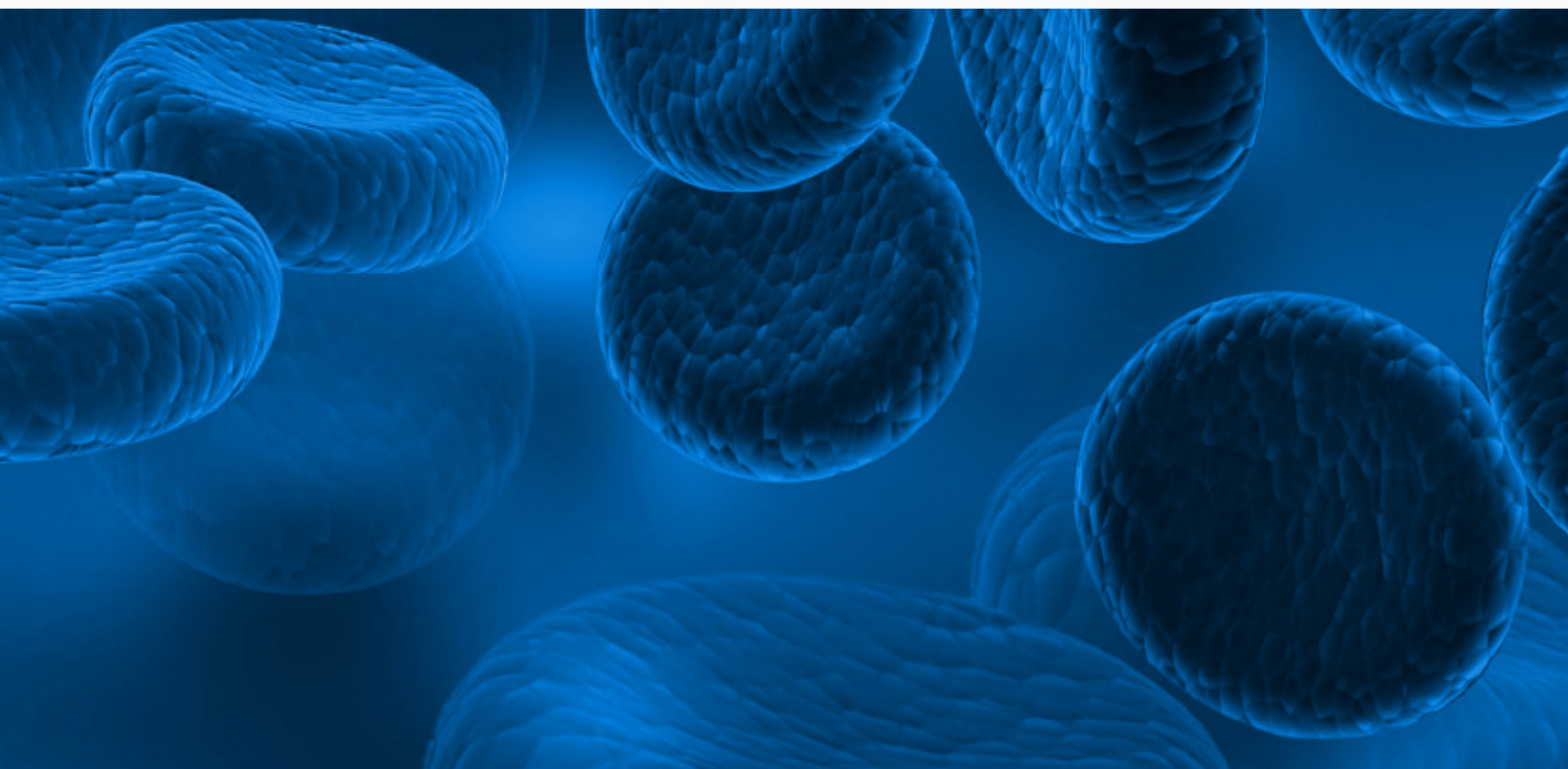


U.S. Blood Donation Statistics and Public Messaging Guide



America's Blood Centers (ABC) and ADRP, an International Division of ABC, thank the following groups for their support and involvement in developing this guide:

ADRP Public Awareness Committee

ABC Scientific, Medical, and Technical Committee



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An International Division of ABC

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Look for the graphic downloads throughout the guide. If you see this symbol, there are graphics for this statistic available for free. See Appendix A for a guide to all available graphics.



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Disclaimers

The statistics quoted are based on published research that include a representative portion of the blood community (i.e., blood centers of different size and geography).

These statistics are intended to be a guide to increase consistency and accuracy in information disseminated by blood centers to both internal and external audiences.

Blood centers may choose to quote their own data that is equivalent to these selected statistics, which may differ from industry totals.

All data, unless otherwise noted, are specific to the United States.



General Information about Blood and Blood Donation

Q1.1: How do blood donations help patients in need?

- Every donation can help save a life.
- Each donation can help save or deeply impact more than one life.

Q1.2: How many patients can each donation help?



- One donation can help two or more patients in need. Each donation can be separated into more than one blood product including but not limited to red blood cells, plasma, and platelets.
- Some donations result in two or three of the same type of product, just more doses for patients (e.g., double red blood cells, plasma from automation, or platelets from automation).
- Each traditional whole blood donation can be separated into different blood product components in the lab (red blood cells and plasma) and depending on the amount of time from donation to the lab, additional products can be made such as platelets and cryoprecipitate which are used in cancer treatment and heart surgeries.

Q1.3: How many blood centers are there in the U.S.? How much do they collect?

According to the United States (U.S.) Food and Drug Administration's (FDA's) Blood Establishment Registration database¹, there are 53 community blood centers and 90 hospital-based blood centers in the U.S. Independent, community blood centers collect approximately 60 percent of the nation's blood supply², and the American Red Cross collects approximately 40 percent.³

Q1.4: How often can individuals donate blood in the U.S.?

Individuals can donate whole blood no more than once in eight weeks.⁴ Individuals can donate platelets (apheresis donation) as much as twice in a seven-day period — or up to 24 times in a rolling 12 months.⁵ Individual blood centers may apply additional policies.

Q1.5: How many pints of blood do people have in their body?

An average adult has about 10.5 pints of blood in their body.⁶



Q1.6: What is the prevalence of each blood type among the U.S. population?

The approximate distribution of blood types in the blood donor population is as follows. Distribution may be different for specific racial and ethnic groups and in different parts of the country.

TABLE: PREVALENCE OF BLOOD TYPE ⁷

BLOOD TYPE	PREVALENCE	HOW COMMON IS YOUR BLOOD?
O Rh-positive	39%	1 in 2.5
O Rh-negative	7%	1 in 11
A Rh-positive	32%	1 in 3
A Rh-negative	6%	1 in 17
B Rh-positive	11%	1 in 11
B Rh-negative	2%	1 person in 50
AB Rh-positive	4%	1 person in 25
AB Rh-negative	1%	1 person in 100



Q1.7: What is the prevalence of each blood type by race among the U.S. population?

The approximate distribution (%) of ABO phenotypes by race/ethnicity in the U.S. population is as follows.^{8*}

RACE OR ETHNICITY	TYPE O	TYPE A	TYPE B	TYPE AB
White non-Hispanic	45%	40%	11%	4%
Hispanic	57%	31%	10%	3%
African American non-Hispanic	50%	26%	20%	4%
Asian	40%	28%	25%	7%
North American Indian	55%	35%	8%	3%
All donors	47%	37%	12%	4%

**Percentages may not round up to 100% because of rounding. Original source includes additional information on race/ethnicities.*

Collections Information

Q2.1: What percentage of the eligible U.S. population donates blood each year?



Approximately 3 percent of the U.S. population donates blood each year*.

**Derived from data from 2.2 and 4.1.*

Q2.2: How many individuals donate blood annually in the U.S.?

There were approximately 7.3 million donors in 2019.^{9, 10*}

**Includes all categories of donation and only successful donations.*

Q2.3: How many units of blood are collected annually in the U.S.?

In 2019, there were an estimated 10,879,000 total whole blood and apheresis red blood cell (RBC) collections.* An additional 2,359,000 platelets collections occurred (single, double and triple).¹¹

**Includes autologous, directed, and allogenic, non-directed collections.*

Q2.4: How many units of blood are collected worldwide each year?

About 118.4 million blood donations are collected worldwide.¹²



Q2.5: What is the average annual donation frequency in the U.S.?

On average, individuals donate 1.8 times per year.*

**Inferred from questions 2.2 and 2.3. Represents whole blood, red blood cell, and platelet donors.*

Donor Demographics

Q3.1: What is the breakdown of blood donors in the U.S. by gender?

Of all U.S. blood donors, 51 percent are male and 49 percent are female.¹³

**For whole blood and apheresis RBC collections.*

Q3.2: What percentage of whole blood donations in the U.S. come from racial or ethnic minority donors?

Of all whole blood and apheresis RBC donations, 19.5 percent come from racial or ethnic minority donors (African-American, Pacific Islander, American Indian, and Hispanic).¹⁴

Q3.3: What percentage of all whole blood donations in the U.S. are from first time donors versus repeat donors each year?

First time donors are responsible for 31 percent (2,213,000) of U.S. whole blood donations, while repeat donors account for 69 percent.¹⁵

**Excludes directed and autologous donors. Only includes donors from which blood products were successfully collected.*

Q3.4: What is the breakdown of total blood donations (whole blood and apheresis red blood cells) in the U.S. by age?

TABLE: TOTAL BLOOD DONATIONS BY AGE ¹⁶

AGE RANGE	PERCENT OF TOTAL BLOOD DONATIONS
16-18 years	11.2%
19-24 years	8.6%
25-64 years	63.2%
≥65 years	16.1%



Q3.5: How has the percentage of total blood donations by age changed over time in the U.S.?

- From 2017 to 2019, there was a 10.1 percent decrease in donations from individuals 16-18 years old.
- From 2017 to 2019, there was a 15.1 percent decrease in donations from individuals 19-24 years old.
- From 2017 to 2019, there was a 15.1 percent increase in donations from individuals 65 and older.¹⁷

Donor Eligibility and Safety

Q4.1: What percentage of the U.S. population is eligible to donate?

Of the total U.S. population, 62 percent of the U.S. population is eligible to donate, or 204.9 million individuals.¹⁸

Q4.2: What percentage of individuals presenting to donate are deferred in the U.S.?

Of the individuals presenting to donate in the U.S., 19 percent are deferred for a variety of reasons each year.¹⁹

Blood Safety and Testing Information

Q5.1: What is the shelf life of blood components in the U.S.?

- RBCs must be transfused within 42 days of collection.
- Platelets have a shelf life up to seven days.
- Plasma for transfusion may be frozen up to one year from the date of collection.²⁰



Q5.2: What infectious diseases do U.S. blood centers test for?

TABLE: TESTS USED IN THE U.S. TO SCREEN DONATED BLOOD²¹

INFECTIOUS DISEASE PATHOGEN	LABORATORY TESTS USED	FREQUENCY OF TESTS
Hepatitis B virus (HBV)	Hepatitis B surface antigen (HBsAg) detection Hepatitis B core antibody (anti-HBc) detection Nucleic acid amplification testing (NAT) for HBV	Every donation
Hepatitis C virus (HCV)	Hepatitis C virus antibody (anti-HCV) detection NAT for HCV	Every donation
Human Immunodeficiency virus Types 1 and 2 (HIV)	HIV-1 and HIV-2 antibody (anti-HIV-1 and anti-HIV-2) testing NAT for HIV-1	Every donation
Human T-Lymphotropic Virus Types I and II (HTLV)	HTLV-I and HTLV-II antibody (anti-HTLV-I and anti-HTLV-II) detection	Every donation
<i>Treponema pallidum</i> (syphilis)	Anti-treponemal antibody detection	Every donation
West Nile virus (WNV)	NAT for WNV	Every donation
Bacterial Contamination	Bacterial culture	Every platelet donation
Babesia	NAT and antibody for <i>B. microti</i>	Performed on donations in Babesia-endemic regions
<i>Trypanosoma cruzi</i> (Chagas disease)	<i>T. cruzi</i> antibody detection	All first-time donors tested
Cytomegalovirus (CMV)	CMV antibody detection	Performed on some donations for special needs recipients



Q5.3: What is the risk of acquiring an infectious disease through blood transfusion?

TABLE: RESIDUAL RISK OF TRANSMISSION²²

INFECTIOUS DISEASE PATHOGEN	RESIDUAL RISK OF TRANSMISSION
HBV	1 in 1,000,000
HCV	1 in 2,000,000
HIV- Types 1 and 2	1 in 1,600,000

Blood Utilization



Q6.1: How often does someone need a blood transfusion in the U.S.?

A blood transfusion occurs in the U.S. every two seconds.²³

Q6.2: How many blood components are distributed to U.S. hospitals each year?

Blood centers in the U.S. provided 10,879,000 RBCs to hospitals in 2019. U.S. blood centers also provided 2,508,000 units of platelets (both apheresis and whole blood derived) to hospitals in 2019. Blood centers in the U.S. provided hospitals with 2,679,000 units of plasma in 2019.²⁴

**Whole-blood-derived platelets are expressed as apheresis equivalents.*

Q6.3: How common are blood transfusions in the U.S.?

- In patients over the age of 64, transfusion of blood and blood products ranks as the second most common procedure performed in U.S. hospitals.
- For patients between the ages of 45-64, it is the fifth most common procedure.
- Overall, transfusion of blood and blood products occurs in 3.5-5.1 percent of hospital stays, depending on patient age group.²⁵

Q6.4: How many transfusions of blood components occur each year in the U.S.?

In 2019, there were 10,852,000 RBC transfusions. 2,243,000 platelet transfusions and 2,185,000 plasma transfusions.²⁶



Q6.5: On average, how many blood components are transfused daily in the U.S.?



- More than 15 million RBCs, platelets, and plasma were transfused in 2019, averaging nearly 42,000 blood components used by patients daily.
- Nearly 30,000 units of whole blood and RBCs are transfused each day.
- More than 6,000 units of platelets are transfused every day.
- Nearly 6,000 units of plasma are transfused daily.²⁷

Q6.6: How many U.S. patients require RBC transfusions each year?

In 2019, there were 4,206,000 total RBC recipients.²⁸

Q6.7: On average, how many units does each RBC transfusion recipient require in the U.S.?

The average U.S. RBC transfusion is 2.6 units (calculated from total transfusions (10.85M) and total transfused patients (4.2M)).²⁹

Q6.8: How are RBCs used by patients in need in the U.S.?

TABLE OF RBC USAGE³⁰

AREA	NUMBER OF UNITS TRANSFUSED (IN THOUSANDS)	PERCENT OF SUPPLY
Inpatient medicine	3,909	37.7%
Critical Care	1,810	17.5%
Outpatient	1,512	14.6%
All surgery	1,380	13.3%
Emergency department	1,277	12.3%
Obstetrics/gynecology	219	2.1%
Pediatrics	159	1.5%
Neonates	103	1.0%



Q6.9: How are platelets used by patients in need in the U.S.?

TABLE OF PLATELET USAGE ³¹

AREA	NUMBER OF UNITS TRANSFUSED (IN THOUSANDS)	PERCENT OF SUPPLY
Inpatient medicine	1,050	42.5%
Outpatient	462	18.7%
Critical care	448	18.7%
All surgery	280	11.3%
Emergency department	105	4.3%
Pediatrics	79	3.2%
Neonates	34	1.4%
Obstetrics/gynecology	11	0.4%

Patient Populations and Blood Transfusion

7.1 Cancer ³²



- More than a quarter of the U.S. blood supply is used by patients battling cancer.
- More than 1.9 million people are diagnosed with a new cancer each year; many of them will need blood during their chemotherapy treatment.³³ Individuals with cancer may need blood transfusions due to anemia, low blood counts from treatments such as chemotherapy and/or radiation, and/or blood loss during surgery.³⁴

7.2 Maternity



- Transfusions are needed in the U.S. in 1 out of every 83 deliveries.³⁵
- The rate of transfusions needed in childbirth in the U.S. increased by 54 percent between 2006 and 2015.³⁶

7.3 Pediatric



In 2019, pediatric patients in the U.S. used 652,00 blood components, including 405,000 whole blood or RBCs, 168,000 apheresis platelets, and 79,000 units of plasma.³⁷



7.4 Sickle Cell Disease (SCD)

According to the Centers for Disease Control and Prevention (CDC):

- SCD affects approximately 100,000 Americans.
- SCD occurs among about 1 out of every 365 African-American births.
- SCD occurs among about 1 out of every 16,300 Hispanic-American births.
- About 1 in 13 African-American babies are born with sickle cell trait (SCT).³⁸



According to the American Society for Hematology:

- Eight to ten percent of African Americans have the sickle cell trait.
- More than 100 million people worldwide have the sickle cell trait.³⁹

Other:



- One in three African American blood donors are a match for a sickle cell patient.⁴⁰

7.5 Trauma

- In the U.S., hemorrhage is the most common cause of death within the first hour of arrival to a trauma center.⁴¹
- More than 80 percent of deaths in the operating room and nearly 50 percent of deaths in the first 24 hours after injury are due to severe blood loss.⁴²
- Three percent of civilian trauma patients will receive a massive transfusion (>10 units RBCs in 24 hours). These patients consume 70 percent of all blood transfused at a trauma center.⁴³
- Gunshot victims are approximately five times more likely to require blood transfusions, they require 10 times more blood units and are 14 times more likely to die than people seriously injured by motor vehicles, non-gun assaults, falls, or stabs.⁴⁴

Regulation

Q8.1: How are U.S. blood centers regulated?

Blood centers in the U.S. are regulated and licensed by the FDA. The Center for Biologics Evaluation and Research (CBER) within FDA is specifically responsible for oversight of the U.S. blood supply.⁴⁵ Many blood centers are also voluntarily accredited by other organizations.

Q8.2: How often are blood centers in the U.S. inspected?

Blood establishments are inspected by the FDA at least every two years.⁴⁶



Looking for a statistic that is not in this guide or have something to contribute?
Contact us at memberservices@americasblood.org

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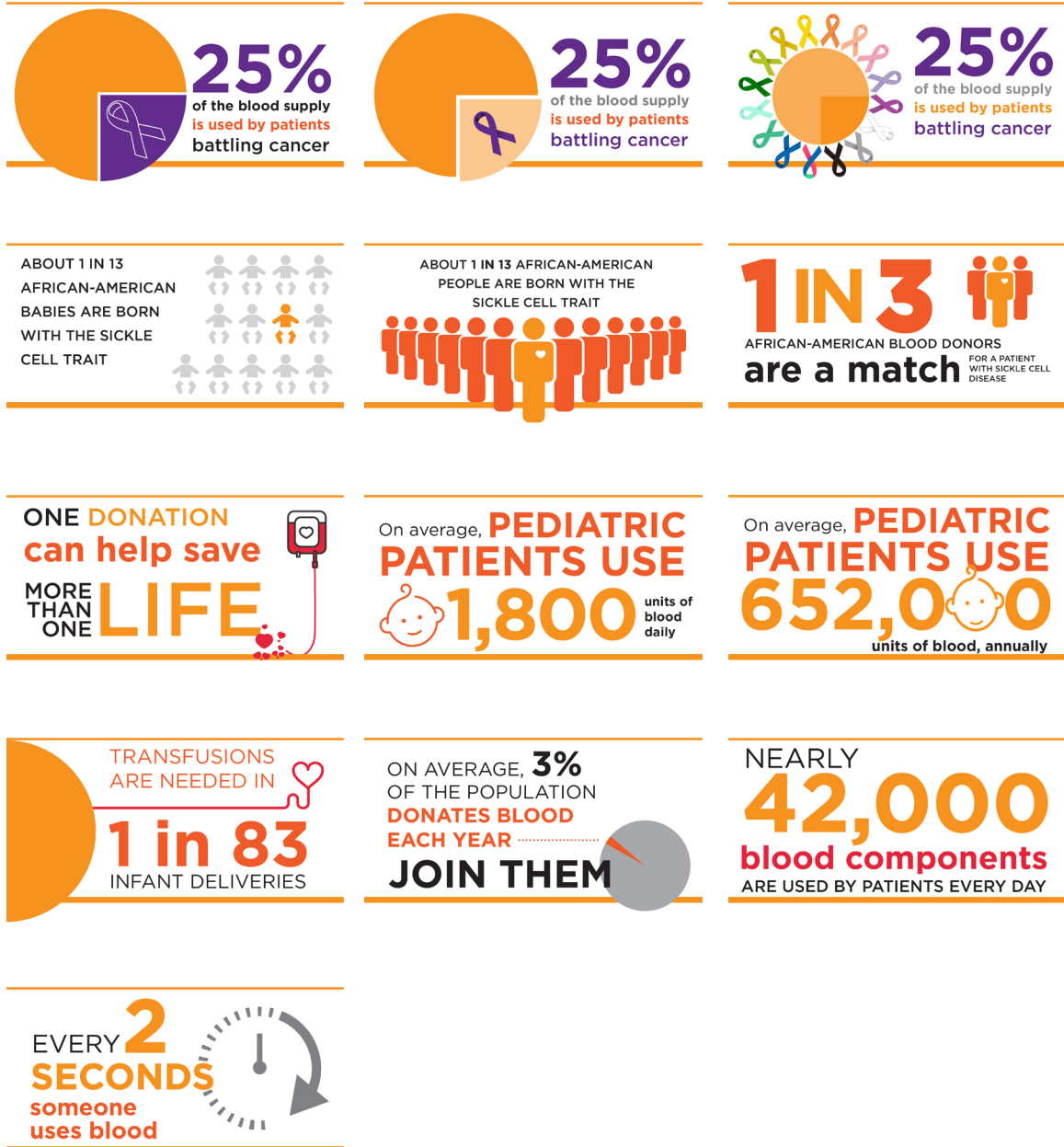


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Appendix A: Graphics for Downloading

Each graphic below is 1600 x 900 pixels. To download, just click on the graphic you want, or [click here](#) to download all graphics.





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