



(Non-)donor demographics, donation willingness, and the donor career

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KEY IDEAS

- Donation *willingness* is generally high but *registering* with donor centers lags behind.
- We need to understand *why* and *when* during the life course which groups of individuals are motivated to donate.
- With this knowledge, we can design targeted recruitment and retention strategies and improve evidence-based donor management.

Without blood donors, there are no blood products to transfuse and no plasma donations for pharmaceutical drug production. Four million patients in Europe are treated annually with blood-derived products given by voluntary blood donors. However, only about 3% of the population in Europe are registered as blood donors, and donor numbers have been decreasing during the recent decades. At the same time, the demand for blood products is shifting in times of demographic change, migration, and longevity.¹ Hence, it is crucial that a country's donor pool is sufficient enough to ensure access to every needed blood type and plasma product.

Securing a sufficient, diverse, and loyal donor pool is challenging, however, as donating blood is a costly endeavor. Donating requires individual resources, e.g., knowledge, health, and time, and can involve medical risks, such as fainting or bruises, that can vary over the life course. Onset, continuation, and/or cessation of blood donation (Fig. 1)—the donor career—can occur at specific moments during an individual's life course. Standard demographics such as age, gender, and education, but also donation history—i.e., number of lifetime donations, time since registering, and donation complications—may influence blood donor behavior differently across the donor career. Young adults may become blood donors because their parents are donors and they grew up in a tradition of family (health) philanthropy.² Or, later in life, when confronted with the illness and death of a loved one, individuals become aware of the need for blood

products and might register or continue as a blood donor. By contrast, others may become blood donors early, but do not return later on, because of time constraints due to family responsibilities, e.g., life events such as parenthood.³

WILLINGNESS TO DONATE BLOOD AND PLASMA IN DIFFERENT AGE GROUPS ACROSS EUROPE

Analysis of the Eurobarometer data,⁴ a biennial large-scale survey among more than 27,000 participants in 29 European countries shows that willingness to donate blood varies greatly across age groups *and* countries. In our analysis, we used data from 2014 and distinguished four age groups, the millennials (aged 15–24 years), the generation X (aged 25–39 years), the middle-aged (40–54 years), and the baby boomers (aged 55+). In many countries, the willingness to donate blood is highest among the two younger-age groups, i.e., the millennials and generation X, ranging from a “low” 60% in Slovakia until over 90% in Sweden and Croatia, and an average of 77% and 73% respectively. In the baby boomer group the willingness to donate blood is lower compared to the three other groups, with an average of 43%.

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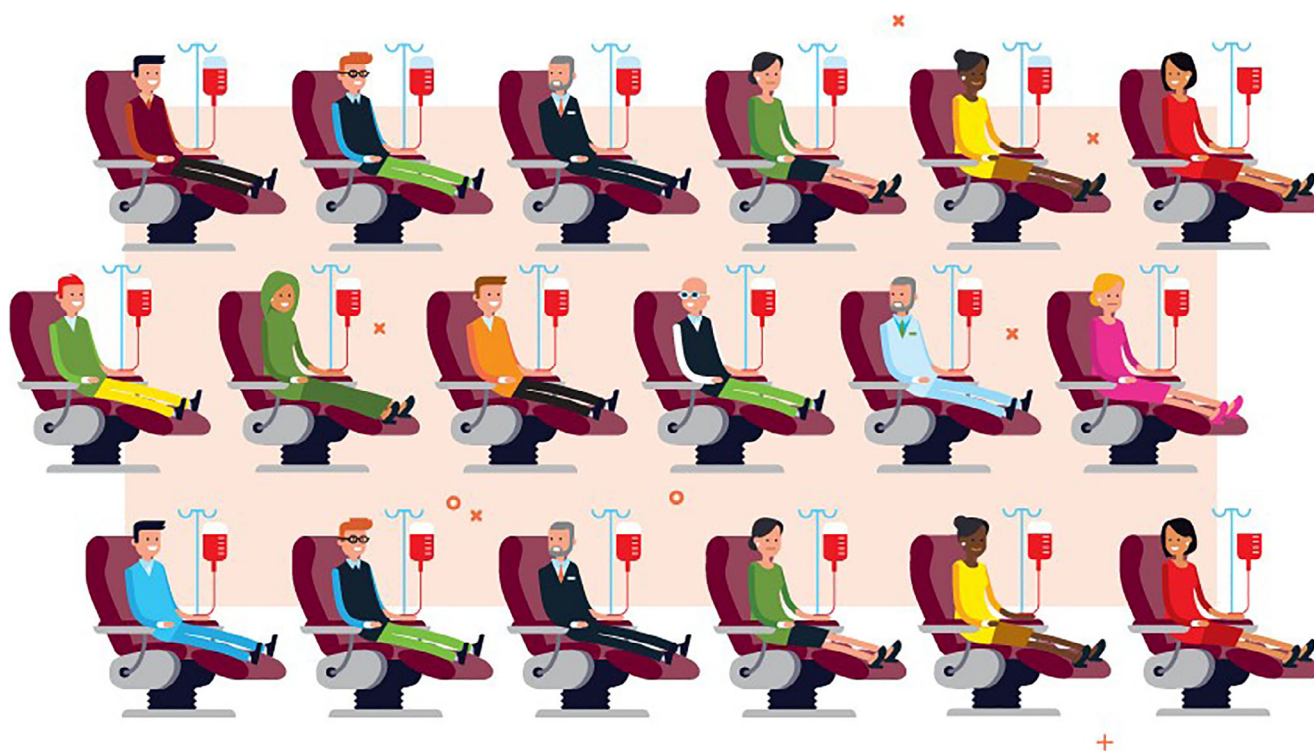


Fig. 1. From different donors (young, old, male, female, different background) to different management?!

For the millennials, factors that increase the willingness to donate blood include the motivation to help family and friends and the perceived transfusion safety, i.e., how respondents rate the safety of the medical procedure of blood transfusion in their country. Similarly, respondents from the generation X group reported helping family and friends, helping others in need, but also knowing a transfusion recipient as important motivators for blood donation. Interestingly, in the older age groups, demographic factors, such as having a partner and children increased the willingness to donate, possibly related to larger social networks and feelings of (societal) responsibility associated with parental status.^{5,6} In all age groups except for the baby boomers, perceived transfusion safety was a predictor of blood donation willingness.

Willingness to donate plasma is motivated by similar factors but is generally associated with lower willingness compared with donating blood. The highest willingness is found among millennials and generation X, up to above 90% in Sweden and with an average of 63% and 62%, respectively. Across all age groups, knowing a transfusion recipient predicted and increased plasma donation willingness, probably due to the fact that knowledge on plasma donation is more limited than on blood donation. Helping people in need also predicted plasma donation willingness across all groups, while having children and perceived transfusion safety was predictive of plasma donation willingness in the middle-aged and baby boomer groups.

Taken together, next to the known prosocial donation motives such as helping others, *trust* in medical procedures and blood transfusion in particular plays a role in explaining blood and plasma donation willingness. Hence, addressing distrust and lack of knowledge regarding the whole donation-to-transfusion chain can be important for donor management. Our analysis of the Eurobarometer data showed that, in general, people report high willingness to be blood donors. Unfortunately, the relation between willingness and behavior is relatively low⁷—only about 3–4% are actually registered as donors. Examining what factors increase willingness thus might offer important insights into targeted recruitment strategies. Moreover, once individuals are registered as donors, attention to factors hindering the continuation of the donor career, e.g., stress and anxiety, is warranted.

STRESS AND NEGATIVE EVENTS AFFECTING THE DONOR CAREER

In previous studies, donation-induced stress and anxiety of donors have been studied.^{8,9} During a routine blood donation, donors experience psychological and physiological stress that peaks during needle insertion and is then down-regulated toward the end of the procedure. First-time donors show higher stress levels compared to more experienced donors, with younger donors in their twenties being more prominent in the first-time donor group. In addition, those

with higher scores on stress were more likely to experience and report donation-related complications and were less likely to return for a subsequent donation (Huis in 't Veld, unpublished observations).

Anxiety and donation-induced negative events also have been mentioned as barriers to (continue to) donate blood.¹⁰ Specifically, in a study among lapsed donors, negative physical reactions to blood donation was the most frequently mentioned reason to stop donating, especially among female, younger (aged 19–33 years), and less experienced donors. In older age groups (aged 51–64 years), donors who decided to stop donating more often reported inconvenient opening hours as main reason. When comparing men and women, as mentioned above, women reported negative physical experiences as the main reason to stop donating, while men were deterred from continuing as donors mostly by inconvenient opening hours.¹⁰

GENERAL CONCLUSIONS AND FUTURE OUTLOOK

Targeted recruitment and retention of specific groups of donors is vital to meet the demands for blood products. A thorough and inclusive investigation of motives to donate blood and plasma, as well as a dynamic approach to blood donor careers is lacking, although this information is fundamental to develop effective evidence-based donor management. In our view, a multidisciplinary approach that encompasses the interplay among groups of determinants, i.e., demographic (age, gender), psychological (trust, anxiety), and health (stress, physical reactions), while paying attention to motivational mechanisms, and social and context influences, can explain the onset and continuation of blood donation throughout the donor career and offer clues for developing recruitment and retention strategies for different segments of the (potential) donor population.

CONFLICT OF INTEREST

The authors have disclosed no conflicts of interest.

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