%,

33.33%, 41.67% accordingly and in those areas the status of MCH and Spl. Hosp. BTC were 50%, 33.33%, 50%, 33.33%. The partially done statuses of those areas in the DH BTC were 33.33%, 41.67%, 25% and 33.33% accordingly. On the other hand the partially done statuses of mentioned areas were 50%, 50%, 50% and 16.67% in the MCH and Spl. Hosp. BTC. The not done status of those activities in DH BTC were 33.33%, 33.33%, 41.67% and 25% accordingly.

Table-06
Review of reporting status in relation to blood transfusion centre activities (July 06-June 07)

In the sample size 100% of BTC only sent blood screening report on monthly basis to national head quarter. The status of timeliness for sending the report was 91.67% and 100% in respect of DH, MCH and Spcl. Hosp. BTC. The status of partial was only 8.38% in DH BTC and Nil in MCH and Specl. Hosp. BTC.

Table – 7:
Status of blood donor according to type

The professional donor percentages were 25.64%, 29.74% and 20.90% in the DH BT for the year 2004, 2005, 2006 accordingly. The professional donor percentages in MCH & Spcl. Hosp. BTC were 36.60%, 29.56% and 18.20% for the same time period. The percentage of Voluntary donor in MCH and Spcl. Hosp. BTC were 16.77%, 18.16% and 20.45% for the mentioned time period. On the other hand the percentages were 16.98%, 18.33%, 20.44% accordingly in the DH BTC. The majority percentages of relative donor were marked 61.35% and 58.66% in the year 2006-07 for MCH & Spcl. Hosp. and DH BTC accordingly. In the year 2004-05, 2005-06 the percentages of relatives donor were 46.63% and 52.28% and the percentage of DH BTC were 57.38% and 51.98% for the mentioned time period.

Table-08
Blood diseases marker scenario (within the sample BTC)

The percentage of detected HbsAg patient during screening in the DH BTC were 1%, 1.215%, 1.065% in the year 2004-05, 2005-06, 2006-07 accordingly. The percentages of detected HbsAg patient during screening in the MCH and Specl.

Hosp. BTC were 0.437%, 0.566%, 1.008% for the same time period. The percentage of HCV among the screen blood in DH BTC were 0.342%, 0.171%, 0.046% for the same time period and the percentage of MCH and Spcl. Hosp. BTC were 0.210%, 0.111% and 0.305% accordingly. The percentages of detected HIV MCH and Spcl. Hosp. BTC were 0.020%, 0.014% and 0.012% for the same time period and on the other hand in the DH BTC the percentages were 0.006%, 0.006% and Nil accordingly. The detection percentages of VDRL were 0.120%, 0.262% and 0.113% in the DH BTC for the mentioned time period and on the other hand it was 0.055%, 0.068% and 0.904% in the MCH & Spcl. Hosp. BTC.

Table-9:
Information about wastage of blood

66.67% MCH & Spcl. Hosp BTC and 25% DH BTC provided information on the wastage of blood. The wastage percentage was between 0.32% to 2.97% in the MCH & Spcl. Hosp BTC. On the other hand the range was 0.48% to 1.37% in the DH BTC.

Table-10.
a. Supervision and monitoring of blood transfusion centre

The effective supervision were marked 50% and 25% in the MCH & Spcl. Hosp BTC and DH BTC accordingly. 75% of DH BTC the effective supervision was not marked.

Table-10

b. Co-ordination meeting status of blood transfusion management activities (for last 6 months)

The percentage of coordination meeting in MCH & Spcl. Hosp BTC for the last 06 months was 16.67% upto 1 meeting and 16.67% upto 4 meeting and there was no coordination meeting in the 66.67% hospital. The coordination meeting was not conducted in the 50% DH BTC and 33.34% held only one meeting, 8.33% held upto 2 meeting and lastly 8.33% held 4 meeting.

Table -11

Blood Transfusion management activities of different type of blood transfusion centre (within the sample size)

The visual assessment, History taking, Medical examination, Preservation of blood bag, Monitoring of temperature and Cold chain maintenance under blood transfusion activities were done properly 66.67%, 66.67%, 41.67%, 41.67%, 33.33% and 100% in the DH BTC. The percentage for the same activities were 100%, 100%, 83.34%, 100%, 83.34% and 100% in the MCH and Spcl. Hosp BTC. The Not done properly status in the DH BTC for the said activities were 33.33%, 33.33%, 58.33%, 58.33%, 66.67% and Nil percentage accordingly. On the other hand in the MCH and Spcl Hosp BTC the percentage of not done properly status for the mentioned activities were Nil, Nil, 16.66%, Nil, 16.66% and Nil percentage.

Table – 12
Procedural practice of different BTC among the samples

The preparation of normal salaine, Collection of blood sample, Cell washing and preparation of suspension, ABO grouping, Rhesus D-Typing, Cross match, Emergency cross match and 5-diseases screening were done 100% properly in the MCH and Spcl Hosp BTC. On the other hand the status of DH BTC were 100%, 91.67%, 75%, 100%, 100%, 100% 100%, Nil, and 100% for the said screening activities. 8.33% and 25% of DH BTC was not done properly for the area of collection of blood sample and cell washing and preparation of suspension.

Table – 13:
Status of QC system in the blood transfusion centre

100% of MCH and Spcl Hosp BTC were done properly the activities like identification of blood sample, recording of blood sample collection and recording of blood sample examination with date. The other activities like recording of reagent in respect of product no, batch no and date of expiry, 8.33% of DH BTC done properly and not done properly and not done at all percentage were 66.67% and 25%. The percentage for the same activities were Nil, 100% and Nil in the MCH and Spcl Hosp BTC. The activities like temperature monitoring of incubator, water bath and safe disposal of infected blood were done properly in 41.67%, and 66.67% of the DH BTC

accordingly. On the other hand the percentage were 66.67% and 50% in the MCH & Spcl. Hosp BTC. The status of not done properly were 58.33% and 25% for the said activities and on the hand it was 33.33% and 50% for the MCH & Spcl Hosp BTC. The not done at all for safe disposal of infected blood with recording was 8.33%.

Table - 14.
Status of safety measure maintain in the blood transfusion centre

The percentage of done properly in relation to activities like Wearing apron, Use of gloves, Daily cleaning of lab and equipment, Hand washing, Visitor control and restriction of food were 33.33%, 41.67%, 50%, 66.67%, 58.33% and 75% in the DH BTC. On the other hand the percentage of done properly in MCH and Spcl Hosp BTC were 100% for the said activities except the *Use of gloves* and it was 66.67%. The disposal of general waste, infected clinical waste, liquid waste, sharp waste were 41.67%, 25%, 33.33% and 33.33% in respect of done properly, where as the percentages of done properly in the MCH & Spcl Hosp BTC for the same activities were 50%. The not done status for the mentioned activities were 58.33%, 75%, 66.67% and 66.67% in the DH BTC and on the other hand the percentage were 50% for MCH & Spcl Hosp BTC.

Table -15
Social campaign activities initiated by blood transfusion centre

Social campaign activities for growing awareness of community only initiated 50% and 41.67% of MCH & Spcl Hosp BTC and DH BTC accordingly. On the other hand 50% of the MCH & Spcl Hosp BTC and 58.33% of DH BTC did not make any initiative for social campaign. All the major activities directed toward the development the social awareness.

Table -16:
Total respondent for reviewing the developed capacity on blood safety

The total respondents of Medical Officer(MO) were 43.75% and 33.33% in the MCH & Spcl Hosp BTC and DH BTC accordingly. The total respondents of Medical Technologists were 56.25% and 66.67% accordingly. Among the respondent MO in the MCH & Spcl Hosp BTC 57.14% received training on blood safety. On the other hand the percentage were 100% and 85.71% in respect of Medical Technologist.

Table- 17
Opinion of the respondent on different aspect of training on blood safety

a) Usefulness of training

Among the respondent MO 25% opined that the received training was very useful and rest 75% expressed that it was useful. 14.29% of MT respondent opined the received training as very useful and the rest 85.71% said useful.

b) Opinion on training material, methodology and time period

Among the MO respondent 37.5% opined that the time period for conduction of training was adequate and rest 62.5% said that it was not adequate. 90.4% MT said received training time period was adequate but 9.5% said it was not. The 75% and 95.24% of the MO and MT respondent opined that the training material was satisfactory but 25% respondent MO and 4.76% respondent expressed as non satisfactory. Among the MO 87.5% and MT 95.25% opined that the training methodology was satisfactory and the rest percentage expressed as non satisfactory.

C) Comment of the respondent on the status of training venue

75% of respondent MO stated that the training venue was good and the rest said as fare and poor (12.5% for each status). 90.48% respondent MT opined that the training venue was good but the rest expressed it as fare and poor (4.76% for each status).

Table -18
Learned skilled of the participant from training

The respondent Medical Officer (MO) and Medical Technologist (MT) expressed the learned skill more or less similar. The learned skill was shown separately for the MO and MT separately.

Table -19
Significant changes as a result of training
(according to respondent opinion)

The respondents opined that some significant changes already take place for providing service delivery as a result of training. The opinion of MO and MT in this respect was summarized and reflected in the table because of similarity on the statement.

Table -20:
Identified areas for further training

The identified areas for further training of MO and MT were more or less similar. They expressed it on the basis of their experience and need. The identified areas were reflected separately for the MO and MT. All the identified areas are highly linked for providing quality blood safety services.

Table : 21

Age distribution of the respondent for assessment of awareness & knowledge on blood safety

The majority percentage (35.62%) belongs to Age group 15-25 among the total respondent. The rest 34.24%, 15.07% and 15.07% belongs to age group 26-35, 36-45, 46+ accordingly.

Table 22
Distribution of respondents according to profession

The majority percentage of respondent (34.26%) was from house-wife group. The next highest percentage (20.54%) was from service. The percentage of profession like - agriculture, business, labor, and student were 12.32%, 19.18%, 5.48% and 8.22% accordingly.

Table - 23

Knowledge of the respondent on different aspect of blood safety:

80.82% of respondent opined that blood donation is good for health and 4.10% said it was not. The rest 15.08% said it is not known to them. 89.04% respondent opined that infectious diseases spread through blood and the message was not known to

rest 10.96% respondent. 58.91% respondents know the message about donation of blood but the rest 41.01% do not know. The message like diseases can spread through injection and blood from one person to another was known to 75.34% respondent but it was not known to the rest 23.29% respondent. Professional donors are always dangerous was known to 75.34% respondent but was not known to 21.92% respondent.

Table : 24

Knowledge about 05 diseases

The knowledge on HIV, HbsAg, HCV, Syphilis and Malaria disease among the respondent were 39.72%, 27.39%, 8.22%, 6.85% and 6.85% accordingly. 10.96% of the respondent does not have any idea about 5-diseases.

Table 25
Status and frequency of blood donation by the respondent

Among the respondent 78.09% never donated any blood, but only 21.91% respondent donated blood. In respect of blood donation frequency 50%, 18.75%, 25% and 6.25% respondent donated blood one time, two times, three times and more than three times accordingly.

Table: 26

Activities Suggested by the respondent for growing awareness on blood safety in the community

Among the respondent 57.54% provided suggestion for growing awareness on blood safety in the community, and the rest 42.46% did not provide any suggestion. All the suggestions provided by the respondents were summarized and reflected in the table.

DISCUSSION

The impact assessment was carried on only 18-Hospital blood transfusion centers (BTC), so it is difficult to describe the total scenario of blood safety status in Bangladesh but from the findings we can outline the status, problems, lapses and gaps in the blood safety programmatic management. The main focus was to assess the impact of WHO intervention but it was very difficult to assess the impact of WHO intervention along because the long term effect already influenced by the other actor. Data for the study were collected during the time period 01-09-07 to 06-12-07. The total number of public BTC included the sample size were 18 and among them 12 are situated at DH, 05 at MCH and 01 at Specialized Hospital. Some data also collected from reference laboratory at national level in relation to this study.

The number of post exist at the different level of BTC were marked as not sufficient on the basis of working load and also for providing 24-hours services. The creation of post at different level BTC is one of the priority areas to address. Simultaneously uniformity of post at the MCH BTC also needs address meticulously. Designated Medical Officer BTC need to create at different level to strengthen the program. The organogram should be developing in such a way that each BTC unit of different level of hospital can run independently (Table-02).

The provisions of blood screening facilities were available 100% at different level BTC except the malaria detection. 16.67% of District Hospital BTC is not providing malaria screening. ABO grouping and typing and cross matching services were available 100% in all categories of BTC. Some deficits still persist for providing the services like Comb test, Antibody detection, Antibody titre etc. in all categories of BTC. The reason of non-performing of those tests were due to reagent supply deficit, non-availability of some equipment and also improper capacity of the service provider. The issues need to discuss at the policy level to figure out the solution (Table-03).

All the MCH and Specialized Hospital BTC in the sample size purchased screening reagent locally from the revolving fund but 58.33% of District Hospital BTC did not purchase any screening reagent. Shortage of reagent only marked in one District

Hospital BTC but not in any other BTC of the sample size. From the findings it obvious that the supply of reagent condition is more or less satisfactory but the needs are increasing day by day, so we need to develop a proper national supply system on weighted basis (Table-04).

The document review findings in relation to BTC activities were not encouraging. The properly maintenance of different registers and forms were still within the range from 25% - 50%. A significant percentage of BTC were maintaining the record partially. The blood grouping register (donor), screening register, cross matching register and blood grouping register were maintained 50% properly in the District Hospital BTC. On the other hand the properly maintained of those mentioned records in the MCH and Specialized Hospital BTC were 33.33%, 66.67%, 50% and 33.33%. So it is a matter of great concern for the implementers. Immediate attention is needed to explore the reason and taking corrective measure (Table-05).

The scenarios of professional donors are more or less similar in District Hospital, MCH and Specialized Hospital BTC for the last three years. In the year 2006-07 the percentage of professional donor were marked more in MCH and Specialized Hospital BTC and it was 29.56% but in the District Hospital it was 20.90%. It is one of the important indicators in respect of impact assessment. The percentage of professional donor is decreasing but not up to the level of satisfaction. The percentage of voluntary donor among the sample size was 16.98% and 16.77% for District Hospital and MCH and Specialized Hospital BTC accordingly in year 2004-05. The changes didn't mark so much in year 2006-07 and the percentage was 20.44% and 20.45% accordingly. The trend is increasing but we need all out effort to improve the situation (Table-07).

After the introduction of nation-wide mandatory blood screening for transfusion transmissible diseases such as HIV, HBV, HCV, Syphilis and Malaria, the pattern of blood donors and prevalence of TTI have started to change. The changes also marked in the sample size BTC. The Hbs Ag percentage was 1.065% and 1.008% in the year 2006-07 among the sample size but it was 29% (according to SBTP report) before the start of SBT program. The percentage of HCV was detected 0.046% and 0.305% among the District Hospital and MCH and Specialized Hospital BTC sample accordingly in the year 2006-07 but it was 6.2% before the start of SBTP. The

detection of Syphilis was 0.113% and 0.903% among the District Hospital and MCH and Specialized Hospital BTC sample accordingly in the year 2006-07 but it was 22% before the start of SBTP. So, it is obvious that the disease marker trend is decreasing but we need continuous and further effort to decrease the percentages of different transfusion transmissible diseases (Table-08).

The information regarding wastage of blood was not available in 75% and 33.33% of District Hospital and MCH and Specialized Hospital BTC accordingly. Keeping the record of wastage of blood is always an important aspect for the program management (Table-09).

Supervision and monitoring is always considered as vital events for any program management. But the area of supervision and monitoring were detected as one of neglected area in respect of BTC management. Effective and structured supervision were not marked in 75% of District Hospital BTC and 50% of MCH and Specialized Hospital BTC among the sample size. This is a great concern for the policy maker and implementer. We need to figure out ways and means to establish effective supervision and monitoring system in all BTC of the public sector hospitals. The number of coordination meeting actually held also not encouraging. 66.67% of MCH and Specialized Hospital BTC and 50% of District Hospital BTC didn't conduct any coordination meeting for the program management. So, the area also needed to address meticulously (Table-10. a & b).

The deficiency was marked in the visual assessment, history taking, medical examination, preservation of blood bank and monitoring of temperature among the District Hospital BTC and the percentages of not done properly was 33.33%, 33.33%, 58.33%, 58.33%, 66.67% accordingly. We already passed some valuable time in the blood safety management even that the deficits areas are still persist. Proper capacity development of the service providers and intensive supervision and monitoring from the national head quarter and local authority can improve the situation (Table-11).

Improvement marked in the procedural practices of different BTC among the samples. The procedural practices of 5-diseases screening was done 100% properly in District Hospital and MCH and Specialized Hospital BTC except the malaria.

16.67% of District Hospital BTC did not follow the proper procedural practice in case of malaria detection. Slide problem also marked in respect of collection of blood sample, Cell washing and preparation of suspension and the percentage not done properly was 8.33% and 25% in the District Hospital BTC (Table 12).

Significant improvement were marked in the area of identification of blood sample with documentation, recording of blood sample collection with date and recording of blood sample examination with date and the percentage of done properly was 100% in all the types BTC among the sample size. The problem marked in the area of recording of reagent in respect of product no, batch no, and date of expiry and the percentage of not done properly 66.67% and 100% in the District Hospital BTC and MCH and Specialized Hospital BTC accordingly. The problem also marked in the safe disposal of infected blood and temperature monitoring of incubator, water bath and refrigerator. The situation can be improved by the local initiative and inviting commitment of the service provider (Table-13).

The problem marked in the different area of safety measure more in the District Hospital BTC in comparison to MCH and Specialized Hospital BTC. The not done properly status of wearing apron, use of gloves, daily cleaning with disinfectant of Lab and equipment, hand washing, and visitor control in the District Hospital BTC were 66.67%, 58.33%, 50%, 33.33% and 41.67% accordingly. The not done properly status in respect of disposal of lab waste was more or less similar in all categories of BTC. The not done status of General waste, infected clinical waste, liquid waste, sharp waste in the District Hospital BTC were 58.33%, 75%, 66.67% and 66.67% accordingly. On the other hand the status of MCH and Specialized Hospital BTC were 50% for the mentioned areas (Table-14).

One of the weak areas detected in impact assessment was taking initiative for social campaign. 50% of the MCH and Specialized Hospital BTC and 58.33% of District Hospital BTC didn't take any initiative for social campaign activities. The rest suggested some major activities like mobilization of NGOs, development of communication material, dissemination of messages through different outlet, campaign at educational institution etc. We need to develop a national strategy and

plan for conducting different type of social campaign in the community. Side by side we also need to review the capacity of service providers in respect of launching social campaign program. Involvement of NGOs by contracting may be one of the options for better social mobilization and capacity development of the service providers in this respect also carries equal value (Table-15).

Proper capacity development of the service providers is very much pertinent and important for providing quality service, but 42.86% of MCH & Specialized Hospital BTC and District Hospital BTC Medical Officer are providing services without any training. This is may be due to the rapid turnover of posting of the Medical Officer. So, retention of trained MO is one of the important aspects to address. Policy directives need to issue to retain the trained doctor for facilitating the quality services (Table-16).

According to the opinion of the trainees on Usefulness of conducted training, Training material and methodology and Training venue was more or less satisfactory. The findings gave us the clear statement about the quality of training conducted for the service provider under WHO funding. But the trainees expressed their dissatisfaction about the time period of different training they received in different time and dissatisfaction percentage was 62.5% for the MO. In consultation with the donors the authority can revisit the future planned training program especially about the time period (Table-17. a, b & c).

Determining the learned skill of the participants from training during data collection within a short span of time was difficult. The data collector depends on the statement given by the service providers. According to the statement of service providers it is obvious that they learned a good number of skills on blood safety as a result of training and which they are practicing now. The areas of learned skill mostly focused on blood safety aspect (Table-18).

Conduction of any kinds of training is always expected for significant changes in providing service delivery. A good number of training was conducted under WHO funding on different topics for the MO and MT working in the different level of blood transfusion centre. Some changes already marked in providing services and the changed areas are Donor selection, Blood grouping and cross matching, Screening

of five disease, SBT management, Lab safety measure, personal safety, test result accuracy, Communication skill for client satisfaction etc. So, we can correlate these changes as a impact of conducted training in the SBT program (Table-19).

The knowledge of the community on different aspect of blood safety varied from one area to another area. The message like “Healthy person (18-60 years) can donate blood every 4-months interval” was not known to 41.01% of the respondent. 23.29% of the respondent did not know about the message like “Diseases can spread through injection and blood from one person to another” and 21.92% of respondent also did not know the message like “Professional donor is always dangerous”. The knowledge of 5-diseases among the respondent also varied. The highest percentage of the respondent (39.72%) knows about the HIV and probably it is the outcome of special massive campaign launched for HIV program. The second highest respondent (27.39%) knows about the HbsAg. 10.96% of the respondent said that they do not have any idea about the 5-diseases. The scenario is changing day by day, even that we should take different activities for improving the knowledge of the community. (Table-23 & Table-24).

We already launched different campaign for improvement of the percentage of voluntary donor but the scenario from the study was discouraging in respect of voluntary donation of blood. 78.09% of the respondent did not give any blood in their life time although they received some messages on donation of blood. Among the respondent (21.9%) who gave the blood was also not satisfactory because 50% of the respondent donated blood once only. 57.54% of the respondent provided some suggestion for growing awareness in the community on blood safety. Some of the suggestions were important like involvement of the NGOs and Information Ministry, Massive communication campaign, conduction of health education, seminar, rally and meeting. We need to conduct a comprehensive survey in the community to assess the knowledge status level and also to explore the community suggestion for program development (Table-25 & Table-26).

Reference Laboratories activities

The reference laboratory was established with an aim to up-hold the quality assurance of different blood centers under SBT program and it is started function from 2002. The reference laboratory was established with the following objectives:

Objectives

- Maintenance of quality assurance of 97 Blood Transfusion Centers.
- Maintenance of quality Control of all Blood Transfusion Centers both Internal & External.
- Clerical Procedure - Record keeping.
- Specification & quality control of' reagent.
- Monitoring & maintenance of standard operating procedure to all BTC.
- Quality control of Equipment.
- Quality control of test for TTI agent.
- Controlling the bio-safety of the Transfusion laboratory
- To conduct training / orientation on regular basis to develop skilled manpower.
- Regular monitoring & spot training for capacity building
- Investigation of referred cases of the peripheral centre & solution of their- problem.

Expected Major Activities:

Maintenance of quality assurance of Blood Transfusion Centers by:

1. Maintaining Standard Operating Procedure (SOP's) in all centers.
2. Monitoring of the quality of screening reagent and blood grouping reagent.
3. Monitoring the record keeping system.
4. Monitoring the distribution of kits to all centers.
5. Monitoring the motivational activities.
6. Integrated monitoring:
    - Monthly blood Screening Report compilation;
    - Compilation of annual blood collection & screening data;
    - Update of screening report;
    - Compilation of category of blood donors in 97 centers;
    - Compilation of functional status of equipments;
    - Internal audit of the reference laboratory;
    - Monitoring the progress of work plan quarterly.

Existing status of the reference laboratory

The reference lab is situated at DMCH and running in a wing of DMCH. The infrastructural facility and manpower status is not at all satisfactory to full-fill the objectives. The present manpower status is very poor.

Sl. No.	Type of post	Posted	Remarks
1.	Asstt. Professor	02	
2.	Medical Technologist	04	
3.	Office Assistant	01	
4.	Sr. Staff Nurse	02	
5.	Electro-medical Technician	01	
6.	MLSS	08	

Presently the reference laboratory started internal and external quality control system in a limited way. The reference laboratory needs to strengthen to meet the future challenges of quality control.

Recommendation

1. Proper staffing does not exist in the different type of blood transfusion centers on the basis of working load. Creation of post according to need should consider on priority basis.
2. Uniformity of staffing pattern in MCH & Specialized blood transfusion centers also need to address for facilitating the quality service.
3. The range of service delivery in respect of blood transfusion management at the district hospital level needs to increase.
4. The national Safe blood transfusion program authority should inquire about the poor performance of some district hospital BTC and taking necessary steps for the improvement.
5. The trend of professional donor is decreasing but the percentage of voluntary donor remains more or less static. So all out effort is necessary in this respect.
6. The monitoring of quality screening at different level of BTC from the reference laboratory need to strengthen further.
7. The record keeping in respect of wastage of blood is poor. So initiatives are necessary to improve the situation.
8. The scenario of structured and effective supervision by the local and national authority is not encouraging and proper directives are necessary for the improvement of the situation.
9. The process need to establish for facilitating the coordination meeting on regular basis for the BTC program management.
10. At the district hospital BTC level still opportunity exist for the improvement of some activities in relation to blood transfusion management
11. Some activities in relation to safety measure still remain deficit especially at the district hospital BTC and it needs improvement.
12. Major break through is needed for establishing institutional and national social campaign for growing awareness on the different aspect of blood safety.

13. Comprehensive training plan need to develop giving emphasis on hands on training and also the future need.
14. Evaluation of the conducted training should be done on regular basis.
15. A comprehensive training need assessment should be done and the findings should be incorporated in the national training plan on blood safety.
16. Support from WHO should be continuous for proper development of the program.
17. The NGO sector needs to involve deeply in the social campaign on blood safety.
18. The system of internal and external quality control should be in place.
19. Special attention is needed to improve the record keeping system of the different level BTC.
20. Policy directives need to develop for inviting the NGOs on contractual basis for the development of social campaign on blood safety.
21. Supply of screening reagent from the national head quarter should be on weighted basis.
22. Allocation of fund need to provide for the maintenance of equipment.
23. The reference laboratory needs to strengthen to meet the future challenges of SBT program.

Tables

Table no - 1

Type and number of blood transfusion centre where review conducted

Total Sample size	Location of blood transfusion centre	Total number
18	District Hospital	12 (66.67%)
	Medical College Hospital	05 (27.78%)
	Specialized Hospital	01 (5.55%)

Table no 2

Type of personnel working among the study sample area (blood transfusion centre)

Sl. No	Type of personnel	District hospital blood transfusion centre	MCH blood transfusion centre	Specialized Hospital blood transfusion centre	Remarks
	Professor	Nil.	3	Nil.	
	Assoc. professor	Nil.	2	01	
	Asst. professor	Nil.	3	Nil.	
	Jr Consultant (Pathology)	2	Nil.	Nil.	
	Medical officer	11	10	05	
	EMO	Nil.	02	Nil.	
	Office Assistant	Nil.	02	Nil.	
	Medical Technologist	21	18	06	
	Lab Assistant	06	Nil.	03	
	MLSS / Ward boy	08	13	01	
	Cleaner	06	03	Nil.	

* Sample Size: District Hospital-08, MCH-05, Specialized Hospital-01

Table-03.

Type of service delivery offered by the blood transfusion centre among the samples

Sl no	Type of service delivery	District hospital blood transfusion centre				Medical college & Specialized Hospital blood transfusion centre				Remark
		Yes		No		Yes		No		
		No	%	No	%	No	%	No	%	
1.	ABO grouping and typing	12	100%	Nil.	Nil.	6	100%	Nil.	Nil.	
2.	Cross Matching	12	100%	Nil.	Nil.	6	100%	Nil.	Nil.	
3.	Direct Coomb test	4	33.33%	8	66.67%	5	83.33%	1	16.67%	
4.	Indirect Coomb test	4	33.33%	8	66.67%	4	66.67%	2	33.33%	
5.	Antibody detection	5	41.67%	7	58.33%	4	66.67%	2	33.33%	
6.	Antibody titre	5	41.67%	7	58.33%	4	66.67%	2	33.33%	
7.	Rh factor C/c, D/d, E/e	5	41.67%	7	58.33%	6	100%	Nil.	Nil.	
8.	Rhesus genotype & Phenotype	Nil.	Nil.	12	100%	2	33.33%	4	66.67%	
9.	Haemolysin test	2	16.67%	10	88.33%	2	33.33%	4	66.67%	
10.	ABH secretory status	Nil.	Nil.	12	100%	3	50%	3	50%	
11.	Auto antibody	Nil.	Nil.	12	100%	Nil.	Nil.	6	100%	
12.	VDRL / RPR	12	100%	Nil.	Nil.	6	100%	Nil.	Nil.	
13.	Hbs Ag	12	100%	Nil.	Nil.	6	100%	Nil.	Nil.	
14.	HCV	12	100%	Nil.	Nil.	6	100%	Nil.	Nil.	
15.	HIV	12	100%	Nil.	Nil.	6	100%	Nil.	Nil.	
16.	Malaria	10	83.33%	2	16.67%	6	100%	Nil.	Nil.	

Table – 4:

Review of the supply status of five diseases screening reagent (July'06 – June'07)

Type of BTC	Total sample size	Shortage of reagent marked		Local purchase done	
		Yes	No	Yes	No
MCH & Specialized Hospital	06	Nil.	06 (100%)	06 (100%)	Nil.
District Hospital	12	01 (8.33%)	11 (91.67%)	05 (41.67%)	07 (58.33%)

Table-05

Document review findings of DH, MCH & Specialized Hospital blood transfusion centre

Sl no	Type of form and Register	District hospital blood transfusion centre			Medical college & Specialized Hospital blood transfusion centre			Remark
		Properly maintained	Partially maintained	Not maintained	Properly maintained	Partially maintained	Not maintained	
1.	Blood requisition form	4 (33.33%)	4 (33.33%)	4 (33.33%)	3 (50%)	3 (50%)	Nil.	
2.	Medical assessment of blood donor form	3 (25%)	5 (41.67%)	4 (33.33%)	2 (33.33%)	3 (50%)	1 (16.67%)	
3.	Cross match report	4 (33.33%)	3 (25%)	5 (41.67%)	3 (50%)	3 (50%)	Nil.	
4.	Blood grouping register (patient)	5 (41.67%)	4 (33.33%)	3 (25%)	2 (33.33%)	4 (66.67%)	Nil.	
5.	Blood grouping register (Donor)	6 (50%)	6 (50%)	Nil.	2 (33.33%)	4 (66.67%)	Nil.	
6.	Screening register	6 (50%)	6 (50%)	Nil.	4 (66.67%)	2 (33.33%)	Nil.	
7.	Cross match register	6 (50%)	6 (50%)	Nil.	3 (50%)	3 (50%)	Nil.	
8.	Blood grouping register	6 (50%)	6 (50%)	Nil.	2 (33.33%)	4 (66.67%)	Nil.	
9.	Blood stock register	2 (16.67%)	10 (83.33%)	Nil.	1 (16.67%)	4 (66.67%)	1 (16.67%)	

Table-06

Review of reporting status in relation to blood transfusion centre activities(July 06-June 07)

Sl. No	Type of report (National Head Quarter)	District hospital blood transfusion centre						Medical college & Specialized Hospital blood transfusion centre						Remark
		Total Sample size	Timeliness for sending monthly report		Filled up status			Total no of report	Timeliness		Filled up			
			yes	no	Yes	Partial	No		yes	no	yes	partial	no	
1	Blood screening	12	12 (100%)	Nil.	11 (91.67%)	1 (8.33%)	Nil.	06	06 (100%)	Nil.	06 (100%)	Nil.	Nil.	
2	Blood Component		Nil.	Nil.	Nil.	Nil.	Nil.		Nil.	Nil.	Nil.	Nil.	Nil.	

Table – 7:

Status of blood donor according to type

Year	Blood Transfusion Centers	Sample Size	Professional	Voluntary	Relative
2004 - 2005	DH	12	25.64%	16.98%	57.38%
	MCH & Specialized Hospital	06	36.60%	16.77%	46.63%
2005 - 2006	DH	12	29.74%	18.33%	51.92%
	MCH & Specialized Hospital	06	29.56%	18.16%	52.28%
2006 - 2007	DH	12	20.90%	20.44%	58.66%
	MCH & Specialized Hospital	06	18.20%	20.45%	61.35%

Table-08

Blood diseases marker scenario (within the sample BTC)

Year	Blood Transfusion Centers	Total no of screening done	HbsAg	HIV	HCV	VDRL	Malaria
2004 - 2005	DH	14895	150 (1%)	01 (0.006%)	51 0.342%)	18 (0.120%)	Nil.
	MCH & Specialized Hospital	39500	173 (0.437%)	8 (0.020%)	83 (0.210%)	22 (0.055%)	Nil.
2005 - 2006	DH	16366	199 (1.215%)	01 (0.006%)	28 (0.171%)	43 (0.262%)	Nil.
	MCH & Specialized Hospital	42189	239 (0.566%)	6 (0.014%)	47 (0.111%)	29 (0.068%)	Nil.
2006 - 2007	DH	14927	159 (1.065%)	Nil.	7 (0.046%)	17 (0.113%)	Nil.
	MCH & Specialized Hospital	47401	478 (1.008%)	06 (0.012%)	141 (0.305%)	43 (0.904%)	Nil.

Table-9:

Information about wastage of blood

Type of blood transfusion centre	Total no of sample size	Availability of information		
		Yes	No	Range of wastage
MCH & Specialized Hospital	06	04 (66.67%)	02 (33.33%)	0.32% – 2.97%
District Hospital	12	03 (25%)	09 (75%)	0.48% – 1.37%

Table-10.

a. Supervision and monitoring of blood transfusion centre

Type of BTC	Total Sample size	Structured and effective supervision	
		Yes	No
MCH & Specialized Hospital	06	03 (50%)	03 (50%)
District Hospital	12	03 (25%)	09 (75%)

Table-10

b. Co-ordination meeting status of blood transfusion management activities (for last 6 months)

Type of BTC	Total Sample size	No. of Coordination meeting for the last 06 months				
		Nil.	Upto 1	Upto 2	Upto 3	4 & 4+
MCH & Specialized Hospital	06	04 (66.66%)	01 (16.67%)	Nil.	Nil.	01 (16.67%)
District Hospital	12	06 (50%)	04 (33.34%)	01 (8.33%)	Nil.	01 (8.33%)

Table -11

Blood Transfusion management activities of different type of blood transfusion centre (within the sample size)

Activities	Activity status DH			Activity status MCH & Spl. Hosp		
	Done properly	Not done properly	Not done at all	Done properly	Not done properly	Not done at all
Visual assessment	8 (66.67%)	4 (33.33%)	Nil.	6 (100%)	Nil.	Nil.
History taking	8 (66.67%)	4 (33.33%)	Nil.	6 (100%)	Nil.	Nil.
Medical exam	5 (41.67%)	7 (58.33%)	Nil.	5 (83.34%)	1 (16.66%)	Nil.
Preservation of blood bag	5 (41.67%)	7 (58.33%)	Nil.	6 (100%)	Nil.	Nil.
Monitoring of temperature	4 (33.33%)	8 (66.67%)	Nil.	5 (83.34%)	1 (16.66%)	Nil.
Cold chain for blood bag	12 (100%)	Nil.	Nil.	6 (100%)	Nil.	Nil.

Table – 12

Procedural practice of different BTC among the samples

Sl no	Name of the screening activities	District Hospital			Medical College & Specialized Hospital		
		Done properly	Not done properly	Not done at all	Done properly	Not done properly	Not done at all
1.	Preparation of normal saline	12 (100%)	Nil.	Nil.	6 (100%)	Nil.	Nil.
2.	Collection of blood sample	11 (91.67%)	1 (8.33%)	Nil.	6 (100%)	Nil.	Nil.
3.	Cell washing and preparation of suspension	9 (75%)	3 (25%)	Nil.	6 (100%)	Nil.	Nil.
4.	ABO grouping	12 (100%)	Nil.	Nil.	6 (100%)	Nil.	Nil.
5.	Rhesus D-typing	12 (100%)	Nil.	Nil.	6 (100%)	Nil.	Nil.
6.	Cross match	12 (100%)	Nil.	Nil.	6 (100%)	Nil.	Nil.
7.	Emergency cross match	12 (100%)	Nil.	Nil.	6 (100%)	Nil.	Nil.
8.	Coombs test	Nil.	Nil.	12 (100%)	6 (100%)	Nil.	Nil.
9.	HIV screening	12 (100%)	Nil.	Nil.	6 (100%)	Nil.	Nil.
10.	HBV	12 (100%)	Nil.	Nil.	6 (100%)	Nil.	Nil.
11.	HCV	12 (100%)	Nil.	Nil.	6 (100%)	Nil.	Nil.
12.	Syphilis	12 (100%)	Nil.	Nil.	6 (100%)	Nil.	Nil.
13.	Malaria	10 (83.33%)	Nil.	2 (16.67%)	6 (100%)	Nil.	Nil.

Table – 13:

Status of QC system in the blood transfusion centre

Sl no	Name of the screening activities	District Hospital			Medical College & Specialized Hospital		
		Done properly	Not done properly	Not done at all	Done properly	Not done properly	Not done at all
1.	Identification of blood sample with documentation	12 (100%)	Nil.	Nil.	6 (100%)	Nil.	Nil.
2.	Recording of blood sample collection with date	12 (100%)	Nil.	Nil.	6 (100%)	Nil.	Nil.
3.	Recording of blood sample examination with date	12 (100%)	Nil.	Nil.	6 (100%)	Nil.	Nil.
4.	Recording of reagent in respect of product no, batch no and date of expiry	1 (8.33%)	8 (66.67%)	3 (25%)	Nil.	6 (100%)	Nil.
5.	Temperature monitoring of incubator, water bath and refrigerator	5 (41.67%)	7 (58.33%)	Nil.	4 (66.67%)	2 (33.33%)	Nil.
6.	Safe disposal of infected blood with recording	8 (66.67%)	3 (25%)	1 (8.33%)	3 (50%)	3 (50%)	Nil.

Table - 14.

Status of safety measure maintain in the blood transfusion centre

Sl. No	Name of the screening activities	District Hospital			Medical College & Specialized Hospital		
		Done properly	Not done properly	Not done at all	Done properly	Not done properly	Not done at all
1.	Wearing apron	4 (33.33%)	8 (66.67%)	Nil.	6 (100%)	Nil.	Nil.
2.	Use of gloves	5 (41.67%)	7 (58.33%)	Nil.	4 (66.67%)	2 (33.33%)	Nil.
3.	Daily cleaning with disinfectant of lab and equipment	6 (50%)	6 (50%)	Nil.	6 (100%)	Nil.	Nil.
4.	Hand washing	8 (66.67%)	4 (33.33%)	Nil.	6 (100%)	Nil.	Nil.
5.	Visitor control	7 (58.33%)	5 (41.67%)	Nil.	6 (100%)	Nil.	Nil.
6.	Restriction of food, smoking in lab	9 (75%)	3 (25%)	Nil.	6 (100%)	Nil.	Nil.
7.	Disposal of lab waste						
	a) General waste	5 (41.67%)	7 (58.33%)	Nil.	3 (50%)	3 (50%)	Nil.
	b) Infected clinical waste	3 (25%)	9 (75%)	Nil.	3 (50%)	3 (50%)	Nil.
	c) Liquid waste	4 (33.33%)	8 (66.67%)	Nil.	3 (50%)	3 (50%)	
	d) Sharp waste	4 (33.33%)	8 (66.67%)	Nil.	3 (50%)	3 (50%)	

Table -15

Social campaign activities initiated by blood transfusion centre

Type of blood transfusion centre	Status of social campaign		Major activities initiated
	Initiated	Not initiated	
MCH and Specialized Hospital (06)	03 (50%)	03 (50%)	• Social campaign in the university; • Mobilization of NGOs for campaign; • Mobilization of clubs for campaign; • Observance of national blood donation day; • Dissemination of message through poster.
District Hospital (12)	05 (41.67%)	07 (58.33%)	• Communication to different agencies to growing awareness on blood safety; • Distribution of leaflet; • Dissemination of message through health education session; • Observance of national blood donation day; • Holding camp for blood donation; • Campaign in the educational institutions.

Table -16:

Total respondent for reviewing the developed capacity on blood safety

Type of BTC	Total sample size	Total respondents		Training status			
		MO	MT	MO		MT	
				Yes	No	Yes	No
MCH and Specialized Hospital	16	07 (43.75%)	09 (56.25%)	04 (57.14%)	03 (42.86%)	09 (100%)	Nil.
District Hospital	21	07 (33.33%)	14 (66.67%)	04 (57.14%)	03 (42.86%)	12 (85.71%)	02 (14.29%)

Table- 17

Opinion of the respondent on different aspect of training on blood safety

a) Usefulness of training

Respondent type	Total Respondent	Very useful	Useful	Not useful
MO	8	2 (25%)	6 (75%)	Nil.
MT	21	3 (14.29%)	18 (85.71%)	Nil.

b) Opinion on training material, methodology and time period

Respondent type	Total Respondent	Time period		Training material		Training methodology	
		Adequate	Not adequate	Satisfactory	Non-satisfactory	Satisfactory	Non-satisfactory
MO	08	03 (37.5%)	05 (62.5%)	06 (75%)	02 (25%)	07 (87.5%)	01 (12.5%)
MT	21	19 (90.48%)	02 (9.52%)	20 (95.24%)	01 (4.76%)	20 (95.24%)	01 (4.76%)

C) Comment of the respondent on the status of training venue

Respondent type	Total Respondent	Venue status		
		Good	Fare	Poor
MO	08	06 (75%)	01 (12.5%)	01 (12.5%)
MT	21	19 (90.48%)	01 (4.76%)	01 (4.76%)

Table -18

Learned skill of the participant from training

Type of Institution	Medical officer	MT
DH/ MCH/ Specialized Hospital	• Quality blood screening • Direct & Indirect Coombs test • Antibody titre • Better Screening • Counseling • Donor screening • SBT management • Rational use of blood • ELISA • Lab waste management • Blood grouping and cross matching; • Lab safety; • Quality control and SOP; • SBT management.	• Grouping and corss-matching; • Use of reagent; • Test examination • Lab safety • Record Keeping • Operation of ELISA • Screening of 5-diseases • Communication with donor • SOP and quality control; • Use of cell separator • Screening • Donor selection and management; • Good laboratory practice and waste management; • ELISA • Malaria ICT • Coomb test • Cold Chain • RH antibody titre.

Table -19

Significant changes as a result of training (according to respondent opinion)

1. Donor selection quality improved;
2. Status of blood grouping, cross matching and screening of 5-diseases improved;
3. Improvement of the SBT management in comparison to previous state;
4. Improvement in the number of blood donor due to improved counseling skill;
5. Lab safety measures improved;
6. Test result interpretation skill improved;
7. Improvement of better communication skill resulting client satisfaction;
8. Documentation status improved in-comparison to the past;
9. Lab safety measure and operational procedure improved;
10. Improvement in cold chain and equipment maintenance;
11. Improvement in post donation care;
12. Personal safety measure improved;
13. Test result accuracy improved;
14. Some improvement in lab. Waste management;
15. Reduction in examination time due to improvement in skill.

Table -20:

Identified areas for further training

MO	MT
16. Blood component; 17. Coombs test; 18. Safety precaution / lab safety; 19. SOP; 20. SBT management; 21. ELISA; 22. Quality control; 23. Refreshers training; 24. Blood component; 25. Sharing best practices of other part of the world on blood safety	26. Refreshers training; 27. Equipment maintenance; 28. ELISA and SOP; 29. Coombs test; 30. SBT management; 31. Blood component; 32. Client motivation and counseling; 33. MIS; 34. Lab Safety; 35. Computer training;

Table : 21

Age distribution of the respondent for assessment of awareness & knowledge on blood safety

Age	Respondent (Male & Female)
15-25	26 (35.62%)
26-35	25 (34.24%)
36-45	11 (15.07%)
46+	11 (15.07%)
Total:	**73 (100%)**

Table 22

Distribution of respondents according to profession

Occupation	Respondent (Male & Female)
Agriculture	09 (12.32%)
Service	15 (20.54%)
Business	14 (19.18%)
Labor	04 (5.48%)
House wife	25 (34.26%)
Student	06 (8.22%)
Others	Nil.
Total:	**73 (100%)**

Table - 23

Knowledge of the respondent on different aspect of blood safety:

Area	Total respondent	Respondent knowledge		
		Yes	No	Not known
Blood donation is good for health	73	59 (80.82%)	3 (4.10%)	11 (15.08%)
Infectious diseases spread through blood	73	65 (89.04%)	Nil.	8 (10.96%)
Healthy person(18-60 Years) can donate blood every 4 month interval	73	43 (58.91%)	Nil.	30 (41.01%)
Diseases can spread through injection and blood from one person to another	73	55 (75.34%)	1 (1.37%)	17 (23.29%)
Professional donors are always dangerous	73	55 (75.34%)	2 (2.74%)	16 (21.92%)

Table : 24

Knowledge about 05 diseases

Name of the disease	Known	Not Known
HIV	29 (39.72%)	8 (10.96%) No idea of any diseases
HbsAg	20 (27.39%)	
HCV	06 (8.22%)	
Syphilis	05 (6.85%)	
Malaria	05 (6.85%)	

Table 25

Status and frequency of blood donation by the respondent

Blood donation status		Frequency	Total number
Yes	No		
16 (21.91%)	57 (78.09%)	One time	8 (50%)
		Two times	3 (18.75%)
		Three times	4 (25%)
		More than three times	1 (6.25%)

Table: 26

Activities Suggested by the respondent for growing awareness on blood safety in the community

Total respondent for providing suggestion		Suggestion provided by the respondents
Yes	No	
42 (57.54%)	**31 (42.46%)**	36. Intensive social campaign on blood safety at community level; 37. Development and proper use of communication materials; 38. Dissemination of messages through cinema slide, newspaper and television; 39. Miking especially mosque miking; 40. Dissemination of messages by mosque Imam and health and family planning field staffs; 41. Conduction of seminar, rally and meetings; 42. Involvement of Information Ministry and NGOs for information dissemination; 43. Conduction of health education session;

References:

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3. Health impact assessment as a tool for population health, C.James Frankh, May 1996.

4. Final report for the implementing AIDS prevention and care project in Pakistan, Impact, 2007.

5. A resource for health impact assessment

6. Evaluation of Medical Officer and Medical Technologist at blood transfusion unit, APW of BAN BCT 001, Program manager, BAN BCT 001.

7. TAPP document on implementation of Safe Blood Transfusion-1998.

8. Lecture note on Safe Blood Transfusion in Bangladesh, M.W.Zaman, 2004.

9. Blood Safety, AIDE MEMOIRE for national blood programmes, WHO-2002.

10. Strategy for Safe Blood Transfusion, Blood Safety, WHO-2004.

11. Safe Blood Transfusion Module, SBTP, DGHS-2001.

12. Working paper on Impact assessment of WHO blood safety activities among the Safe Blood Transfusion centers, Dr. Murad Sultan, SBT Program Office,2007.

Annexure-01

Questionnaire for the Impact assessment of WHO blood safety activities among the safe blood centre

Interview date:- … … … …

1. Name of the Institution /Blood Centre/Clinic : ... ...

2. Type of blood banks:

   a) Only blood bank ☐ .

   b) Attached with Hospital / Clinic ☐ .

   c) Attached with Pathological Lab ☐ .

3. Type of manpower working in the blood banks

Sl. No.	Category of manpower	At present	Remarks
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

4. Type of service delivery offered by the blood banks

Sl. No.	Type of service delivery	Availability		Reason for non availability
		Yes	No	
1.	ABO Grouping and Rhesus D Typing			
2.	Cross matching			
3.	Direct omb test			
4.	Indirect omb test			
5.	Antibody detection			
6.	Antibody titre			

Sl. No.	Type of service delivery	Availability		Reason for non availability
		Yes	No	
7.	Rh factor C/c/D/d/E/e			
8.	Rhesus Genotype and phenotype			
9.	Haemolysin test			
10.	ABH secretor status			
11.	Auto Antibody			
12.	VDRL / RPR			
13.	HbsAg (Screening)			
14.	HCV (Screening)			
15.	HIV (Screening)			
16.	Malaria (Screening)			

5. Review of the five diseases screening reagent status (utilization) (July'06-June'07)

Sl. No.	Name of the reagent	Balance on 01-7-06	Supply July'06-June'07 (amount)	Total Amount	Total consumption	Utilization	
						Total no of screening done	%
1.	HbSAg						
2.	HIV						
3.	HCV						
4.	VDRL						
5.	M.P.						
6.	Anti-A						
7.	Anti-B						
8.	Anti- D						

6. Shortage of reagent supply (July'06-June'07**)**

Sl. No.	Name of the reagent	Shortage time period (in month)	Local purchase (amount)	Remarks
1.	HbSAg			
2.	HIV			
3.	HCV			
4.	VDRL			
5.	M.P.			
6.	Anti-A			
7.	Anti-B			
8.	Anti- D			

7. Record keeping

Sl. No.	Type of form and register	Properly	Partial	Not maintained	Reason for not maintaining
1.	Blood requisition form				
2.	Medical assessment of blood donor form				
3.	Cross match report				
4.	Blood grouping register (patient)				
5.	Blood grouping register (donor)				
6.	Screening register				
7.	Cross match register				
8.	Blood supply register				
9.	Blood stock register				

8. Reporting (July'06-June'07**)**

Sl. No.	Type of report	Total no of report send to authority	Timeliness	properly filled up	partial filled up	Remarks
1.	Blood Screening					
2.	Blood Component					
3.						
4.						

9. Status of blood donor

Year July-June	Total no. of blood donor	Professional donor %	Voluntary donor %	Relative / Replacement %	Remarks
2004-05					
2005-06					
2006-07					

10. Blood diseases marker

Yea Year July-June	Total no. of person screened	Diseases marker				
		HbsAg	HIV	HCV	VDRL	MP
2004-05						
2005-06						
2006-07						

11. Information about wastage of blood :

Information available - ☐ **Yes** ☐ **No.**

If 'Yes' –

Year July-June	**Wastage (%)**	**Reason**
2004-05		
2005-06		
2006-07		

12. A. Particulars of equipment disposed in condemnation board for the last 3-years:

Name of Equipment / Instrument	Year			Reason
	2004-05	2005-06	2006-07	

10. B) Particulars of other items disposed in condemnation board for the last 3-years:

Name of the reagent / item	Year			Reason
	2004-05	2005-06	2006-07	
Blood grouping				
HbsAg				
HIV				
HCV				
VDRL				
MP				

13. Supervision and monitoring of blood banks:

Events	Frequency of supervision within 6 months	Type of supervision / activities done during supervision / main agenda for discussion	Document Review done/ Performance reviewed (Yes / No.)
Supervision and monitoring by Superintendent / Director			
Co-ordination meeting for reviewing progress			
Supervision from national head quarter			

14. Blood Transfusion management

Activities	Done properly	Not done properly	Not done at all	Reason
a) Blood donor selection				
• Visual assessment				
• History taking				
• Medical examination				
• Lab examination				
b) Preservation of blood bag				
• Blood bag preservation				
• Monitoring of temperature				
• Cold chain for blood bag				

15. procedural practice:

Name of the test / Screening activities	Done properly	Not done properly	Not available	Remarks
Preparation of normal saline				
Collection of blood sample				
Cell washing and preparation of suspension				
ABO grouping				
Rhesus D-typing				
Cross match				
Emergency cross match				
Coombs test				
Preparation of the red cell concentrate				
HIV screening				
HBV				
HCV				
Syphilis				
Malaria				

16. Status of the quality control system:

- **Checklist for daily QC of reagent practiced properly-** ☐ **Yes** ☐ **No**
- **Checklist for safety maintain properly -** ☐ **Yes** ☐ **No**

Activities to maintain quality	Done properly	Not done properly	Not done at all	Reason
Identification of blood sample with documentation				
Recording of blood sample collection with date				
Recording of blood sample examination with date				
Recording of reagent in respect of product no, batch no and date of expiry				
Temperature monitoring of incubator, water bath and refrigerator				
Safe disposal of infected blood with recording				
Proper examination of the used calibration				

17. Safety measure maintained in the blood transfusion unit:

Name of the activities	Done properly	Not done properly	Not done at all	Remarks
a) Wearing apron				
b) Use of gloves				
c) Daily cleaning with disinfectant of lab and equipment				
d) Hand washing				
e) Visitor control				
f) Restriction of food, smoking in lab				
g) Disposal of lab waste				
• General waste				
• Non-infected clinical waste				
• Infected clinical waste				
• Liquid waste				
• Sharp waste				

18. Particulars of social campaign program launched for development of awareness and recruitment of more voluntary donor including NGO collaboration activities.

Activities: 1)

2)

3)

4)

5)

19. What are the aids used for social campaign –

i) Bill board ☐ **Yes** ☐ **No.**

ii) Poster ☐ **Yes** ☐ **No.**

iii) Hand bill ☐ **Yes** ☐ **No.**

iv) Souvenir ☐ **Yes** ☐ **No.**

20. Do you thing supplied aid for social campaign from national head quarter are sufficient? ☐ **Yes** ☐ **No.** **If 'No' then reason -**

21. Do you thing the message written / visualized in those supplied aids from National Head Quarter are very clear and understandable for the community?
☐ **Yes** ☐ **No.** **If 'No' then reason -**

wbivc` i³ mieivn KgmPxi Aaxb Rbm‡PZbZv gjK KgjKv‡Ûi Ask wnmv‡e wewfbœ cÖPvi mvgMÖi KvhlKvixZv wel‡q Rbmvavi‡Yi Ávb / AwfÁZv

mv¶vrKvi Mn‡Yi ZwiLt. ¯vbt . . . .

bvg t . eqmt wj½t .

‡ckvt

1| wbqwgZ i³ `vb ¯v‡¯¿i Rb¨ fvj ☐ miVK ☐ miVK bq ☐ Rwb bv

2| i‡³ i gva¨‡g gvivZ¥K †ivM GKRb n‡Z Ab¨R‡bi g‡a¨ Qwo‡q c‡o ☐ miVK ☐ miVK bq ☐ Rwb bv

3| 18-60 erm‡ii †h †Kvb m¯¿¨ e¨w³ erm‡i 3-4 gvm AšZi i³ `vb Ki‡Z cv‡i| ☐ miVK ☐ miVK bq ☐ Rwb bv

4| B‡ÄKkb, mB, †mj‡b GKB †e‡W G‡Ki AwaK e¨w³ i Rb¨ e¨envi‡ii gva¨‡g gvivZK †ivM Qwo‡q c‡o| ☐ miVK ☐ miVK bq ☐ Rwb bv

5| †ckv`vi i³ `vZvi wbKU n‡Z i³ MönY AZ¨všZ SwKcb| †mB Rb¨ cwiwPZ eÜevÜe I AvZxq¯Rb n‡Z i³ Mnb wbivc`| ☐ miVK ☐ miVK bq ☐ Rwb bv

6| i³ Mn‡bi †¶‡Î eZgvb miKvi AvBb K‡i i³ `vZvi 05wU †ivM Av‡Q wKbv Zv cix¶v eva¨ZvgjK K‡i‡Q| ☐ Rwb ☐ Rwb bv

7| 5wU i³ ewnZ †ivM Gi g‡a¨ KqwUi bvg Rv‡bb -

☐ Rwb bv ☐ HIV ☐ HCV ☐ HbSAg ☐ Syphilis ☐ Malaria

8| Avcwb wK †Kvb mgq i³ `vb K‡i‡Qb ? ☐ n¨v ☐ bv Ôn¨vÕ n‡j Kevi ? .....

9| miKvix wbivc` i³ mieivn Gi wel‡q †cvóvi, wjd‡jU, wej‡ewW c¯Z K‡i‡Qb Rbmvavi‡Yi Rb¨| (K) G¸wji g‡a¨ Avcwb †KvbUv †`‡L‡Qb wKbv? ☐ N¨v ☐ bv ☐ Rwb bv

(L) Ôn¨vÕ n‡j †KvbUv .....

(M) wK Z_¨ †`lqv Av‡Q .....

(N) Z_¨ †evaMg¨ wKbv ☐ n¨v ☐ bv

10| GLb Avcbv‡K Awg K‡qKUv †cvóvi †`Lve Avcbvi gZvg‡Zi Rb¨| (K) ‡cvóvi-Gi c`Ë Z_¨ †evaMg¨ wKbv ☐ n¨v ☐ bv

(L) †cvóvi-Gi c`Ë Qwe mvgÄm¨cb wKbv ☐ n¨v ☐ bv

11| Rbm‡PZbZv ew×K‡í Avi wK ai‡Yi †cvóvi, wej‡ewW, wjd‡jU ev Ab¨ wKQ Kiv DwPr? *.(Avcbvi gZvgZ).....* .....

QUESTIONNAIRE FOR REVIEWING CAPACITY DEVELOPMENT

1. What are the number of training you enjoyed in relation to blood safety in the last 3 (three) years?

2. Can you remember the name and topics of those training?

Sl. No.	Name of the training	Topics
1.		
2.		
3.		
4.		
5.		
6.		

3. Usefulness of the training -
(a) Very useful (b) Useful (c) Not useful.

4. Duration of each training was adequate or not.

Sl. No.	Name of the training	Duration of training	Adequate or not		If not then recommendation
			Yes	No	
1.					
2.					
3.					
4.					
5.					
6.					

6. Training venue- (a) Good (b) Fair (c) Poor
If poor then reason.
…….....

7. Used training material - ☐ Satisfactory ☐ Not satisfactory

8. Used Training methodology - ☐ Satisfactory ☐ Not satisfactory

9. What are the skills you learned from the training and practicing now ?

   a)

   b)

   c)

   d)

10. What are the significant performance changes takes place in the service delivery (quality and quantity) after receiving training

Sl. No.	Performance area	Quality	Quantity	Both
1.				
2.				
3.				
4.				
5.				
6.				

5. What are the areas of training still remain uncovered for better management of blood bank.

   a)

   b)

   c)

   d)

6. Do you fill confident to perform better job or you need refreshers training

☐ Yes ☐ No.

Name, Designation and Signature of the interviewer

(Report supplied by SBT program office)

Annexure-02

SUMMARY SHEET BLOOD SCREENING REPORT

(2001-2006)

Year	Donor Categories			Total	Particulars of Positive				
	Voluntary	Professional	Relative		HIV +ve	HBV +ve	HCV +ve	RPR +ve	MP +ve
2001	22378	18877	58398	99653	2	1381	82	290	7
2002	46527	31796	92625	170948	4	2433	246	65	53
2003	54501	27971	98543	181015	1	1028	174	205	16
2004	29665	19800	72528	121993					
2005	48403	29242	125530	203175	8	1689	201	305	6
2006	62116	24651	166308	253075	20	1935	263	224	1
Total =	**263590**	**152337**	**613932**	**1029859**	**35**	**8466**	**966**	**1089**	**83**

Screening Report- 2006

Types of Donor's	Total Screening	(%)	HIV +ve		HBV +ve		HCV +ve		RPR +ve		MP +ve	
			No	(%)	No	(%)	No	(%)	No	(%)	No	(%)
Paid	24651	9.7406	1	0.00406	155	0.6288	70	0.2840	52	0.2109	0	0.0000
Voluntary	62116	24.5445	4	0.00644	552	0.8887	26	0.0419	41	0.0660	1	0.0016
Relatives	166308	65.7149	15	0.0090	1228	.7384	167	0.1004	131	0.0788	0	0.0000
Total Data	**253075**	**100**	**20**	**0.0195**	**1935**	**2.2558**	**263**	**0.4262**	**224**	**0.3557**	**1**	**0.0016**

HIV Reactive Samples by Rapid Method:

Name of Centres	Paid	Voluntary	Relatives	Total
Dhaka Medical College Hospital, Dhaka	0	1	4	**5**
MAG Osmani Medical College Hospital, Sylhet	0	0	1	**1**
Rangpur Medical College Hospital, Rangpur	0	1	0	**1**
Khulna Medical College Hospital , Khulna	0	0	4	**4**
NITOR, Dhaka	1	0	3	**4**
BMCH, Barisal	0	0	2	**2**
Sadar Hospital, Cox's Bazar	0	0	1	**1**
Dinajpur Medical College Hospital , Dinajpur	0	2	0	**2**
Total HIV Positive	**1**	**4**	**15**	**20**

** Of All the reffered samples only 1 sample from Dinajpur was Reactive reaction by both Rapid & Elisa method.

SCREENING REPORT- 2005

Types of Donor's	Total Screening	(%)	HIV +ve		HBV +ve		HCV +ve		RPR +ve		MP +ve	
			No	(%)	No	(%)	No	(%)	No	(%)	No	(%)
Paid	29242	14.3642	1	0.00342	222	0.7592	47	0.1607	74	0.2531	0	0.0000
Voluntary	48803	23.9730	2	0.0041	484	0.9917	48	0.0984	45	0.0922	1	0.0020
Relatives	125530	61.6628	5	0.0040	983	0.7831	106	0.0844	186	0.1482	5	0.0040
Total Data	**203575**	**100**	**8**	**0.0115**	**1689**	**2.5340**	**201**	**0.3435**	**305**	**0.4934**	**6**	**0.0060**

HIV Reactive Samples by Rapid Method:

Name of Centres	Paid	Voluntary	Relatives	Total
Sadar Hospital, Narail	1	0	0	**1**
MDS Banderbon (Field Hospital), Banderbon	0	1	0	**1**
Chittagong Port Authority Hospital, Chittagong	0	1	0	**1**
Khulna Medical College Hospital , Khulna	0	0	2	**2**
Dhaka Medical College Hosptial, Dhaka	0	0	1	**1**
Dinajpur Medical College Hospital , Dinajpur	0	0	1	**1**
General Hospital, Sirajgonj	0	0	1	**1**
Total HIV Positive	**1**	**2**	**5**	**8**

SCREENING REPORT- 2004

Types of Donor's	Total Screening	(%)	HIV +ve		HBV +ve		HCV +ve		RPR +ve		MP +ve	
			No	(%)	No	(%)	No	(%)	No	(%)	No	(%)
Paid	19800	16.2304	0	0	0	-	0	0.0000	0	0.0000	0	0.0000
Voluntary	29665	24.3170	0	0	0	-	0	0.0000	0	0.0000	0	0.0000
Relatives	72528	59.4526	0	0.0000	0	-	0	0.0000	0	0.0000	0	0.0000
Total Data	**121993**	**100**	**0**	**0.0000**	**0**	**0.0000**	**0**	**0.0000**	**0**	**0.0000**	**0**	**0.0000**

Screening Report- 2003

Types of Donor's	Total Screening	(%)	HIV +ve		HBV +ve		HCV +ve		RPR +ve		MP +ve	
			No	(%)	No	(%)	No	(%)	No	(%)	No	(%)
Paid	27971	15.4523	0	0	0	-	0	0.0000	0	0.0000	0	0.0000
Voluntary	54501	30.1086	0	0	0	-	0	0.0000	0	0.0000	0	0.0000
Relatives	98543	54.4391	0	0.0000	0	-	0	0.0000	0	0.0000	0	0.0000
Total Data	**181015**	**100**	**0**	**0.0000**	**0**	**0.0000**	**0**	**0.0000**	**0**	**0.0000**	**0**	**0.0000**

Screening Report- 2002

Types of Donor's	Total Screening	(%)	HIV +ve		HBV +ve		HCV +ve		RPR +ve		MP +ve	
			No	(%)	No	(%)	No	(%)	No	(%)	No	(%)
Paid	31796	18.5998	1	0.00315	421	1.3241	66	0.2076	156	0.4906	5	0.0157
Voluntary	46527	27.2170	0	0	741	1.5926	48	0.1032	207	0.4449	31	0.0666
Relatives	92625	54.1831	3	0.0032	1271	1.3722	132	0.1425	292	0.3152	16	0.0173
Total Data	**170948**	**100**	**4**	**0.0064**	**2433**	**4.2889**	**246**	**0.4532**	**655**	**1.2508**	**52**	**0.0996**

HIV Reactive Samples by Rapid Method:

Name of Centres	Paid	Voluntary	Relatives	Total
NITOR, Sher-E-Bangla Nagar, Dhaka	1	0	1	**2**
Khulan Medical College Hospital, Khulan	0	0	2	**2**
Total HIV Positive	**1**	**0**	**3**	**4**

Screening Report- 2001

Types of Donor's	Total Screening	(%)	HIV +ve		HBV +ve		HCV +ve		RPR +ve		MP +ve	
			No	(%)	No	(%)	No	(%)	No	(%)	No	(%)
Paid	18877	18.9427	0	0	427	2.2620	0	0.0000	114	0.6039	4	0.0212
Voluntary	22378	22.4559	0	0	263	1.1753	5	0.0223	43	0.1922	0	0.0000
Relatives	58398	58.6013	2	0.0034	691	1.1833	77	0.1319	133	0.2277	3	0.0051
Total Data	**99653**	**100**	**2**	**0.0034**	**1381**	**4.6205**	**82**	**0.1542**	**290**	**1.0238**	**7**	**0.0263**

HIV Reactive Samples by Rapid Method:

Name of Centres	Paid	Voluntary	Relatives	Total
				0
				0
				0
				0
				0
Total HIV Positive	**0**	**0**	**0**	**0**

Annexure -03

List of data collectors

1) Dr. Mirza Galib, Assistant director, Hospital Section, DGHS.
2) Dr. S.A.J.Md.Musa, DPM (Training – Hospital), DGHS.
3) Dr. S.M. Idris Ali, DPM (Logistic), DGHS
4) Dr. Md. Aminul Hassan, (MO – MBPC), DGHS.

(Reference laboratory is using this check list for BTC monitoring)

Annexure-04

Check list of Blood Transfusion Center Monitoring

Name of the Centre - Blood Transfusion Centre,

Code no - Date of visit –

A. Manpower and Infrastructure	
1. Name of the in-charge of the dept.? 2. Total no. of beds in the hospital? 3. How many sections in blood transfusion centre?	
4. Total number of staff and their position? a. Experts b. Medical officer c. MT d. Number of Vacant post	
5. No of trained / untrained staff (SBTP)? a. Medical officer b. MT	
6. Is there any Blood Transfusion Committee in the hospital. a. Who are the members? b. Do they organize regular meeting (Last date of meeting)? c. What are the important decisions taken as per agreed action plan at local level?	
8. Type of renovation work immediately needed? (for districts only) a. Laboratory b. Donor room	

B. Functional Status of Equipments	
List of Equipments-	
1. No of Blood transfusion centre Refrigerator a. Working condition b. Out of order	
2. Refrigerated centrifuged machine a. Working b. Out of order:	
3. Condition of Elisa Machine a. Working b. Out of order c. Others equipment (specify)	
C. Blood Group Serology 1. Do the centre have SOP for grouping, cross matching, ICT and DCT?	
2. Service providing from this centre a. Routine ABO/RH blood grouping and cross matching b. Component preparation: c. Antibody detection/titration: d. DCT/ICT e. Others (specify):	
3. Methods used for blood group serology/testing? a. ABO/RH grouping: • Serum grouping • Cell grouping	

b. Cross matching done by • Saline agglutination method • 370 C incubation method • Indirect combs test	
4. Any quality control system for blood grouping, cross matching, ICT & DCT? a. ABO cell suspension prepared daily/ or not b. Reagents control checked daily/ or not c. Major and minor cross matching done / not d. Any Record keeping system available for grouping, cross matching, ICT & DCT?	
D. Donor Section	
1. Donor selection criteria: are followed or not a. Form (supplied from SBTP) used or not b. Who assess the donor?	
2. SOP is available or not?	
3. What are the facilities for Donor available? a. Donor entertainment b. Refreshment system for donors maintained or not? c. Donor care/counseling maintained or not? 4. Total no of donors per month and type of donors? a. Number: b. Voluntary: c. Paid donor: d. Replacement: e. Relative:	
5. Donor card issued or not?	

6. Who does bleed the donor?	
E. <u>Screening section:</u>	
1. Donor sample is tested for: a. HIV b. HCV c. HBV d. MP e. syphilis	
SOP is available or not?	
2. Screening test a. Done by b. Supervised by	
3. Screening test modality a. Pre-donation screening, if yes why? b. Post donation screening	
4. What is the method of screening test? a. Rapid Testing: b. ELISA method:	
5. How quality control is maintained? c. Storing of kits/reagent d. SOP followed e. Double checking provision f. QC with other Lab.:	
6. Who monitor the temperature of the refrigerators?	
7. How monitored?	

8. Do the lab personnel follow the universal safety precaution?	
9. Blood Component practiced or not?	
10. What are the types of component supplied from the centres?	
11. Is there any demand for blood component? How the demands are ascertained?	
12. Is there` any request from clinicians for blood component?	

Waste management system	
20. Waste management system of this centre a. Infected bag b. Reactive samples c. Syringe/needle: d. Others (specify):	
21. Autoclave available or not?	
Documents maintained: a. Donor/Patient's register b. Screening register c. Cross-matching register d. Blood supply register e. Blood stock register	

SAFE BLOOD TRANSFUSION PROGRAMME

Questionnaire/checklist for centre visit

Date of visit :

Information collected by : Assisted by:
Salient feature of the centre: Signature :

(Document supplied by the SBT Program Office)

Annexure-05

Wok Plan September 2004 to 30th June 2005

	Activities	Time Frame											
		July	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**March**	**April**	**May**	**June**
1	**Strengthening of Blood Transfusion Centres (L1 and L2)**												
1.1	Procurement and installation of equipment to 6 state of art centres (L1) and 13 peripheral centres (L2). Provide furniture (lab table, book shelves, donor bed /couches, file cabinet etc).	X	X	X									
1.2	Refurbishment of the centres making comfortable environment for blood donors (electrical works for equipment installation/Generator supply, Partitions, related plumbing works or fittings etc). Creation of standard reception counter and erection of display board for display of different statistics of the centres including the IEC materials	X	X	X									
1.3	Procurement of Medical Books and journal, modules, CD- ROM, sundries etc) and supply of consumables and reagent (Double and triple blood bags .level disposal bins. ABO & Rh , AHG and Lectin etc).	X	X										
2	**Study Tour**												
2.1	A 2-weeks Study Tour for 6 Medical Doctors (Professor /Associated professor /Assistant professor or equivalent)-19 person (L1& L2) along with Medical technologists -06 person from L1 centre to visit preferably India/Thailand. (Two Batches	X	X										

	Activities	Time Frame											
		July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
	)												
2.2	One week orientation Programme in Modern Transfusion Medicine for policy makers , Line Director , Programme Manger of SBTP and related personnel involved in programme implementation (from SBTP, DGHS & MOHFW)-8 person . Preferably in India /Thailand	X	X										
3	**Training (In Country)**												
3.1	An orientation programme/preparatory workshop for the experts of the 19 centres for review and making action plan for upgrading the centres. 2days			X									
3.2	Training for Medical Officers 3weeks (Hands on) - Participant -38 (Two Batches)			X									
3.3	Training for Medical Technologist Lab 4weeks (hands on) -Participant -38 (Two Batches)			X									
3.4	Review the quality control Assurance and updating, Review the SOPs and updating. Development of Voluntary Counselling and testing Protocol & Training.	X	X										
4	**Enhancement of recruitment of Non remunerated Voluntary Blood donor**												

	Activities	Time Frame											
		July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
4.1	Support in promotion of voluntary blood donors recruitment in L1 and L2 centres on priority , enlistment/Data base for regular donation through GO-NGO Collaboration .(Free Blood grouping , donor card distribution, blood collection programme, logistics for out door campaign). 3-5 such blood collection programme in each month to make sufficient stock of blood in each L1 and L2 centres.(adjusted as per stock)			X	X	X	X	X	X	X	X	X	X
4.2	Organization of motivational programme for target group like youth , people at work place , General population , religious and community leader.3-4 such programme to be organized for each L1 and L2 centres (costing for out door campaign ,seminar , logistic support for donor enlistment and others)-24 Programmes (75 participants /programme /day)		X		X	X		X		X		X	
4.3	Sub contracting the Communicating agencies/advertising firm for development of IEC materials like poster, Laminated display, TV & Radio spot/slide on blood donation and safety.		X	X									
4.4	Sub contracting mass media for dissemination of TV and Radio spot.				X	X	X	X	X	X	X	X	X
5	**Support in the practice of Rational Use of Blood in Clinical Setting**												
5.1	Workshop for Clinician and others on Rational use of blood . 2 days workshop to			X	X	X	X	X					

	Activities	Time Frame											
		July	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**March**	**April**	**May**	**June**
	be organized in each 6 L1 centres. -24 Programmes (4 programmes /centre-25participants/programme)												
6	**Provision of Testing kits**												
6.1	Procurement of kits for L1, L2 & L3 Blood transfusion Centres (Rapid and ELISA testing for HIV, hepatitis B, Hepatitis C and RPR for Syphilis).	X											
6.2	Transportation/Carrying of kits to L1, L2 & L3 centres on quarterly basis			X		**X**			**X**				
7	**Monitoring & Evaluation**												
7.1	Monthly monitoring the activities in the 19 centres as proposed, making progress report, Reporting to National Blood Transfusion Council and the allied bodies. Coordination meeting with Stakeholders at local and central level .(Local Monitoring Body)			X	X	X	X	X	X	X	X	X	X
8	**Strengthening the Reference Laboratory**												
8.1	Provision of additional equipment and support to conduct Intra-country quality programme within the centres in country, monitoring the peripheral centres. Procurement of Medical Books, Journal and other CD ROM. Support in conducting training /workshop.	X	X		X		X		X		X		X
9	**Operation and Maintenance**												

	Activities	Time Frame											
		July	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**March**	**April**	**May**	**June**
9.1	Recruitment of National Programme coordinator , National TAs, International TA .Provision for Office stationary, running costs, utilities, security, transport cost/fuel , maintenance cost for equipment ,Consultant/expert remuneration , Office support staff and others .	X	X	X	X	X	X	X	X	X	X	X	X

Revised Work Plan July, 2005-June 2006

Serial #	Projected activities: Safe Blood Transfusion Component	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
3.1	**Strengthening of Blood Transfusion centres (L1 and L2)**												
3.1.1	Procurement and installation of equipment to 6 states of art centres (L1) and 13 peripheral centres (L2). Provide furniture (lab table, book shelves, donor bed /couches, file cabinet etc).			x	x								
3.1.2	Refurbishment of the centres making comfortable environment for blood donors (electrical works for equipment installation/Generator supply, Partitions, related plumbing works or fittings etc). Creation of standard reception counter and erection of display board for display of different statistics of the centres including the IEC materials					x	x	x	x				
3.1.3	Procurement of Medical Books and journal, modules, CD- ROM, sundries etc) and supply of consumables and reagent (Double and triple blood bags .level disposal bins. ABO & Rh, AHG and Lection etc).	x	x			x							
3.2	**Study Tour**												
3.2.1	A 2-weeks Study Tour for 6 Medical Doctors (Professor /Associated professor /Assistant professor or equivalent)-19 person (L1& L2) along with Medical technologists -06 person from L1 centre to visit preferably India/Thailand. (Two Batches)	x	x	x									
3.2.2	One week orientation Programme in Modern Transfusion Medicine for policy makers , Line Director , Programme Manger of SBTP and related personnel involved in programme implementation (from SBTP, DGHS & MOHFW)-8 person. Preferably in India /Thailand	x	x	x									
3.3	**Training (In Country)**												
3.3.1	An orientation programme/preparatory workshop for the experts of the 19 centres for review and making action plan for upgrading the centres. 2days		x										
3.3.2	Training for Medical Officers 3weeks (Hands on) - Participant -38 (Two Batches)			x	x								
3.3.3	Training for Medical Technologist Lab 4weeks (hands on) -Participant -38 (Two Batches)												
3.3.4	Review the quality control Assurance and updating, Review the SOPs and updating. Development of Voluntary Counseling and Training.				x								

Revised Work Plan July, 2005-June 2006

Serial #	Projected activities: Safe Blood Transfusion Component	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
3.4	**Enhancement of recruitment of Non remunerated Voluntary Blood donor**												
3.4.1	Support in promotion of voluntary blood donors recruitment in L1 and L2 centres on priority , enlistment/Data base for regular donation through GO-NGO Collaboration .(Free Blood grouping , donor card distribution, blood collection programme, logistics for out door campaign). 3-5 such blood collection programme in each month to make sufficient stock of blood in each L1 and L2 centres.(adjusted as per stock)	x	x				x	x	x	x	x	x	x
3.4.2	Organization of motivational programme for target group like youth , people at work place , General population , religious and community leader.3-4 such programme to be organized for each L1 and L2 centres (costing for out door campaign ,seminar , logistic support for donor enlistment and others)-24 Programmers (75 participants /programme /day)					x	x	x	x	x	x		
3.4.3	Sub contracting the Communicating agencies/advertising firm for development of IEC materials like poster, Laminated display, TV & Radio spot/slide on blood donation and safety.						x	x					
3.4.4	Sub contracting mass media for dissemination of TV and Radio spot.								x	x	x	x	x
3.5	**Support in the practice of Rational Use of Blood in Clinical Setting**												
3.5.1	Workshop for Clinician and interns on Rational use of blood . 2 days workshop to be organized in each 6 L1 centres. -50 Programmers (4 programmers /centre-25participants/programme)	x				x	x	x	x	x	x	x	x
3.6	**Provision of Testing kits**												
3.6.1	Procurement of kits for 98 centres (L1, L2&L3) Blood transfusion centres (Rapid and ELISA testing for HIV, hepatitis B, Hepatitis C, RPR for Syphilis and Malaria).			x									
3.6.2	Transportation/Carrying of kits to 98 centres (L1 ,L2& L3)quarterly basis	x						x	x				
3.7	**Monitoring & Evaluation**												

Revised Work Plan July, 2005-June 2006

Serial #	Projected activities: Safe Blood Transfusion Component	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
3.7.1	Monthly monitoring the activities in the 19 centres as proposed, making progress report, Reporting to National Blood Transfusion Council and the allied bodies. Coordination meeting with Stakeholders at local and central level .(Local Monitoring Body)			x	x	x	x	x	x	x	x	x	x
3.8	**Strengthening the Reference Laboratory**												
3.8.1	Provision of additional equipment and support to conduct Intra-country quality programme within the centres in country (refrigerator VAN, Mobile blood collection VAN and others consumables), monitoring the peripheral centres (vehicle) Procurement of Medical Books, Journal and other CD ROM. Support in conducting training /workshop.			x	x								
3.8	**Operation and Maintenance**												
3.8.1	Recruitment of National Programme coordinator , National TAs, International TA .Provision for Office stationary, running costs, utilities, security, transport cost/fuel , maintenance cost for equipment ,Consultant/expert remuneration , Office support staff and others. WHO service charge (13%) etc.	x	x	x	x	x	x	x	x	x	x	x	x
3.9	**Component - 3 Blood Safety (New)**												
3.9.1	National workshops development national blood standards (voluntary blood donation, rational use of blood, blood transfusion management etc)				x	x	x						
3.9.2	Training of inspectors for implementation of blood standards both overseas and in country						x	x					
3.9.3	APW for situation analysis of private blood banks (inventory, strength, weaknesses, impact of legislation and opportunities to strengthen them) 6 Division x 10000.Strengthening : 85000								x	x	x		
3.9.4	Strengthening of data collection and analysis capacity at central and L1 & L2 blood transfusion centres (training)								x	x			
3.9.5	Training courses on modern techniques with emphasis on internal quality controls and waste disposal and overseas training for establishment of EQAS including hemo vigilance for post-transfusion infection tracking					x	x	x	x	x	x	x	x
3.9.6	Training to blood transfusion officials in production of components in country										x	x	x
3.9.7	Advocacy workshop with senior administrators and national workshop for development of standards of				x	x	x						

Revised Work Plan July, 2005-June 2006

Serial #	Projected activities: Safe Blood Transfusion Component	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
	component												
3.9.8	Development of SOP and approval from Drugs Controller					x	x						
3.9.9	National workshop on development and adoption of national standards on quality					x	x	x					
3.9.10	Orientation of top management in institutes with centres of excellence on commitment towards quality					x	x	x					
3.9.11	Training of blood transfusion technical staff on implementation of quality standards										x	x	
3.9.12	Training of selected officials as auditors for assessing quality											x	
3.9.13	Visit to National Blood centres (NBC) , Bangkok, - WHO collaborating centre and visit of international technical support to SBTP Bangladesh for policy/national standard development	x			x	x	x	x	x	x	x	x	x
3.9.14	Mid term review by a team of five experts x 10 days/monitoring							x	x				
3.9.15	Provision of Logistician			x	x	x	x	x	x	x	x	x	x
3.9.16	Kits and reagents and blood bags (single ,double & triples) for 2005-2006							x					
3.9.17	Equipment (including for waste disposal) and maintenance of equipment bought during 2004-2005			x									
3.9.18	Maintaining donor database, hoisting web site, hardware, soft ware installation and sustaining communication channels with them at all blood transfusion centres including L1, L2 and other key institutes				x	x	x	x	x	x	x	x	x
3.9.19	Establishment of facilities for organizing EQAS for infectious markers and blood serology				x	x	x	x	x	x			
3.9.20	Development of material for inclusion in school curriculum and printing required copies								x	x			

Revised Work Plan July 2006 to 31 December 2007			
Sl	**Services**	**Time frame**	**USD**
1	**Refurbishment of centres, installation of equipment and repair**		
1.1	Refurbishment of 20 centres for blood component lab, Laboratory, donor complex, washing area and office (Necessary plumbing, partition, electrical, water supply, display board, hygiene improvement related works) including Reference Laboratory.	July 06 to Dec 06	
1.2	Support installation of equipment (pre-requisites, electrical connections, spares, Voltage stabilizer, pH meter etc for proper and safe installation) and annual maintenance cost for all equipment procured.	July 06 to Dec 06	
1.3	Repair of Elisa machines for 19 centres and Reference Lab and other required equipment.	Aug 06 to Dec 06	
2	**Strengthening of Reference Laboratory**		
2.1	Overseas training on quality assurance and EQAS including Hemo vigilance (2 weeks training) for Experts of Reference Laboratory by technical support from WHO CC (National Blood Centre, Thai Red Cross Society, Bangkok) for **6 experts**	Aug 06 to Sep 06	
2.2	Provision of international TAs from National Blood Centre, Bangkok for technical assistance in implementation of activities focused on quality management, Blood serology, TTI, blood component preparation, Donor care and counseling of reference laboratory and other centres including training on auditing procedure -1 expert/field /2weeks -3 such visit	April 07 to Dec 07	
3	**Training**		
3.1	1 days Training for interns in private and public sector on Rational use of blood and Safe transfusion practice. **1500 interns.**	Aug 06 to Dec 06	
3.2	Training on blood component, standardization and Quality control - Medical Technologists. 1 training course .**12persons, 5days**	Jan 07 to Feb 07	
4	**IEC Materials Development and Dissemination**		

4.1	Development of flipchart for blood donor motivation. - 200 copies, Development of educational & counseling materials for potential donors and awareness programme. (leaflet-5 lac and other materials)	Nov 06 to Jan 07	
4.2	On air transmission of TV and Radio Spot (contracting the media channel)	Jul 06 to Aug 06	
5	**Quality Assurance**		
5.1	Support in conduction of periodic internal and external quality control testing -3 such programmes (consumable, logistics and others chemical reagent required for , visits , sample collection and exchange)	Dec 2006 to Nov 2007	
5.2	Refreshers training on Quality management, Safe donation, testing and practices, quality standard and including Standard Precaution, waste management - 98 centres. Medical officers and Medical Technologists. 2days training	Jan 07 to Mar 07	
5.3	Development and distribution of national standard (Working group formation, consensus workshop)	Jul 06 to Dec 06	
5.4	Development and distribution of SOPs, reporting system and recording format (Working group formation)	Jul 06 to Dec 06	
5.5	Training on Auditing procedure 2 **days training. 20 persons.**	May 07 to June 07	
5.6	Introduction of EQAS in Blood group serology and TTI for Reference Laboratory (consumable, logistics and others chemical reagent required for , visits , sample collection and exchange) Ref. Lab/ NBC	Aug 07 to Dec 07	
5.7	Monitoring of blood centres(experts and medical technologists of reference laboratory and programme personnel)	Jul 06 to Dec 07	
6	**Operational Cost**		
6.1	Carrying of kits, Equipment, Distribution of IEC material and other materials and operational cost for the programme	Jul 06 to Dec 07	
6.2	Support for programme sundries and other operational costs (internet and other networking facilities and repair of equipment for the programme and reference lab.	Jul 06 to Dec 07	

7	**Technical assistance and ancillary support**		
7.1	Provision of technical assistance and ancillary support: National Programme Coordinator, National Consultant (Blood Transfusion Quality assurance), and International TA (Short term) Admin. & Finance Assistant x 1 , Office Assistant cum Computer Operator x 1 Electro Medical Tech x 1 , 2x Driver , logistic assistance x1	Jul 06 to Dec 07	
7.2	Provision of 4 security guard, 2 cleaner, 2 MLSS for programme office and reference lab	Jul 06 to Dec 07	
7.3	Procurement of kits for 98 Blood transfusion centre	Jul 06 to Dec 07	
7.4	Procurement of single blood bags (No: 50,000)	Jul 06 to Dec 07	
	Sub Total		
	WHO Programme management cost (13%)		
	Total		