State Blood Transfusion Council (Maharashtra)
Ravindra Annexe, 5th Floor Dinshaw Vaccha Road,
194, Churchgate Reclamation, Mumbai-400 020
Tel-022-22830216, Fax - 022-22854981, E-Mail: sbtc@mahasbtc.com

SBTC/quotation for software/2020/026
Date: 09-01-2020

To,

Sub: Quotation for development of Software for Sir J.J. Mahanagar Raktapedhi, Byculla, Mumbai

Sir

Sir J.J. Mahanagar Raktapedhi, Byculla, Mumbai is one of the biggest blood bank in Mumbai catering the need of blood and blood components in Mumbai city. The entire procedure right from arranging camps, screening donors, collecting blood, testing samples, component preparation, adding to the stock, processing request of the patients for blood, cross matching, billing, issue of the product to the patients are being done manually. Lot of man hours of the technical manpower are lost in manual maintenance of the record. Therefore, it has been decided to develop a Software which will cover the following activities.

(1) Donor registration at blood bank and camp site
(2) Screening of the donor
(3) Collecting blood
(4) TTI Testing
(5) Component preparation
(6) Adding to the stock
(7) Discarding the blood and component
(8) Blood grouping and cross matching
(9) Billing
(10) Issue of the blood
(11) Issue of computerized receipt
(12) Preparation of the reports of the cash collection in Tally
(13) Preparation of the accounts in Tally
(14) Salary of the staff linking with the biometric machine
(15) Preparation of the other reports like, daily blood stock, daily collection, monthly blood collection, monthly cash collection, expenditure etc.
(16) After issue of the blood bag giving "Thank You" You Saved Life" message on mobile of the donor
(17) Donor master data
(18) Integration of barcode

STATE BLOOD TRANSFUSION COUNCIL MAHARASHTRA STATE

2. The above activities are only indicative and comprehensive software will have to be developed by the developer. The tentative scope of work and qualifying criteria for submission of quotations is indicated in Annexure- 'A'

3. Other terms and conditions:

1. The software developer will have to interact with users in the blood bank and develop the software as per their requirement.

3. The total period for development of the software will be 8 weeks from the date of award of the work order.

4. The period shall include development, testing, training to the staff and successful running of the software.

5. The developer will have to give one year warranty and support for the software. He will have to enter into agreement with the SBTC for warranty and support for one year on stamp paper of Rs. 100/-

6. The payment will be made after 30 days after successful completion of the software and certification by the Medical Director, Sir J.J. Mahanagar Raktapedhi, Byculla, Mumbai.

3. You are requested to the send your quotation duly sealed and superscribed as "Quotation for development of software for Sir J.J. Mahanagar Raktapedhi, Byculla, Mumbai" on or before 24.01.2020 upto 3.00 pm. The quotation should contain detailed cost and terms and conditions. The certificate of GST / PAN number should also be provided alongwith quotation. Quotations received after this date will not be accepted. This quotation has also been displayed on our website www.mahasbtc.com

दि. २४.०१.२०२०.

(Dr. A.S. Thorat)
Asst. Director,
State Blood Transfusion Council,
Mumbai

STATE BLOOD TRANSFUSION COUNCIL MAHARASHTRA STATE

Annexure-'A'

Specifications for blood bank software in Sir J.J. Mahanagar Raktapedhi,. Byculla

Qualification Criteria for agency:

(1) Should have developed software for minimum 25 blood banks out of which at least 3 should be from Govt. Sector.
(2) A certificate from the blood banks where software has been installed and in working condition would be required from the concern incharge of the blood bank

(A) General specifications

(1) A Web based software that fulfils all the requirements starting from registration of the donors to the transfusion of blood/components to the patients including all the investigations that are carried out in the blood bank.

(2) The software must be provided with security features against any virus, malware attack etc. The data will not be shared with any other organization/institution.

(3) At the time of demostration for technical evaluation, the required standard features must be available in sotware.

(4) Provision of biometric fingerprint/ iris scanning. AADHAR integration, capturing of donor photograph, donor registration through web/mobile self-registration, self-registration at kiosk, and option for other biometric methods must be provided.

(5) Data encryption for data security must be in-built in the software. The data shall be property of the SBTC and at no cost he allowed to be shared by any organization/institution in India or abroad.

(6) Must have ability for self configuration of flow changes in key departments.

(7) Must provide integration of all blood bank equipment with main software.

(8) Must have an automated alert management system integrated with SMS & email

(9) Must provide interfacing with various blood bank equipment with the software by instant/pool consumption of the data received throgh interfacing of equipment.

(10) Inventory managment with facility of verification of physical stock tallying with barcode scanning. Facility to send alert, system via email of SMS to officer in- charge in case of shortage of blood units with pre-defined stock limits for each element must be provided.

(11) Must be integrated with the different HIS and LIS systems.

(12) Store management module for accepting releasing bulk store supply to allow user consumption and must have an alert system via SMS, email if stock is low.

(13) Biomedical waste management module from generation of waste to the discard of reactive, expired blood product or any other hospital waste material according to guidelines that are issued from time to time.

STATE BLOOD TRANSFUSION COUNCIL MAHARASHTRA STATE

(14) Flash pop-up messages for various alert in the software to notify all reactive user for quick information.

(15) Provision of various reports of generated data in multiple formats(pdf/xls/html)

(16) The software must unambiguously provide system generated unique identification number series to the patient and unique registration number series to the donors.

(a) Software must follow a defined transfusion chain management path and must not allow by passing of any steps.

(b) Blood collection chain [Donor Registration > screening > Medical Examination >Blood collection(bag generation, Donation and Donor card printing) >(TTI Makers, component preparation and Blood Grouping) > Validation > Stock(only after successful competion of TTI (seronegative))

(c) Transfusion chain [Patient Blood Request{ patient Request > Patient grouping cross-Matching(in available stock only and matrix compatible >issuing > Return to stock if not Transfused)

(d) Bed Side Patient safety - Blood Ordering > Issue request > Blood component tracking > SMART realtime communication > Received component inspection > transfusion start – end details > Patient adverse reaction tracking > Adverse reaction workup

(e) Should have indepth configurable rule engine for every department based on the parameters of donors, test results, type of components, type of consumables used, patient type, process type, transfusion indication etc.,

(B) <u>Specification for various lab modules in Blood Banking Software</u>

(1) <u>Donor Registration</u>

(i) Registration facility for the donor should be available online and/or Registrationdesk and/or locally installed kiosks. if registration is made online or on kiosk, then donor questionnaire must be filled by the user with facility for taking printouts by oneself or else at the registration desk.

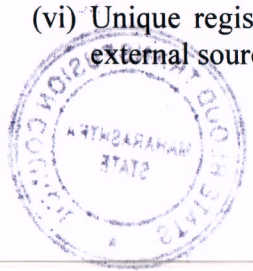
(ii) Unique Donor registration number that must remain same regardless of donor encounter

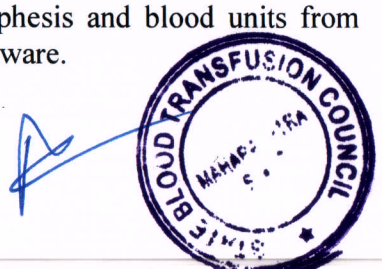
(iii) Registration of donor at blood bank registration desk capturing with their photograph and various biometric identification and through AADHAR.

(iv) If donor done his online/kiosk registration desk to create donor encounter for the donation. Immediate retrival of data regarding the previous visit of the donor must be available.

(v) Provision of donor self-registration by locally installed self-registration touchscreen kioks; online registration for in-house donation or for a particular scheduled camp or a simple voluntary donor registration must be provided. Unique registration number at registration desk along with a printable barcode must be generated.

(vi) Unique registration number for donor in outdoor camps, in-house, aphesis and blood units from external sources must be seperately and unambigously generated by software.





(vii) DONOR SELF REGISTRATION KIOSK.

(2) Donor Biometric Identification and registration module

(i) Provision for Biometric Donor Registration (IRIS / Finger)

(ii) Provision for Biometric Donor Matching.

(iii) Basic Aadhar based Donor Registration (QR Code)

(3) Donor demographic (screening) and Medical Examination

(i) Must have provision of donor questionnaire with demographic details and questions w.r.t. Different medical, surgical, drug intake and life style behaviours as per the drugs and cosmetics (D&C) Act, 1940 and rule therein as well as recent guidelines.

(ii) Pre- donation counselling module must be provided.

(iii) Reason of deferral with date and deferral duration for donor must be user definable.

(4) Blood donation

Module for the following element must be incorporated:

(i) Bag generation with unique bag no., Provision of segment no. Of allotted bag and bag type, generation of bag barcode with collection date etc.

(ii) printing of donor cards(preferable smart card type)

(iii) Post donation counselling module.

(iv) Post Donation feedback.

(5) Blood donation camps

(i) Separate simplified module for managing the camp related activities must be Provided.

(ii) Mobile app for donor prescreening

(iii) Rule based donor selection and deferral.

(iv) Facility for offline – online sync for donor identification and authentication at camp site.

(6) Aphaeresis

(i) Independent apheresis donor registration temporary ID.

(ii) Apheresis donor selection Separate module for the apheresis procedures along with screening, medical examination. Modules for collection details and post donation counselling remain the same as that in whole blood donation.

STATE BLOOD TRANSFUSION COUNCIL MAHARASHTRA STATE

(iii) Apheresis donor prescreening and selection based on test results.

(iv) Apheresis donor permanent ID post approval.

(7) Transfusion Transmitted Infectious Marker Investigation

(i) Single, multiple and interfaced reporting of various infection marker with validation and secondary confirmation for both serology (Elisa and/or Chemiluminescence) and NAT..

(ii) Configurable rules for NAT Testing in terms of Mandatory / optional / component based etc.,

(8) Blood Grouping

(i) Grouping of donor, IPD and OPD patient by specified technque (example QWALYS, micro-plate, tube etc) by single, multiple and interfaced reporting and secondary validation facilities must be provided.]

(ii) Method specific parameters

(9) Component separation, inventory and issue

(i) Single , multiple and bulk component separation module and issuing of component to patient and/or bulk issue to other orgnization or a center must be provided

(ii) The software must provide a module for hassle free incorporation of units received in bulk from external sources to inventory.

(iii) The Software must include Loan module as per SBTC guidelines.

(10) Quality Control Module

(i) Indepth component QC
(ii) IQSA/EQSA
(iii) Daily Reagent QC
(iv) Stores QC.

(11) Blood Requisition

(i) Generation of blood/blood component request from the wards in a pre-defined format must be made available.

(ii) The user must have options to choose from a list options in relation to the urgency, type of components, and special requirements and/or modifications (if any) of required components.

(iii) The request should be able to be differentiated based on patient type, transfusion indication, new request or repeat request, health schemes etc.,

(iv) In case of HIS integration, with the unique hospital identification number (UHID) of the patient, the software must flash a pop-up message on the screen with the information regarding the Blood group and details of previous history of blood component transfusions. This information must be provided in the printed request form as well.

(v) The software must provide the option to approve the generated request forms at the blood bank so

as to keep track of the timeline from genertion of the forms at the ward to reception of the printed forms at the blood bank.

(12) Cross-Match Allocation

(i) The software should suggest the suitable components that can be used for Cross-Matching based on the request type, patient type, transfusion indication, component type, bags etc.,
(ii) The software should showcase the optional compatible components as well

(iii) Component specific and blood group specific component selection rules should be configurable.
(iv) Software should showcase reserved components as well.

(v) Incase of emergency, the software should allow user to release any specific reserved units and allocate to the patient in case of emergency.

(vi) Rules for auto release of crossmatched / reserved blood components should be configurable with alerts incorporated.

(13) Cross-Match Compatibility

(i) On entering the UHID of Patient, the software must flash a pop-up message on the screen with the information regarding the blood group and details of previous transfusion history of Patient.
(ii) Method based compatibility parameters should be configurable
(iii) Should incorporate rules related to least compatible and highlight the same in cross match report and issue label

(14) Issue

Module for issue of cross-matched blood and/or blood component to
(i) patient and bulk issue to centers/organization must be defined.
(ii) While issuing, with the UHID of the patient, the software must flash a pop-up message on screen with the information regarding the Blood group and details of previous history of blood component transfusions.
(iii) Option for unit discards/bulk discard must be provided.
(iv) The issue should be related with billing

(15) Immuno-haematology investigations

(i) Carrying various investigation which come to blood bank and reporting modules as defined by the deparment must be provided.
(ii) This includes
(iii) ICT,
(iv) DCT,
(v) Antibody Screening,
(vi) antibody identification,
(vii) titrations for different antibodies (e.g. Anti A, Anti B etc,) etc.

(16) Supply Store Module

(i) Building stock and inventory for store.
(ii) Raising of requirement request from various labs and issuing supply from store.

STATE BLOOD TRANSFUSION COUNCIL MAHARASHTRA STATE

(iii) Alert system for define limit stock for store as well as labs.
(iv) Autoindent generation in case of camps scheduled.

(17) Special modification of Blood components

(i) Separate check-boxes must be provide against component to indicate leukodepletion and irradiation,
(ii) Software must provide module for special modifications for blood components such as
1.pediatric unit preparations with provisions for part issue of unit (e.g 2017B/200 P1 (70mL), 2017B/2000 P2 (70 mL), P3(70 mL) and
2.Intra-uterine transfusions etc.

(18) Blood Ordering and HIS Integration

(i) Login for hospitals to request blood components
(ii) Control panel which will enable hospitals to check the realtime status of the blood requested
(iii) Bed side safety – Haemovigilance – Module should be incorporated.
(iv) Adverse reaction workup module

(19) Online inventory check and ordering module

(i) Provision for online users to check the status of a specific component in a given city
(ii) Ordering online
(iii) Doorstep delivery
(iv) Delivery tracking

(20) Billing

(i) Detailed billing module should be incorporated
(ii) Should have VBD/ camp quotas/ special discounts
(iii) Should incorporate different govt. schemes
(iv) Should differentiate between product charges and services charges.

(21) Configuration management

(i) Blood bank can make their flow configurable based on actual practices and automation.

(22) Reports

(i) Various reports those are mandatory as per D&C Act and are required on day to day basis in blood banks and a master register as per regulations must be provided.

(23) Traceability

(i) Detailed traceability of blood components at a scan of the barcode should be available
(ii) Edit logs and transactional logs to be maintained.

24) Machine Integration

(i) 2-way Machine integration with latest equipments (BG / Antibody screening / Xmatch / TTI/NAT / component separator etc.,)

(25) Emergency Donor Management Module

(i) Emergency Demand generation and management module
(ii) Identifying Probable Donors using Smart algorithm.
(iii) Emergency Donor calling with automated IVRS
(iv) Emergency Donor mgmt. with SMS
(v) Donor engagement Module.

(26) Alert Management Module

(i) Task specific alerts
(ii) Daily and weekly Summarised alerts
(iii) Alert management (SMS/Email)

(27) Compliance and Accreditation management

(i) Provision to set up different accreditations as followed by blood banks
(ii) Default SBTC compliance setup
(iii) Realtime compliance status check
(iv) Auto alerts for any non compliance.

(28) User access Management

(i) Create Users
(ii) Define User access.
(29) Centralised MIS and Decision support system.
(i) Centralised management information system
(ii) Showcase regionwise, blood bank wise, component wise, group wise, test wise stock
(iii) Below order level alerts
(iv) Donor deferral percentages
(v) SBTC reports
(vi) Request vs Issue status
(vii) Crossmatch vs Reservation status.
(viii) Campside vs Blood bank donation status.
(ix) Turn around time reports
(x) Auto alerts
(xi) Statistics
(xii) Trending charts
(xiii) Analytics.
(xiv) Proactive alerts based on trends.

STATE BLOOD TRANSFUSION COUNCIL MAHARASHTRA STATE