BEQAS
Blood Bank External Quality Assessment Scheme

Quality is never an accident, it is always the result of intelligent effort

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(Recognized by NABH – Quality Council of India)

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**Introduction**

External Quality Assurance aims at ensuring that the data provided are relevant and reliable, thus improving trust and performance of Blood Banking and Immuno-hematology services offered by Blood Banks.

Quality Assurance involves all measures that can be taken to improve Blood bank’s efficiency and effectiveness with a view to the maximum benefit to the individuals and the community.

Besides implementation of good laboratory practices, Internal and External Quality Assurance are integral parts of Quality Management.

BEQAS is designed by a group of Pathologists, Immuno-hematologists and doctors involved or concerned with blood banking.

The spirit of the BEQAS is participation and continual improvement.
Aims and Objectives

The aims and objectives of the BEQAS program:

**Aim:**

Provide competent external proficiency testing to improve the existing standards of diagnostics services in Transfusion Medicine including transfusion transmissible infections including NAT and quality of final blood products.

**Objectives:**

- To increase awareness regarding issues of quality control and proficiency testing in the field of Transfusion medicine.
- To produce quality control material for Transfusion medicine testing following recommended procedures.
- To arrange for suitable packaging and forwarding services so as to cater to all Blood Banks wishing to participate in the program.
- To analyze the results received and provide reports in a confidential manner to the participating Blood Bank.
- To make available suitable intervention if so requested by the participant Blood Bank – these will be at the discretion of the organizer.
Scope of the Program

- The program is intended to give the participating Blood bank an objective impression of their accuracy and precision with reference to the other Blood Banks in the program.
- All participants will have to register on the Registration Form provided in the Appendix.
- The details of procedures used, reagents and methods will be confidential.
- Analysis will be dependent on this data. It is mandatory to fill in the details requested.
- If there is any change of any component of the testing procedure it should be intimated in the space provided in the result entry sheets.
- On registration, a four digit Participant Code Number (Code #) will be assigned. eg. Code # 0001
- In all future correspondence, the Code Number should be quoted.
- The program will be strictly confidential regarding analysis of results and these will only be communicated to the address of the person provided at registration.
- The program is not punitive.
- The organizers only on specific written request of the participant may extend technical and practical assistance.
- Participation in the BEQAS does not automatically validate routine performance of the Blood Bank. This program does not replace internal quality control practices.
Organization

This programme is a Proficiency Testing Programme designed to evaluate the overall performance and is open to all establishments engaged in blood banking/testing.

The Proficiency programme is organized by a committee, which shall perform all its necessary. The organization shall consist of two Committees

- **Advisory Committee**
- **Coordination Committee**

Advisory committee may confer title of **Patron** to a person with exemplary contribution in the field of quality assurance.

Advisory Committee:

The Advisory Committee consists of twelve members as below:

(a) Patron-Mr. Girdhar J. Gyani- Secretary General, QCI, India
(b) Chair Person- Dr. Rakesh Sharma- NDPL, New Delhi
(c) Secretary and organizer - Dr. G.N.Gupta- SDM Hospital, Jaipur
(d) Co-Organizer – Dr. Sukesh Nair – CMC, Vellore
(e) Chief Coordinator - Dr. N.Choudhary- Director G.S.A.C., Ahmedabad
(f) Coordinator - Dr. B.K.Rana-QCI, New Delhi
(g) Treasurer - Ms Shailja Ahuja- Quality Manager, SDM Hospital, Jaipur

**Regional Coordinator**

(h) South - Dr. Lata Jaganthan
(i) North - Dr. Anil Gupta
(j) East - Dr. T.K.Ghosh
(k) West - Dr. M.D.Gajjar

**Members**

(l) One Nominee of Chair Person- Dr. Dinesh Negi- AIIMS-New Delhi
(m) One nominee of Organizer- Dr. K.K.Mishra- Swasthya Kalyan Blood Bank, Jaipur
(n) One nominee of Co-Organizer- Dr. Dolly Daniel- CMC, Vellore
(o) One nominee of Chief Coordinator- Dr. Anand Despande- JaslokHospital, Mumbai
(p) One nominee of QCI- Dr. B.K.Rana-QCI, New Delhi
(q) One Nominated Member from participants.-Dr. Amarjeet Kaur-Green Cross Voluntary Blood Bank
(r) Mr. Pankaj Agarwal- Technical Manager ,SDM Hospital, Jaipur
The term of Advisory Committee shall be two years.

The current list of the Advisory Committee is available with the Secretary.

Advisory Committee shall have at least One BEQAS review meeting every year.

Chairman or Organizer can call additional Meetings at a notice of 7 days.
BEQAS an External Quality Assurance

BEQAS is an external quality assurance programme to:

(a) Determine the performance of Individual Blood banks for specific tests or measurement (as per list available with the Organizer BEQAS) and to monitor Blood Banks continual performance and improvement.
(b) To provide additional confidence to Blood Bank clients.

Participants of this programme are usually Blood Banks

The tests of the scheme (e.g. Sampling, sample processing, and Homogeneity testing, etc) would be under the direct supervision of Organizer.

Office bearers ie Chairman, Organizer, Chief Coordinator and Co-organizer shall approve the list of tests. Organizer will have power to add or delete tests after consulting with Office bearers. Initially the list shall include:

(a) A pooled serum for Infectious diseases (Five or more).
(b) A whole blood sample for Hematological estimation.
(c) Any other specimen considered to be appropriate for inclusion by Chairman or Organizer.

Organizer shall prepare homogenized samples. He will ensure that they are filled in pilfer proof vials, packed in a box at ambient temperature. They are transported to participants directly or through coordinators by courier.

The whole process is documented as work procedure.

The participants will communicate the time of receipt of the samples, in their blood bank, to the Organizer.

All samples will be accompanied by a format specifying the nature of sample, date of dispatch etc.

The participant will reject any doubtful sample and the Chief Coordinators will be informed.
The participants will perform the test within two working days after receipt of the samples and communicate the results on format to the Chief coordinator by courier or email.

The frequency of distribution of samples will be 3 cycles per year.

The information on the methods or procedures, which the participants may need to use to perform the tests, is given in format accompanying the sample.

Organizer or Chief Coordinator will perform the analysis of results received from participants as per internationally acceptable statistical methods (including Mean, Standard Deviation, Coefficient of Variance, and Standard Deviation Index etc.

A report will be sent to the participants giving information on the Mean, Standard Deviation, CV% and SDI of all participants. At a latter stage after Identification of peer group Blood Banks there results may also be communicated.

Organizer may add a comment on the performance if it is in the unacceptable range along with suggestions on improvement.
Preparation and Issue of Reports

- Reports can be received by courier, mail or email.
- Results must arrive at BEQAS office by 17.00 HRS on the final date
- Late results will not be accepted after the final date.
- The report format shall be completely filled and must have all the information regarding
  - Name of Organization, Address, phone. no and e-mail.
  - Cycle. No.
  - Sample identification
  - Identification no and name of participant
  - Methods or Procedures used by the participants to perform the specific tests.
  - Name of instrument
  - Name of Manufacturer and
  - Kit lot. no and it’s expiry date
- The participants can reject the samples, if they do not find it suitable for analysis and reason of rejection should be mentioned in the report format or informed telephonically.
- The technical manager performs the analysis of results received from the participants as per internationally acceptable statistically method. (including Mean, Standard Deviation, Coefficient of Variation and Accuracy Scoring). Detail evaluation procedures are mentioned in Standard Operative Procedure.
- A final report shall be sent to the participant giving all relevant information and evaluation with the score maintaining confidentiality.
- The following details are included in the final evaluation reports
  - Name and address of the organization.
  - Date of issue of report.
  - Report number and clear identification of the scheme.
  - Blood Bank participation codes and test results.
  - Procedures used to establish any assigned value.
  - Statistical data and summaries, including assigned value.
  - Score achieved
  - Comments on Blood Bank performance by the organizer.
- Results are dispatched by email or by courier if requested by participant.
- Results shall be made available preferably within 4 days.
Transport and Storage of Specimens for HIV Testing

Sample Transportation

These instructions are followed for specimen transportation. The shipment of infectious agents is regulated by the Transportation of Dangerous Good Act and the International Air Transport Association (IATA) dangerous good regulations. HIV infected specimens are classified as infectious class 6.2 substances under the United Nations (UN) no 2814. The packaging must adhere to UN class specifications. Packaging requires a 3 layer system as described below (see Fig. 1 for a diagrammatic representation):

- The specimen tube, in which serum is to be transported, should not have cracks/leakage. It should preferably be made of plastic and be screw capped. The outside of the container should be checked for any visible contamination with blood which should be disinfected.
- Place the tube containing the specimen in a leak-proof container (e.g. a sealed plastic bag with a zip lock or alternatively the bag may be stapled and taped) and pack this container inside a cardboard canister/box containing sufficient material (cotton gauze) to absorb all the blood should the tube break or leak.
- Cap the canister/box tightly.
- Fasten the request slip securely to the outside of the canister. This request slip should have all details i.e. name, age, sex, risk factors, history of previous testing, etc. and should accompany the specimen. The request slip should be placed in a plastic zip lock bag to prevent smudging on account of spillage.
- For mailing, this canister/box should be placed inside another box containing the mailing label and biohazard sign.

The diagram (fig 1) depicts the method of sample transport for a single/few (2-3) samples that could fit into the secondary container shown in the diagram. The size of the primary sample container will vary with the number of samples being transported. For a large number of samples, a tube rack (or some such container) may be used wherein the samples can be transported in the upright position and
at appropriate temperature. The packaging instructions for the transport of a larger number of samples are given below:

- The specimen should be carefully packaged to protect it from breakage and insulated from extreme temperature.
- Label appropriately and mention the test/s being requested for the sample. The collection site should make use of a unique identification number as sample identity. Names of the patients should be avoided to prevent confusion on account of duplication of names as well as to maintain confidentiality.
- Secure the vacutainer cap carefully and seal it further with sticking tape (placed so that it covers the lower part of the cap and some part of the tube stem.
- During packaging, the tubes containing specimens should be placed in a tube rack, and packed inside a cool box (plastic or thermocol) with cool / refrigerated/ frozen gel packs (as appropriate to keep the sample at the recommended temperature for the test) placed below and on the sides of the tube rack. Place some cotton or other packaging material between the tubes to ensure that they do not move or rattle while in transit. Cool box required for transportation could be a plastic bread box or a vaccine carrier. Seal/secure the lid of the cool box.
- This cool box should then be placed in a secure transport bag for purposes of shipping to the testing facility. The request slips should be placed in a plastic zip lock bag and fastened securely to the outside of the cool box with a rubber band and sticking tape.
- A biohazard label should be pasted on the visible outer surface of the package containing the samples. The package must be marked with arrows indicating the ‘up’ and ‘down’ side of the package.
- Samples should be transported to the receiving laboratory by commercial courier or be land delivered by a trained delivery person.
- The collection site must have prior knowledge of the designated testing days of the laboratory to which the samples are being sent.
- Not transport should be done during weekends and holidays or non-testing days of the testing laboratory unless prior arrangement has been made with the receiving laboratory.

Note: Use overnight carriers with an established record of consistent overnight delivery to ensure arrival of specimen within the specified time.
Figure 1 Packaging of specimen for transport to the laboratory

Safe Handling and disposal of sharps:
- Extreme care should be used to avoid auto-inoculation.
- All chipped or cracked glassware should be discarded in appropriate containers.
- Broken glass should be picked up with a brush and pan. Bare hands must never be used.
- The disposable needles should never be manipulated, bent, broken, recapped or removed from syringes.
- The used sharps should never be passed directly from one person to another
- One should always dispose of his/her own sharps.
- Used needles should be discarded in puncture-proof rigid containers (plastic or cardboard boxes) after disinfection in 0.5-1% freshly prepared sodium hypochlorite solution (common bleach) and never in other waste containers. If a needle shredder/destroyer is available, only the needles or the needles along with syringe nozzle may be shredded depending upon the type of the shredder.
- Sharp disposable containers should be located close to the point of use.
- Sharp disposal containers should be sent for disposal when three-fourth full.
- In case suitable means of disposal of syringe/ needles are not available, these disposable syringes should be heated in dry ovens and be allowed to mutilate to prevent recycling of plastic syringes. Needles can be incinerated.
Reference: Ministry of Health and Family Welfare, National AIDS Control Organization

Fees for Participation

Kindly see application form.