



1 UR3797 VieFra, Faculty of Medicine, University of Reims Champagne-Ardenne, Reims, France

2 Public Health Department, Champagne Sud Hospital, Troyes Hospital, Troyes, France

3 Association of Voluntary Blood Donors in Châlons-Champagne, Châlons-Champagne, France

Correspondence to: S Sanchez stephane.sanchez@hcs-sante.fr <https://orcid.org/0000-0002-0925-6948>

Cite this as: *BMJ* 2026;392:s100

<http://doi.org/10.1136/bmj.s100>

## Incentives for increasing blood donations

### China's non-monetary reward model may show promise

Stéphane Sanchez, <sup>1,2</sup> Véronique Gangand, <sup>3</sup> Jan Chruscic <sup>1,2</sup>

*“Science, and the generosity of a blood products donation saved my life.” (L Gangand, April 2025)*

This poignant testimony from a patient who received a transfusion every two weeks shows how blood donations save lives. Today, almost every country faces similar challenges regarding blood donation: it is becoming increasingly difficult to maintain a stock of blood products that matches patient demand. Projected demographic changes for China predict a reduction of 16% in available blood products by 2036, with demand increasing in parallel.<sup>1</sup> The number of donations in China was fewer than 10 per 1000 people in 2008,<sup>2</sup> but rose to 11.5 in 2022.<sup>3</sup>

Various avenues exist for increasing blood stocks, notably relating to donor eligibility. For example, the maximum age for donating could vary according to population needs (in France, people older than 70 can donate).<sup>3,4</sup>

In a linked study by Liu and colleagues (doi:10.1136/bmj-2025-084999), blood donation is positioned in a wider framework aimed at rewarding altruistic behaviours by giving rewards to citizens for honourable actions. This innovative approach aims to combat barriers to blood donation.<sup>5</sup> The study evaluated an honour model deployed progressively in China throughout various provinces, starting in 2014. The programme aimed to increase blood donations by placing social value on blood donation and rewarding donors in non-monetary ways (an honour card, free access to transportation or parks, outpatient consultations). Using a staggered difference-in-differences approach, the authors evaluated the effect of the policy, with the design enabling assessment of the intervention's impact in different provinces and at different times. In this way, the effect of the intervention could be dissociated from any external events affecting the whole country. This innovative and quasi-experimental approach showed a moderate increase in blood donations. However, caution is warranted when interpreting these findings. Firstly, the decision to implement the honour model in a province was not random, and perhaps the provinces that implemented the programme had higher chances of benefitting from this model. Therefore, the effect of treatment would likely not be the same in a randomly selected localisation. Secondly, retrospective studies can be biased because researchers may choose to publish only favourable results, which can underestimate the true risk of negative outcomes. The functional form of predictors (log transformed variables) also implies a principled model choice, and model results always depend on statistical assumptions. However, the

authors provide numerous sensitivity analyses to increase the reader's confidence in these results.

The effect of incentives—whether monetary or not—on donations is disputed, as shown in the literature around Titmuss' *The Gift Relationship*, a book comparing the respective merits of the British (donation based) and American (predominantly commercial) blood collection systems (published in 1970).<sup>6</sup> The debate is ongoing, as shown in a recent meta-analysis.<sup>7</sup> Although the meta-analysis showed an increase of 0.4 blood units collected per 1000 people per year and per dollar incentive, its author cautions that the effect was highly heterogenous, and that additional data need to be collected to evaluate the long term effects of incentives for blood donation. Early articles based on surveys or studies with small sample sizes had put forth the view that incentives for donations were counterproductive, or that they attracted more donors carrying transmissible diseases.<sup>8,9</sup> Donors expect their action to be perceived as altruistic, which is a key aspect of donating. As soon as compensation is offered, the donation ceases to be seen as an act of generosity and becomes a mundane transaction. Under these conditions, some people may no longer be interested in donating. This phenomenon has been referred to as the “crowding-out” effect.<sup>7,10</sup> Nonetheless, later evidence has shown positive effects of external donation incentives, such as a persistent donation increase of 40% (corresponding to one donation per year) in Italy when a paid day off work was granted after donations.<sup>11</sup> A field experiment conducted with nearly 100 000 people in Ohio has also shown increases in donations when gift cards were offered in exchange for a donation.<sup>12</sup>

The motivation to donate may vary depending on individual beliefs and social values. Women are more averse to economic rewards.<sup>13</sup> In the Ohio field experiment,<sup>12</sup> the incentives were more effective for older donors. The baseline probability of donating also varies. A Brazilian study showed that men and people of higher socioeconomic status are more likely to donate.<sup>14</sup> Finding the right model of social reward to compensate the donors' altruism is a tricky question.<sup>4</sup> The article by Liu and colleagues provides new evidence that non-monetary incentives may improve the likelihood of blood donations. The decision to reward altruistic activities through non-financial or indirect incentives means that this strategy is likely to be sustainable because the cost to the healthcare system should remain moderate. Subsequent economic evaluations could be necessary,<sup>15</sup> particularly in a context where the long term sustainability of social protection systems remains a major challenge for developed countries. Overall, the findings by Liu and colleagues may

herald a new honour paradigm for blood donation, or alternatively, a new non-cash model for rewarding it. Only time will tell.

The BMJ has judged that there are no disqualifying financial ties to commercial companies.

The authors declare the following other interests: none

Further details of The BMJ policy on financial interests is here: <https://www.bmjjournals.org/sites/default/files/attachments/resources/2016/03/16-current-bmj-education-coi-form.pdf>.

Provenance and peer review: Commissioned; not externally peer reviewed

The authors would like to thank Fiona Ecarnot, Université Marie and Louis Pasteur, Besançon, France, for editorial assistance.

- 1 Yu X, Wang Z, Shen Y, et al. Population-based projections of blood supply and demand, China, 2017-2036. *Bull World Health Organ* 2020;98:8. doi: 10.2471/BLT.19.233361. pmid: 31902958
- 2 Yin Y-H, Li C-Q, Liu Z. Blood donation in China: sustaining efforts and challenges in achieving safety and availability. *Transfusion* 2015;55:30. doi: 10.1111/trf.13130. pmid: 26111254
- 3 Cao C, Wang J, Guo T, et al. Voluntary blood donation preferences in China: a discrete choice experiment among experienced and inexperienced donors. *Vox Sang* 2024;119:38. doi: 10.1111/vox.13604. pmid: 38389330
- 4 Yu C, Holroyd E, Cheng Y, Lau JT. Institutional incentives for altruism: gifting blood in China. *BMC Public Health* 2013;13. doi: 10.1186/1471-2458-13-524. pmid: 23721212
- 5 Liu Y, Pan Y, Zheng Z, et al. Impact of shifting blood donation policy from gift to honour model: staggered difference-in-differences analysis in China. *BMJ* 2026;392:e084999.
- 6 McLean I, Poulton J. Good blood, bad blood, and the market: "The Gift Relationship" revisited. *J Public Policy* 1986;6:45doi: 10.1017/S0143814X00004232.
- 7 Bruers S. Blood donation and monetary incentives: a meta-analysis of cost-effectiveness. *Transfus Med Rev* 2022;36:57. doi: 10.1016/j.tmr.2021.08.007. pmid: 34742615
- 8 Lacetera N, Macis M, Slonim R. Public health. Economic rewards to motivate blood donations. *Science* 2013;340:8. doi: 10.1126/science.1232280. pmid: 23704557
- 9 Eastlund T. Monetary blood donation incentives and the risk of transfusion-transmitted infection. *Transfusion* 1998;38:82. doi: 10.1046/j.1537-2995.1998.38998409009.x. pmid: 9738629
- 10 Lacetera N, Macis M. Do all material incentives for pro-social activities backfire? The response to cash and non-cash incentives for blood donations. *J Econ Psychol* 2010;31:48. doi: 10.1016/j.jeop.2010.05.007.
- 11 Lacetera N, Macis M. Time for blood: the effect of paid leave legislation on altruistic behavior. *J Law Econ Organ* 2013;29:420. doi: 10.1093/jleo/ews019.
- 12 Lacetera N, Macis M, Slonim R. Rewarding altruism? A natural field experiment. NBER Working paper 17636. National Bureau of Economic Research; 2011. Available from: <https://www.nber.org/papers/w17636>
- 13 Mellström C, Johannesson M. Crowding out in blood donation: was Titmuss right? *J Eur Econ Assoc* 2008;6:63. doi: 10.1162/JEEA.2008.6.4.845.
- 14 Zucoloto ML, González TT, Gilchrist PT, Custer B, McFarland W, Martinez EZ. Factors that contribute to blood donation behavior among primary healthcare users: a structural approach. *Transfus Apher Sci* 2019;58:8. doi: 10.1016/j.transci.2019.08.020. pmid: 31519527
- 15 Frieden TR. Six components necessary for effective public health program implementation. *Am J Public Health* 2014;104:22. doi: 10.2105/AJPH.2013.301608. pmid: 24228653