

**WORLD
BLOOD
DONOR DAY
2024**

20 Years of Celebrating Giving: Thank You, Blood Donors

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World Blood Donor Day (WBDD), observed annually on 14 June, was first established in 2004 through a collaboration between the World Health Organization, the International Federation of Red Cross and Red Crescent Societies, the International Federation of Blood Donor Organizations (IFBDO), and the International Society of Blood Transfusion (ISBT).¹ The date marks the birth anniversary of Karl Landsteiner (born in 1868), the Nobel Prize-winning scientist who discovered the ABO blood group system.^{2,3} The day aims to raise global awareness about the need for safe blood and blood products, while expressing gratitude to voluntary donors for their life-saving contributions.¹ The year 2024 holds special significance as it marks the 20th anniversary of World Blood Donor Day, celebrated under the theme "20 Years of Celebrating Giving: Thank You, Blood Donors!"

If we look back at history, we find two landmark discoveries: one was in 1901, the discovery of ABO blood groups by Dr. Karl Landsteiner. Another one is in 1914, when the discovery of using sodium citrate to prevent blood from coagulating during storage shed light on the pathway to making long-term storage possible and the establishment of organised blood banks possible.^{3,4} In 1921, the world's first organised blood donor service was established by Percy Lane Oliver, Secretary of the British Red Cross. For these services, volunteer donors underwent physical examinations, and their blood grouping was done before enrolment. The London Blood Transfusion Service operated these services free of charge and expanded rapidly; by 1925, it was providing transfusion support to nearly 500 patients and was formally incorporated into the British Red Cross in 1926.

The success of this model led to the establishment of similar services in other UK cities, including Sheffield, Manchester, and Norwich, and soon attracted international recognition. Subsequently, comparable blood

donor services were developed in several countries, including France, Germany, Austria, Belgium, Australia, and Japan.⁵ In 1937, Bernard Fantus, director of therapeutics at the Cook County Hospital in Chicago, established the world's first hospital blood bank in the United States.⁵ Blood Bank, where Donor's blood is preserved, refrigerated and stored. Within a few years, hospital and community blood banks were established across the United States, and blood is now available worldwide.

Blood transfusion is used in a wide range of medical conditions for planned treatments and urgent interventions to replace lost blood components and saves millions of lives each year. Blood is essential in lifesaving emergencies, e.g. accidents and trauma cases, childbirth complications, natural disasters and conflict zones, etc. One donation can save up to three lives, making it a vital public health resource. It enables patients with life-threatening illnesses to survive longer with an improved quality of life and supports complex medical and surgical procedures.^{6,7} Blood transfusion also plays a crucial, life-saving role in maternal and perinatal care; access to safe and adequate blood and blood products significantly reduces mortality and disability resulting from severe bleeding during and after childbirth.⁸

Early transfusion practices relied on whole blood; however, modern transfusion medicine predominantly uses specific blood components, including red blood cells, plasma, platelets, and clotting factors, etc. However, whole blood is used as an important option in selected trauma settings.⁹

In many countries, the supply of safe blood remains inadequate, and blood transfusion services face the dual challenge of ensuring both sufficient availability and high standards of quality and safety.¹⁰ A sustainable blood supply can be achieved only through regular donations

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from voluntary, unpaid blood donors. The World Health Organization had set a global goal for all countries to obtain their entire blood supply from voluntary, unpaid donors by 2020, but which was not yet achieved. In 2014, 60 countries reported that 99–100% of their national blood supply was derived from voluntary, unpaid donations, while 73 countries continued to rely largely on family replacement and paid donors.¹¹

To ensure the safety of blood transfusion, potential donors are carefully evaluated before blood collection. Donor selection includes a brief medical history and physical examination to confirm that donation will not pose a risk to the donor's health. In addition, all donated blood is routinely screened for transfusion-transmissible infections, including HIV/AIDS and hepatitis B and C. Safe blood donation protects both recipients and donors: rigorous screening and testing protocols help to ensure that donated blood is free from infectious agents, while donors also benefit from basic health assessments conducted during the donation process.

Blood donation is an honourable act, but not everyone is eligible. The following are the basic guidelines for donating blood:

Blood Donation eligibility criteria^{12–14}

Age-18 to 65 years,

Weight- Minimum 50 kg,

Haemoglobin Level- At least 12.5 g/dL,

Health Status- Should be physically healthy and free from infections,

Donation Interval-3 months (men), 4 months (women).

The frequency of blood donation varies from days to months, depending on the type of blood component donated and the regulations of individual countries. For example, in the United States, donors are required to wait 56 days (8 weeks) between whole-blood donations, whereas platelet apheresis donations may be performed at intervals of 7 days, and plasmapheresis may be undertaken up to twice within a 7-day period.¹⁵ In Bangladesh, donation intervals generally follow World Health Organization guidelines¹⁶ with minor modifications. A healthy male donor may donate whole blood up to 3 times per year with a minimum interval of 4 months, while a healthy female donor may donate up to 2 times per year with a minimum interval of 6 months. Platelet apheresis requires a minimum interval of 4 weeks, and plasmapheresis requires a minimum interval of 2 weeks.

Blood Donation Disqualifications are as follows¹⁷

a) Temporary disqualifications

- Fever, cold, or recent infection
- Recent surgery (within 6 months)
- Recent dental procedure (within 24–72 hours)
- Recent vaccination (14–28 days, depending on the vaccine)
- Use of antibiotics or medication (within the last 2 weeks)

b) Permanent Disqualifications

- HIV/AIDS, Hepatitis B or C
- Chronic heart or lung diseases
- Uncontrolled diabetes or epilepsy
- History of cancer
- History of organ transplant

In developed countries, blood donation is typically anonymous with respect to the recipient; however, all blood products within blood banks remain individually traceable throughout the entire process of donation, testing, component preparation, storage, and transfusion.¹⁸ This comprehensive traceability allows for effective monitoring, investigation, and management of suspected transfusion-related reactions or disease transmission. In contrast, many low- and middle-income countries continue to rely heavily on family replacement and remunerated donors rather than voluntary non-remunerated donors. This reliance is influenced by concerns regarding donation- and transfusion-transmitted infections, as well as prevailing local, social, and cultural beliefs.¹⁹

According to the estimates of the World Health Organization approximately 118.5 million blood donations are collected worldwide each year; however, nearly 40% are obtained in high-income countries, which account for only 16% of the global population.²⁰ Blood donation rates show substantial disparities, with 31.5 donations per 1,000 population in high-income countries compared with only 5.0 per 1,000 population in low-income countries.²⁰ Blood donation is an essential component of patient care, and sustained efforts are required to enhance the recruitment of voluntary donors and improve the return rate of first-time donors. Evidence from relevant studies indicates that blood donation awareness campaigns should specifically target population groups with lower levels of knowledge about blood donation, such as unemployed individuals and those who have not completed education beyond high school. Educational interventions, particularly school-based programmes and organized visits to blood banks, have been suggested as effective strategies to improve awareness and foster a culture of voluntary blood donation.²¹

In recent years, social media has become an integral part of daily life and represents a powerful platform for raising awareness about blood donation. Awareness campaigns can be effectively delivered through multiple digital channels, including Twitter posts, Instagram reels, YouTube videos, online survey forms, and Facebook groups. These platforms enable campaigns to reach wider and more diverse audiences, thereby increasing their overall impact. Engagement is particularly enhanced when influencers or celebrities participate, as their endorsement can significantly influence public attitudes and behaviours.

Targeted strategies should also be implemented to encourage

female participation in blood donation, as women remain underrepresented among donors in many settings. In addition, traditional media approaches, such as television advertisements and organized campaigns aimed at university students or health-club members, may further enhance donor recruitment.

Addressing misconceptions and inaccurate information about blood donation is equally important. Common myths include beliefs that donated blood has no expiry date, that donors and recipients must be first-degree relatives, or that blood banks always have sufficient blood supplies. Correcting such misinformation is essential to improving public understanding and donor motivation. Incentive-based approaches, such as mobile blood donation units, free basic health or blood tests, and provision of days off work, have also been shown to increase donor participation and retention.

Every year on 14 June, the world observes World Blood Donor Day (WBDD) to recognize the generosity of voluntary blood donors, raise awareness about the importance and life-saving impact of blood donation, and motivate more people to donate regularly. This day symbolizes global gratitude to donors while emphasizing the ongoing and critical need for safe, adequate, and sustainable blood supplies. Since its inception in 2004, WBDD has served as a global catalyst for strengthening blood-transfusion systems.

The 20-year milestone of World Blood Donor Day (WBDD) provides a timely opportunity to reflect on progress achieved, honour the selfless contributions of blood donors worldwide, and critically assess advances toward universal access to safe blood. The 2024 theme, "20 Years of Celebrating Giving: Thank You, Blood Donors!", commemorated two decades of global advocacy while reaffirming the ongoing need for regular, voluntary, and unpaid blood donation. The 2024 campaign highlighted gratitude to millions of donors, acknowledged persistent challenges in blood availability and donor services, emphasized youth engagement to ensure sustainability, and showcased the growing role of technology and digital innovation in blood management systems.

As the global community marks this anniversary, recognition must be translated into sustained action. For clinicians, transfusion specialists, policymakers, and donor-service professionals, the imperative is clear: to strengthen voluntary donation as the foundation of national blood systems, ensure equitable access, integrate transfusion services within broader health systems, and continually advance safety and efficiency. Thus, this 20-year milestone should serve not only as a celebration of past achievements but as a catalyst for renewed commitment, ensuring that every patient, everywhere, can access the life-saving gift of blood.

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