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COMMENTARY

Vox Sanguinis ISBT International Society of Blood Transfusion

Limited evidence, lasting decisions: How voluntary non-remunerated plasma donations can avoid the commercial one-way street

INTRODUCTION

In July 2022, the European Commission published their proposal for a regulation on substances of human origin, which has since undergone debate [1]. The core of this debate surrounds whether or not the principle of voluntary non-remunerated donation (VNRD) should be loosened to increase the plasma supply in the European Union (EU). Based on the Committee of Ministers to Member States [2] and in line with the Council of Europe [3], we follow this definition of VNRD: '*Donation is considered voluntary and non-remunerated if the person gives blood, plasma or cellular components of his or her own free will and receives no payment for it, either in the form of cash or in kind which could be considered a substitute for money. This would include time off work other than that reasonably needed for the donation and travel. Small tokens, refreshments and reimbursements of direct travel costs are compatible with voluntary, non-remunerated donation*'. As such, we define remuneration as anything that falls outside of this definition, including financially non-neutral compensation, financial gain, or monetary compensations. Both proponents and opponents of VNRD use ethical or ideological argumentation, not often relying on empirical data to support their arguments [1]. Based on the limited available data, we argue that EU member states should retain VNRD at the core of their policies, even if a new regulation would allow remuneration. Our argumentation uses empirical findings surrounding three themes: safety for donors and donated products, product pricing, and supply resilience.

HIGHER SAFETY FOR DONORS AND DONATED PRODUCTS

In the United States, the maximum plasmapheresis donation frequency is twice per week (maximally 104 donations/year) [4]. Most plasma donors are remunerated 50–75 USD per donation, with certain centres advertising that regular donors can earn 6,000 USD annually [5, 6]. In Austria, Czechia, Germany and Hungary, although there is a lower maximum donation frequency, plasma donors are remunerated between 15 and 30€ [7]. It is reasonable to assume that when donors are remunerated, they will donate more frequently, as donors may depend on these payments as a source of income [8]. This differs from countries with VNRD, such as most countries in the EU [9]. Guidelines of the European Directorate for the Quality of Medicines and HealthCare of the Council of Europe recommend a maximum plasma donation frequency of once per week (maximally 33 donations/year) [10], such as in France, where the minimum interval between two plasma donations is 2 weeks (maximally 24 donations/year) [11].

A randomized controlled trial examined blood parameters across four plasma donation frequencies [12]. During the trial (Day 42) and after (Day 84), immunoglobulin G levels decreased (on average to <6 g/L on Day 84) within the group that donated twice a week (the maximum allowance in the United States [4]), corroborating previous research [13]. Because commercial plasma donation centres are located in areas of greater poverty [14], vulnerable populations are made even more vulnerable concerning their health safety, especially given the aforementioned advertising from these centres to donate frequently [4–6, 8].

Within Lithuania, blood and blood components donations shifted from mostly remunerated to mostly VNRD due to national programmes promoting VNRD following Lithuania's EU membership [15]. A study examining this unique within-country natural experiment showed higher prevalence of transfusion-transmitted infectious (TTI) disease markers for remunerated donations compared to donations based on VNRD from 2013 to 2017 [15]. This is consistent with previous research that found lower TTI disease markers for voluntary compared to paid donors in the Democratic Republic of Congo [16] and Nigeria [17].

In the case of plasma donations specifically, a human immunodeficiency virus/hepatitis C infection outbreak occurred in the 1970s–80s within the haemophilia community, whose individuals depend on plasma-derived clotting factor products [18]. Consistent with the research on Lithuania [15], at that time, higher infection rates were found for products made plasma in countries with a collection system based on remunerated donations than countries with a collection system based on VNRD [19]. The procedure has since been improved to reduce infectious risk, but there remains an infectious burden on donated products.

TABLE 1 Mean price (in euros) of Privigen® (per gram) for 2018 and 2023 in private collection centres compared to public collection centres.

	2018	2023	% change from 2018 to 2023
Private collection	38.95€	73.20€	88%
Public collection	51.73€	64.33€	24%

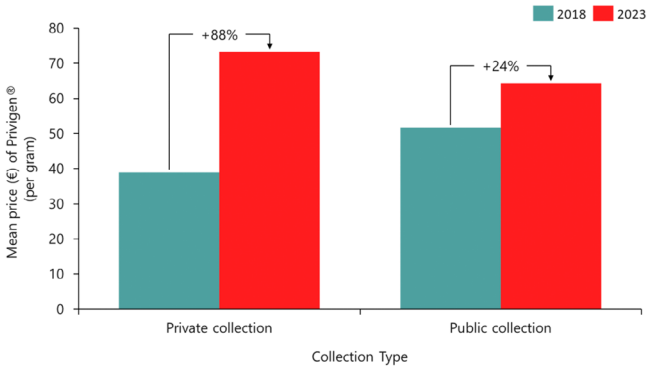

FIGURE 1 Mean price (in euros) of Privigen® (per gram) for 2018 and 2023 in private plasma collection centres compared to public collection centres. Increase in price from 2018 to 2023 is shown as a positive percentage difference with an arrow. Data extracted from personal communication and government websites (see Appendix S1).

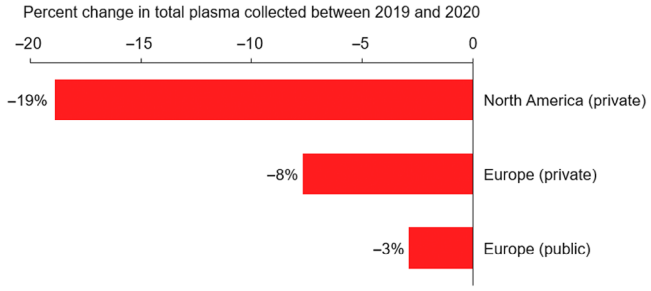

FIGURE 2 The percent change in total plasma collected between 2019 and 2020 for different sectors. Exact percentages and direction of change are reflected directly in front of bars [25, 26].

LOWER PRICES FOR PATIENTS AND THE HEALTHCARE SYSTEM

Plasma-derived medicinal products (PDMPs), such as Privigen® [20–22], an immunoglobulin product, are medicines derived from plasma to treat several medical conditions. We gathered Privigen® price data for several European countries, through personal communication and government websites (see Appendix S1), as publicly available data on PDMP prices is limited. Our data showed that Privigen® prices (per gram) increased less in countries with only public and non-governmental organization (NGO) plasma collection (non-remuneration) compared to countries with private plasma collection (donors are effectively remunerated) from 2018 to 2023 (Table 1; Figure 1). This illustrates seemingly differing pricing mechanisms for PDMPs between these European countries. Moreover, since these dates are before and during the coronavirus disease 2019 (COVID-19) pandemic, these data also show that PDMP prices seem to be better managed in countries with only public and NGO plasma collection compared to countries with private plasma collection.

MORE RESILIENT SUPPLY

Ensuring plasma supply is maintained if a crisis arises is crucial [23, 24]. By comparing the plasma supply before (2019) and during (2020) the COVID-19 pandemic, we measured supply resilience across the private sector (donors are effectively remunerated) and public sector (non-remuneration). Results showed that the plasma supply collected through the private sector decreased more drastically than the plasma supply collected through the public sector from 2019 to 2020 (Figure 2) [25, 26].

Moreover, research on remunerated donations in Germany found 77% of remunerated donors would discontinue donating if remuneration ceased [27]. This further demonstrates the issues with remunerated donations: once remuneration is expected by donors, the decision is irreversible without a major loss of donors (i.e., 50% [27]), thus causing a significant supply shortage.

CONCLUSION

The empirical evidence presented here complements the ethical and ideological argumentation surrounding the importance of VNRD. Research indicated that when donors are remunerated and therefore donate very frequently, donor safety is at risk and the infectious burden of the donated products is higher [11–19]. Moreover, PDMP prices increased less over time when plasma was collected in countries with collection system based on VNRD as opposed to remunerated donations (Figure 1). In addition, once countries allow remuneration, they enter a 'one-way street': the supply of plasma—and potentially also whole blood and components—will be at risk when re-introducing VNRD policies [27]. It should be noted that the data on pricing and resilience are limited due to a lack of transparent data and do not allow for establishing a causal mechanism between implementing a system based on VNRD and the impact on price or resilience, especially since different countries have different pricing procedures for medicines. We encourage future research to explore the causal links between VNRD and outcomes such as pricing of PDMPs and reslience of supply. In conclusion, based on the above empirical evidence, we argue that EU members should retain VNRD at the core of their policies and refrain from introducing remuneration, even if the new regulation enables it.

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CONFLICT OF INTEREST STATEMENT

All authors are employed by Belgian Red Cross–Flanders, responsible and reimbursed for supplying adequate quantities of safe blood products to hospitals in Flanders and Brussels.

DATA AVAILABILITY STATEMENT

Data are available upon reasonable request to the corresponding author, Kelsey J. MacKay.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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