National Blood Collection and Utilization Survey

Request for OMB approval of a New Information Collection

3/3/2026

Supporting Statement B

Contact:
Thomas Daymude
National Center for Emerging and Zoonotic Infectious Diseases
Centers for Disease Control and Prevention
1600 Clifton Road, NE
Atlanta, Georgia 30333
Phone: 470.553.3567
Email: qkh7@cdc.gov

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[State whether or not the collection involves statistical methods and whether or not the purpose of the collection is to make statistical generalizations beyond the particular respondents.]

1. Respondent Universe and Sampling Methods

[Describe the respondent universe and any sampling or other respondent selection method to be used. If applicable, include statistical justification for all sample sizes (based upon degree of accuracy needed for the purpose described in the justification and expected response rates).]

Respondent Universe. The population of inference for the 2025 NBCUS will be all blood collection and utilization facilities in the United States. The target population for the 2025 NBCUS will consist of all blood collection centers and all hospitals subject to certain ownership, service and location criteria. Some practical restrictions were also placed on the target population – specifically, hospitals reporting fewer than 100 inpatient surgeries per year were excluded since they contribute little to either collections or blood product utilization.

Sampling Frame and Sample Design. We used the American Hospital Association's (AHA) annual survey of hospitals, U.S. Food and Drug Administration's (FDA) Blood Establishment Registration database, and America's Blood Center's (ABC) contact list together to construct a sampling frame that covers virtually all collection, processing, and transfusion of blood. Hospitals in the AHA file will be included in the 2025 NBCUS sampling frame subject to ownership, services, location and surgical volume criteria as follows:

1) Ownership – The AHA ownership (CNTRL) must be:

Veterans Affairs (45) or
Other non-Federal
State (12)
County (13)
City (14)
City-county (15)
Hospital district or authority (16)
Church operated (21)
Other not-for-profit (23)
Individual (31)
Partnership (32)

Corporation (33)
Public Health Service Indian Service (47)
AND
2) Services – The AHA primary service (SERV) must be:
General medical and surgical (10) or
Surgical (13) or
Cancer (41) or
Heart (42) or
Obstetrics and Gynecology (44) or
Eye, ear, nose and throat (45) or
Orthopedic (47) or
Other specialty treatment (49) or
Children's general (50) or
Children's orthopedic (57) or
Children's other specialty (59)
AND
3) Location – Located within the 50 United States (or the District of Columbia).
AND
4) Surgical Volume – The hospital must conduct 100 or more inpatient surgeries per year.

Hospitals that could be matched to the AHA file (i.e., hospitals found on both files) were included in the NBCUS frame and sample subject to the information available in the AHA file and the eligibility criteria described above.

For the previous 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019, 2021, and 2023 National Blood Collection and Utilization Surveys, we drew a stratified, single stage sample of blood banks and hospitals with equal probability within stratum. We stratified hospitals on the AHA file by size (annual inpatient surgical volume), and selected hospitals in the larger size strata with certainty. Table B1-1 below gives the total population, sample size and sampling rate for the various types of facilities. We plan a similar sampling strategy for the 2025 NBCUS. **Table B1 – 1 Total population, sample size and sampling rate by type of facility**

Type of facility	Total population	Sample	Sampling rate (%)
Hospitals (AHA) – annual inpatient surgical volume			
100-999	1,697	679	40.00
1,000-1,3999	310	310	100.00
1,400-2,399	485	485	100.00
2,400-4,999	600	600	100.00
5,000-7,999	219	219	100.00
≥8,000	209	209	100.00
Community-based	53	53	100.00

Hospital-based	90	90	100.00
Total	3,520	2,502	71.00

* Institutions such as the American Red Cross will have their central data repository (ARCNET) reporting for all Red Cross centers. Therefore, the number of blood centers sampled does not correspond to the total number of blood centers in the United States.

The response rates for the 2023 NBCUS were 96.2% (51/53) for community-based blood collection facilities, 90.3% (65/72) for hospital-based blood collection facilities, and 85.7% (2195/2561) for transfusing hospitals. Based on the previous iterations of the NBCUS, we expect an overall response rate of almost 85% across all types of facilities.

As with all establishment samples, we anticipate that units on the sampling frame (whether they are sampled or not) can merge with one another, split into multiple units, etc. Such events have implications for calculating overall probabilities of selection. We plan to implement procedures that can be reflected in the table to capture the information relevant to calculating correct overall probabilities of selection and that also could deal with the phenomenon of sampled units reporting for different organizational levels.

2. Procedures for the Collection of Information

[Describe the procedures for the collection of information including statistical method for stratification and sample selection. Provide details about who will collect the information and how the collection will occur (how it's done), so that a reviewer can fully understand the implementation of the sampling plan and data/information collection instruments. For example: Who administers the questions? Are interviewers trained? How are respondents chosen? Do the respondents have advance notice or appointments? Consult the ICR Procedures Manual pp. 28-29 for more information.]

Initial Contact. An introductory email will be sent to the Director of Transfusion Services of each sampled institution. The letter describes the purpose of the survey, the authority for data collection, and provides a pre-notification on the types of information that will be requested on the questionnaire. This will give institutions the opportunity to gather information from 2025 to ease in completing the survey. The introductory email will be sent via email asking for confirmation of the name and contact information of the person who would most likely complete the survey at the specified institution. Verification of the appropriate contact within the selected hospital or blood bank will help increase response rates.

Survey Mailing. To maximize response rates as well as the quality of response data, a unique survey link will be sent via email. This packet will contain a unique, secure link to the online survey instrument. The person assigned to complete the questionnaire will be given a unique login and password. A cover letter signed by CDC and/or OASH will accompany the survey packet.

Follow-up. Follow-up efforts will include additional email reminders, paper letters via mail, and/or phone calls to non-respondent facilities.

Monitoring Data Collection and Quality Control. A survey receipt control system will be used to track and monitor distribution of questionnaires and responses, helping to ensure that actions are taken in a timely manner to maximize response rates. All of the sampled institutions will be entered into a Research Electronic Data Capture (REDCap) database to track the mailing, receipt and processing of the questionnaires. When a completed questionnaire is returned to CDC, it will be entered into a table that tracks its processing status. Key to obtaining good response rates and complete data in this type of study is developing a rapport with the individual(s) who will be completing the questionnaire and ensuring that the survey gets to the right person who has the knowledge to respond. The use of the tracking system will assist with this process. In addition, institutions that do not respond will be offered the opportunity to complete the abbreviated version of the survey. This will help obtain critical information from as many institutions as possible. The tracking system will be the vehicle for follow-up of participation status.

Weighting. Base weights will be calculated for each unit as the reciprocal of its overall probability of selection. These base weights will then be adjusted for non-response. We will use sampling strata as initial non-response adjustment cells, which can be further refined through the use of Chi-squared Automatic Interaction Detector (CHAID) or other response propensity modeling software to incorporate other variables from the sampling frame that appear related to response propensity. Minimum cell sizes and non-response adjustment factors will be considered in the final non-response cell definition, in order to avoid unnecessarily large increases in variance due to differential weighting. The use of post stratification raking or calibration to adjust the weights to one or more known or estimated population totals available from the sampling frame, the annual AHA survey data file and the member list will be considered. These adjustments have the effect of increasing the precision of estimates, while matching known population counts.

Imputation. All data items will be checked for internal consistency as part of the data cleaning process and as a prelude to imputation. Missing data will be imputed in continuous (i.e., interval or ratio-level) variables via regression or time series models that take into account previously reported data for the same unit (when available), as well as previously and presently reported data for similar, responding units. Separate imputation models will be used for blood centers and hospitals including volume-related variables (e.g., collection, transfusion and/or surgical counts) as predictor variables. Imputation of nominal or ordinal-level variables, will be conducted using SAS and R procedures. All imputed data items will be checked for internal consistency using the same routines as the data cleaning process and imputation flags will be provided in the analytic dataset to distinguish imputed from reported values.

3. Methods to maximize Response Rates and Deal with No Response

[Describe methods to maximize response rates, and to deal with issues of no response. The accuracy and reliability of information collected must be shown to be adequate for intended uses. Describe the follow-up procedures you will use when first attempts fail to reach respondents (e.g., the number of repeat telephone calls or letters and their content).]

The CDC's established relationships in the blood collection and transfusion community, combined with lessons learned from conducting the 2005–2023 NBCUS surveys, will help enhance participation in the 2025 NBCUS. Announcements will be made at Annual Meetings to notify the community of the

upcoming survey. BOOTS will use its communication vehicles, distributed daily, weekly and monthly, to help recruit blood centers and member hospitals and to provide updates and information on the 2025 NBCUS.

Despite the methods described above, we still expect some eligible sampled units to be non-respondents. We will deal with non-response and its potential impact on survey estimates through a combination of weight adjustments and non-response bias analysis. As described above (Section B2, Weighting), base weights will be adjusted for non-response using CHAID or other response propensity modeling software to incorporate variables from the sampling frame (other than the sampling strata) that appear related to response propensity.

A non-response bias analysis will then take advantage of the detailed information available for both responding and non-responding sampled units from the annual AHA survey data file and the member list to assess the potential for non-response bias due to both unit (i.e., complete) and item (i.e., item specific) non-response. We will use differences in unit and item response rates across the various detailed data items, both before and after weight adjustments, as a proxy for the potential for non-response bias. We will include a summary of the results of this non-response bias analysis in technical and analytic reports.

4. Tests of Procedures or Methods to be undertaken

[Describe any tests of procedures or methods to be undertaken. Pilot test all data/information forms and data/information collection procedures before you submit for clearance. Pilot testing is encouraged as an effective means of refining questions to minimize burden and improve utility.

If no pre-tests are planned, simply state that.]

The proposed 2025 survey instrument and data collection procedures are by and large the same as the 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019, 2021, and 2023 NBCUS surveys which received OMB approval and achieved satisfactory results. For this reason, we will not be conducting pilot tests. However, consultation was sought from individuals within HHS, blood center staff familiar with center operations, and experts in transfusion medicine. Additionally, we have requested input from selected stakeholders on the survey instrument by requesting feedback on the new questions.

5. Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data

[Provide the name, telephone number, and e-mail addresses of individuals consulted on statistical aspects of the design and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.]

The statistician responsible for the survey sample design is:

Becky Lien
Statistician – Surveillance Branch
Division of Healthcare Quality Promotion
National Center for Emerging and Zoonotic Infectious Diseases
Centers for Disease Control and Prevention

1600 Clifton Road, NE
Atlanta, GA 30329
Tel: 612.839.5183
cyk9@cdc.gov

Data collection, analysis, and quality control will be under the supervision of:
Sridhar Basavaraju, MD, FACEP
Director - Office of Blood, Organ, and Other Tissue Safety
Division of Healthcare Quality Promotion
National Center for Emerging and Zoonotic Infectious Diseases
Centers for Disease Control and Prevention
1600 Clifton Road, NE MS V18-4
Atlanta, GA 30329
Tel: 404.498.0729
etu7@cdc.gov

John Oguntomilade, BDS, MPH, PhD
CAPT/U.S. Public Health Service
Office of Infectious Disease and HIV/AIDS Policy
Office of the Assistant Secretary for Health
U.S. Department of Health and Human Services
330 C Street, SW, Suite L127
Washington, DC 20024
Tel: 202-868-0053
Adeoye.Oguntomilade@hhs.gov