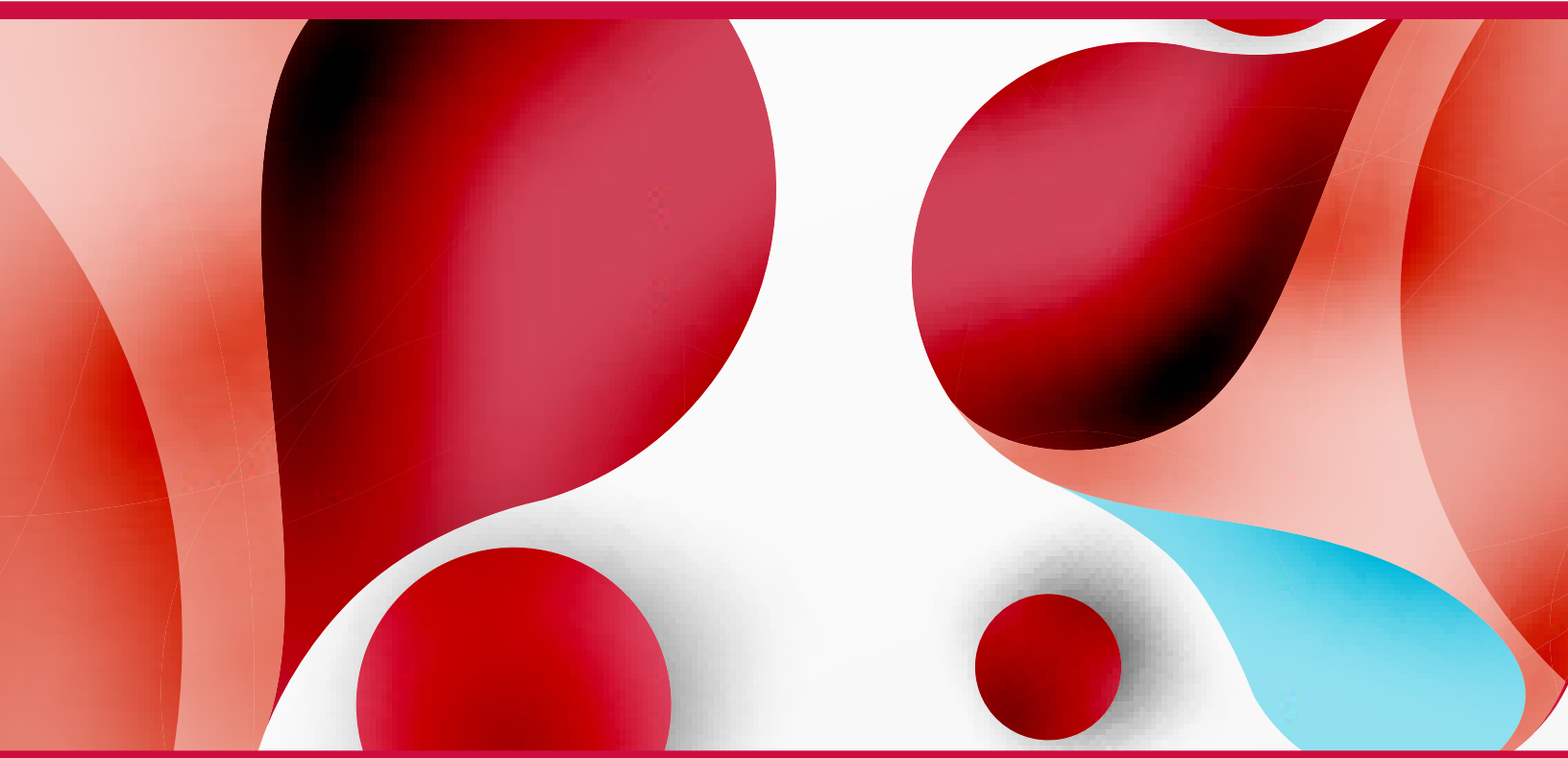


# U.S. Blood Donation Statistics and Public Messaging Guide



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ADRP Marketing Resource Committee

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ABC Scientific, Medical, and Technical Committee

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Look for the graphic downloads throughout the guide.  
If you see this symbol, there are complimentary  
graphics for this statistic available for you to use.  
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 sizes and geographic locations).
- 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 (U.S.).



# 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 of whole blood can be separated into more than one blood product, which includes red blood cells, plasma, cryoprecipitated antihemophilic factor (AHF), and platelets.
- Some donations result in two or three of the same type of product, which creates additional transfusions for patients (e.g., double red blood cells, plasma from automation, or platelets from automation).

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

According to the U.S. Food and Drug Administration's (FDA) Blood Establishment Registration database<sup>1</sup>, there are 53 community blood centers and 90 hospital-based blood centers in the U.S. Independent, community blood centers collect approximately 60% of the nation's blood supply<sup>2</sup>, and the American Red Cross collects approximately 40%<sup>3</sup>.

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

Individuals can donate whole blood no more than once in eight weeks and may donate double red blood cells by apheresis collection procedures every 16 weeks<sup>4</sup>. Individuals can donate platelets (apheresis donation) as much as twice in a 7-day period (with a two-day interval in between) — or up to 24 times in a rolling 12 months<sup>5</sup>. 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<sup>6</sup>.



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

The approximate distribution of blood types in the U.S. blood donor population is as follows (distribution may be different for specific ethnic groups and in different parts of the country)<sup>7</sup>:

TABLE: PREVALENCE OF BLOOD TYPE

BLOOD TYPE	PREVALENCE	HOW COMMON IS YOUR BLOOD?
O Rh-positive	39%	1 in 2.5
O Rh-negative	7%	1 in 15
A Rh-positive	30%	1 in 3
A Rh-negative	6%	1 in 17
B Rh-positive	9%	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 by percentage of ABO phenotypes by race/ethnicity in the U.S. population is as follows<sup>8</sup>:

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% of the U.S. population donates blood each year<sup>9</sup>.

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

There were approximately 6.5 million donors in 2021\*<sup>10</sup>. This is an 11% drop from 2019 which had approximately 7.3 million donors.

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

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

In 2021, there were an estimated 11,784,000 total whole blood and apheresis red blood cell collections\*. This represents a 1.7% increase from collections in 2019<sup>11</sup>. An additional 2,528,000 total platelet units were distributed (single, double, and triple collections and whole blood derived platelets<sup>12</sup>). This represents a 0.8% increase from 2019.

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

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

According to the World Health Organization, approximately 118.5 million blood donations are collected worldwide<sup>13</sup>.

### 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 by gender in the U.S.?

In 2021, of all U.S. blood donors, 45.9% are male and 54.1% are female<sup>14</sup>. This marked a shift from 2019 when there were 51% male and 49% female blood donors in the U.S.\*

*\*For whole blood and apheresis RBC collections.*

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

Of all whole blood and apheresis red blood cell donations, 12.2% were collected from minority donors. This is a 35.4% decrease from 2019<sup>15</sup>.



ETHNICITY	PERCENT OF TOTAL BLOOD DONATIONS
Black or African American	2.7%
Hispanic or Latino	5.8%
Asian	3.0%
Native Hawaiian or Pacific Islander	0.2%
Native American or Alaska Native	0.5%

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

In 2021, first time donors were responsible for 26.3% (1,719,000) of U.S. whole blood donations compared to 31% (2,213,00) in 2019. Repeat donors accounted for 74% (4,840,000) which is slightly up from 2019 (69% repeat donors)<sup>16</sup>.

*\*Only includes donors from which blood products were successfully collected.*

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

TABLE: TOTAL BLOOD DONATIONS BY AGE<sup>17</sup>

AGE RANGE	PERCENT OF TOTAL BLOOD DONATIONS IN 2021	PERCENT OF TOTAL BLOOD DONATIONS IN 2019
16-18 years	4.2%	11.2%
19-24 years	5.6%	8.6%
25-64 years	68.8%	63.2%
≥65 years	21.7%	16.1%





### Q3.5: How has the percentage of total blood donations by age changed over time in the U.S.?<sup>18</sup>

- From 2019 to 2021, there was a 60.7% decrease in donations from individuals 16-18 years old.
- From 2019 to 2021, there was a 31.9% decrease in donations from individuals 19-24 years old.
- From 2019 to 2021, there was a 14.1% increase in donations from individuals 25-64 years old.
- From 2019 to 2021, there was a 40.7% increase in donations from individuals 65 and older.

The decline in contributions from individuals aged 16-24 can likely be linked to the limitations placed on blood drives at school campuses in 2021, primarily as a result of the COVID-19 pandemic. Conversely, the rise in contributions from individuals aged 65 and above may suggest that a significant portion of blood donors are advancing in age.

## Donor Eligibility and Safety

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

Out of the total U.S. population, 62% is eligible to donate, which amounts to 204.9 million eligible donors<sup>19</sup>.

### 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. in 2021, 16.3% were deferred for a variety of reasons. The most common reason for deferral among blood donors in 2021 was due to low hemoglobin or hematocrit (51.1%)<sup>20</sup>. Female donors accounted for 67.4% of all deferrals for any reason in 2021<sup>21</sup>. This is down from 19% in 2019. Other reasons for deferral included tattoo/piercing deferrals (deferral only applies in states that do not regulate tattoos/piercing) down 57% from 2019, and travel to/residence of a malaria risk region down 79.4% from 2019<sup>22</sup>.

## Blood Safety and Testing Information

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

- RBCs must be transfused within 42 days of collection<sup>23</sup>.
- Plasma products for transfusion are typically frozen and must be transfused within one year from the date of collection<sup>24</sup>.
- Platelets must be transfused within five to seven days of collection<sup>25</sup>.



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

TABLE: TESTS USED IN THE U.S. TO SCREEN DONATED BLOOD<sup>26</sup>

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) detection 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 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 TRANSMISSION<sup>27</sup>

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<sup>28</sup>.

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

Blood centers in the U.S. provided 11,033,000 red blood cell units to hospitals in 2021. U.S. blood centers also provided 2,528,000 total units of platelets (both apheresis and whole blood derived) to hospitals in 2021. Blood centers in the U.S. provided hospitals with 3,114,000 units of plasma in 2021<sup>29</sup>.

*\*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<sup>30</sup>.
- For patients between the ages of 45-64, blood transfusions are the fifth most common procedure<sup>31</sup>.
- Overall, transfusion of blood and blood products occurs in 3.5% to 5.1% of hospital stays, depending on patient age group<sup>32</sup>.

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

In 2021, there were 10,764,000 RBC transfusions, 2,175,000 platelet transfusions, 2,215,000 plasma, and 1,248,000 cryoprecipitate AHF transfused<sup>33</sup>.



## 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 2021, averaging nearly 42,000 blood products used by patients daily<sup>34</sup>.
- Nearly 30,000 units of whole blood and RBCs are transfused each day<sup>35</sup>.
- More than 6,000 units of platelets are transfused every day<sup>36</sup>.
- Nearly 6,000 units of plasma are transfused daily<sup>37</sup>.

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

In 2021, there were 4,065,000 total recipients of RBCs<sup>38</sup>. This is a decrease of 3.4% compared to 2019.

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

The average U.S. RBC is 2.6 units (calculated from total transfusions [10.67M] and total transfused patients [4.1M])<sup>39</sup>.

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

TABLE OF RED BLOOD CELL USAGE<sup>40</sup>

AREA	NUMBER OF UNITS TRANSFUSED (IN THOUSANDS)	PERCENT OF SUPPLY
Inpatient medicine	3703	33.6%
Critical care	1776	16.1%
Outpatient	1388	12.6%
All surgery	1181	10.7%
Emergency department	1380	12.5%
Obstetrics/gynecology	205	1.9%
Pediatrics	164	1.5%
Neonates	137	1.2%



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

TABLE OF PLATELET USAGE<sup>41</sup>

AREA	NUMBER OF UNITS TRANSFUSED (IN THOUSANDS)	PERCENT OF SUPPLY
Inpatient medicine	815	32.2%
Outpatient	322	12.7%
Critical care	398	15.7%
All surgery	281	11.1%
Emergency department	105	4.1%
Pediatrics	92	3.6%
Neonates	40	1.6%
Obstetrics/gynecology	14	0.6%

## Patient Populations and Blood Transfusion



### 7.1 Cancer

- 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 course of treatment<sup>42</sup>. Individuals with cancer may need blood transfusions due to anemia and/or thrombocytopenia caused directly by the disease or as a consequence of treatments such as chemotherapy and/or radiation, and/or blood loss during surgery<sup>43</sup>.
- Forty-six percent of platelet transfusion recipients have a type of cancer that affects the blood, bone marrow, and/or lymph nodes. This includes various types of leukemia (acute lymphocytic (ALL), chronic lymphocytic (CLL), acute myeloid (AML), chronic myeloid (CML)), myeloma, and lymphoma (Hodgkin's and non-Hodgkin's (NHL))<sup>44</sup>.



### 7.2 Maternity

- Transfusions are needed in the U.S. in one out of every 83 deliveries<sup>45</sup>.
- The rate of transfusions needed in childbirth in the U.S. increased by 54% between 2006 and 2015<sup>46</sup>.





### 7.3 Pediatric and Neonatal

- In 2021, pediatric patients in the U.S. were transfused with 164,000 units of RBCs and 92,000 units of platelet. This was an increase for both products compared to 2019 when 159,000 RBCs and 79,000 platelets were transfused<sup>47</sup>.
- There was also an increase seen in 2021 for transfusions in the neonatal patient population. Neonatal patients were transfused 137,000 RBCs (103,000 in 2019) and 40,000 platelets (34,000 in 2019) in 2021<sup>48</sup>.

### 7.4 Sickle Cell Disease (SCD)

According to the Centers for Disease Control and Prevention (CDC)<sup>49</sup>:

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



According to the American Society for Hematology<sup>50</sup>:

- Eight to 10% of African Americans have the sickle cell trait.
- More than 100 million people worldwide have the sickle cell trait.

Other:



- People of African descent are ten times more likely to be a suitable blood match for Sickle Cell patients in need of blood that lacks specific red blood cell antigens<sup>51</sup>.

### 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<sup>52</sup>.
- More than 80% of deaths in the operating room and nearly 50% of deaths in the first 24 hours after injury are due to severe blood loss<sup>53</sup>.
- Three percent of civilian trauma patients will receive a massive transfusion (>10 units RBCs in 24 hours). These patients consume 70% of all blood transfused at a trauma center<sup>54</sup>.
- 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<sup>55</sup>.

## 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<sup>56</sup>. 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<sup>57</sup>.



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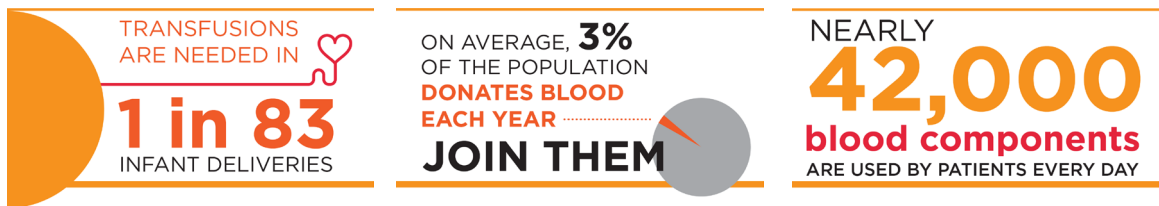
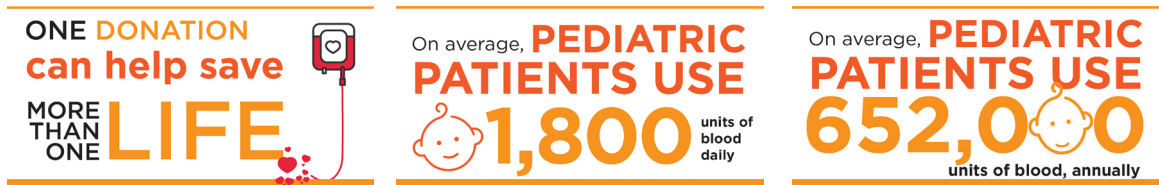
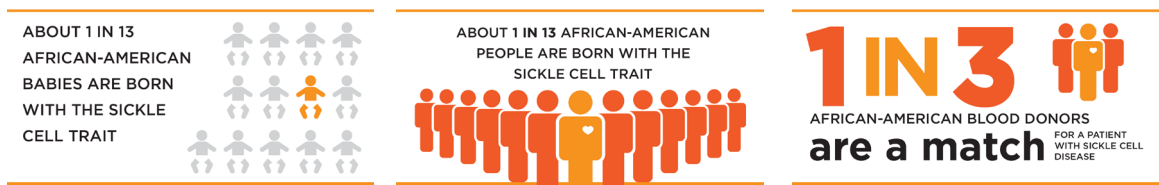
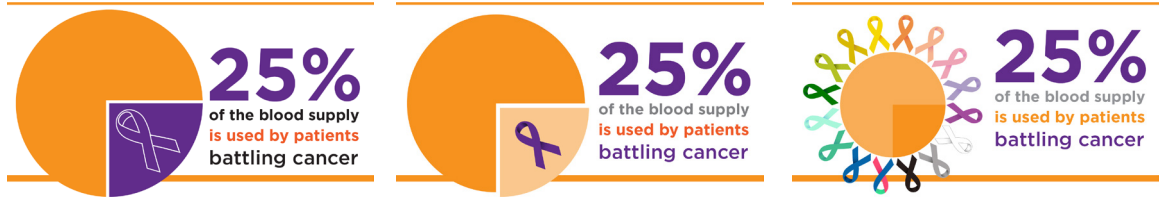


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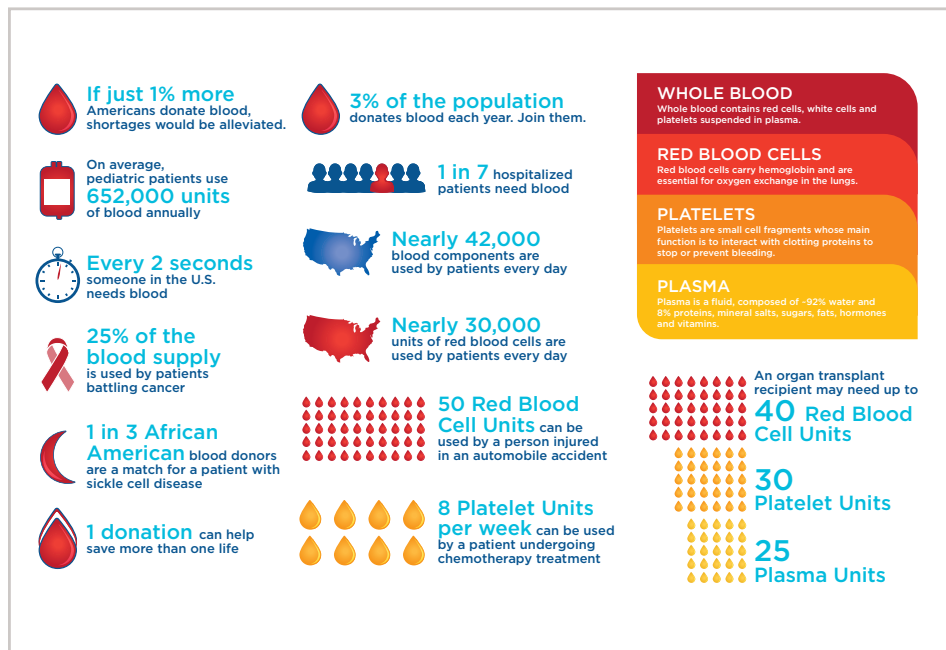
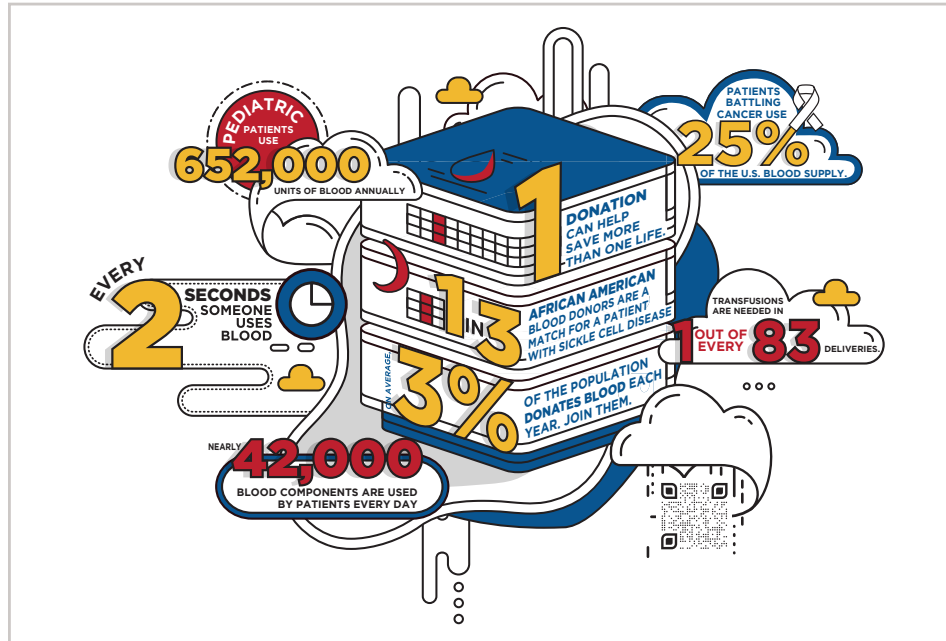
## Appendix A: Graphics for Social Media

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



## Appendix B: Graphics for Printing

The two graphics below are vector and can be printed at any size. [Click here](#) to download the PDF file with both posters.





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