

PUBLIC HEALTH

Economic Rewards to Motivate Blood Donations

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The position and guidelines of the World Health Organization (WHO) and several national blood collection agencies for nearly 40 years have been based on the view that offering economic incentives to blood donors is detrimental to the quantity and safety of the blood supply (1). The guidelines suggest that blood should be obtained from unpaid volunteers only (2). However, whether economic incentives positively or negatively affect blood donations (and other prosocial activities) has remained the subject of debate since the positions were established (2–8).

Evidence consistent with the WHO position came originally from uncontrolled studies using nonrandom samples and, subsequently, from surveys and laboratory studies indicating that economic incentives can “crowd out” (decrease) intrinsic motivations to donate and can attract “worse” donors (9). This evidence arguably affected policies, such as bans on compensation for blood and organ donations in many countries.

Surveys allow for a variety of hypothetical manipulations on large samples, and laboratory experiments parallel laboratory health research methods by enabling researchers to carefully control the setting, randomize the assignment of treatment, and identify causal effects. Because compensation is illegal in many countries and observing blood donations is often costly (as only a small share of subjects invited to donate actually do so), surveys and laboratory studies retain an important role for addressing many questions (10). Yet it is unusual for health policy to rely only on such evidence. Complementary, randomized field trials are the norm and are recommended before policies are affected (11). With a few early exceptions based on small, nonrepresentative samples (12), field trial evidence on how economic incentives affect blood dona-



tions has been absent. But field-based evidence from large, representative samples has recently emerged. The results are clear and, on important questions, opposite to the uncontrolled studies, surveys, and laboratory evidence preceding them.

An Overview of the Evidence

Several fundamental problems make evidence from early studies on incentives for blood donations unreliable (9). Samples were often small or nonrandom, and controls for potentially confounding factors (such as the prevalence of first-time donors, the location of donations, and the use of prisoners) were not distributed equally between incentivized and non-incentivized subjects. We thus focus on studies relying on large, representative samples of existing or potential donors that control for confounding factors to better identify and isolate causal effects (table S1).

Surveys and framed experiments across several countries find that respondents generally state aversion to receiving money for donating blood (13–18). Attitudes are less negative, and sometimes positive, when rewards have less clear economic connotation, such as receiving free medical testing (e.g., a cholesterol test) (13–16). Women indicate more aversion to economic rewards (17, 18), and subjects more responsive to incentives report behaviors (e.g., drug use) that lead to a higher risk for transfusion-transmissible infections (e.g., hepatitis), which make them ineligible to donate (13, 14).

More recent research from published and working papers uses field-based methods with larger, representative samples, as well as clinical trial–like experiments with

Field-based evidence suggests that guidelines against economic rewards to motivate blood donors should be reconsidered.

minimal manipulation of the environment. Observational studies that control for confounding factors have examined 14 incentive items ranging from small coupons to a paid day off work. All were found to increase blood donations (19, 20). For example, items such as T-shirts and coupons led to 16% more donations at American Red Cross blood drives (20), and a 1-day paid leave was associated with 40% extra annual donations in Italy (19).

Three field experiments examining five different economic items offered to thousands of subjects in the United States and Switzerland examine nondonors (21) and existing donors (22, 23) among subjects who had been offered rewards never before (21, 22) or irregularly (about 35% of the time) (23). Similar to observational data, and again in contrast to the survey and framed studies, the first-order findings are large, positive effects of economic rewards. For instance, a 5 Swiss franc (~\$5.35) lottery ticket offer increased donations by 5 percentage points over a baseline of 42% (22), and a \$10 gift card offer increased U.S. donations by 7 percentage points over a 13% baseline (23).

Overall, 18 of the 19 distinct incentive items offered in observational and field experimental studies increased blood donations, and the effects were larger for items of higher monetary value (20, 23); only one reward offer, a free cholesterol test, had no effect (21, 22). When data were available (for 15 of the items), no effect on blood safety was detected (20, 22). Finally, although temporary rewards might affect long-term motivations, no post-intervention effects on donations were found, including any negative effects deriving from potential motivation loss (23).

Two additional important results are that incentives had spatial and short-term temporal effects on donations (23), which indicated that rewards can successfully address temporary shortages, and that no field study reports any gender differences on blood donations in response to reward offers.

There are many potential reasons for the differences between the results from the field and those from surveys and the laboratory. Subjects responding to hypothetical

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questions about socially desirable activities, like donating blood, may focus on seeing themselves in a positive perspective (24) and, thus, respond that they donate solely to help others; these same people may value a reward when actually offered one. Similar behavior may occur if subjects feel that researchers judge their actions and so wish to show that they donate for socially desirable reasons and not for rewards. In natural settings, there is no parallel to this perceived researcher scrutiny, thus subjects may be less concerned with loss in reputation (25, 26).

Implications for Policy and Future Research

These studies inform, yet limit, policy implications. First, because rewards were only offered one time or occasionally in all of the studies, we cannot infer the effect of offering rewards all the time. Nonetheless, the success of one-time or sporadic rewards is important because rewards can be offered at a specific time of greatest need, as shortages often occur at predictable times (e.g., winter). Further studies can determine if, and for how long, continued use of incentives may increase blood supply.

Second, the existing trials examine offers that are material items (e.g., T-shirts, lottery tickets, gift cards) rather than cash because cash is not allowed. No study observing actual donations has tested whether offering material items will work better than cash.

Third, items offered are framed as gifts or rewards rather than “getting paid.” The early debate on whether incentives undermine motivation to donate blood assumed that the incentives would be perceived as payment (3), rather than as gifts. Future research can address the importance of this difference in framing. In the meantime, the success of incentives not framed as a payment is strongly supported by the existing studies.

Fourth, rewards are not provided for making a blood donation, but rather for showing up to donate, which removes the incentive for people to provide false information so that they qualify to donate and consequently obtain the rewards. This practice may be critical for blood safety when incentives are offered.

Fifth, the evidence discussed so far comes from wealthy countries. However, shortages are more severe in resource-constrained economics because of inefficient blood collection systems that use emergency-replacement donations for specific recipients rather than anonymous, undirected donations (1). Only one field trial has examined economic incentive offers for undirected blood donations in a middle-income country, Argentina, where emergency dona-

tions are the norm (27). Consistent with the higher-income country results, supermarket vouchers of AR\$60 (~\$11.50) and AR\$100 (~\$19.20) increased undirected donations to 0.5 and 1.1%, respectively, from a baseline of no undirected donations in the no-reward condition and had no significant effects on blood safety compared with emergency donations. However, two other items with economic value tested in the study, a T-shirt and an AR\$20 (~\$4) supermarket voucher, had no effects, which highlights caution with extrapolating results to contexts with different institutions and norms.

Perhaps the key concern with blood donations in developing countries is safety, because testing blood is relatively more costly. More evidence is needed, but three insights from existing studies and current practice are noteworthy: (i) items offered in Argentina and elsewhere did not affect safety; (ii) offering rewards for presenting, rather than donating, should diminish donors falsifying information; and (iii) encouraging state-of-the-art blood testing can further allay safety concerns (28).

Finally, although we focused on studies of the effects of economic rewards, other mechanisms should be investigated. For instance, symbolic rewards and social recognition have enhanced donations among some groups, but not all (27, 29). Empathy and emergency appeals have increased donations among first-time donors in the United States after 9/11, whereas T-shirt offers had no effect on this group (30). The impact of a blood donor registry paralleling bone marrow and kidney registries is also worth exploring (31).

Conclusion

In light of the recent evidence, it is time to re-examine policy guidelines for increasing and smoothing blood supply, including whether incentives can play a role. There are efforts under way from different parts of society toward using rewards to increase donations. The U.S. 9th Circuit Court of Appeals' 2012 ruling legalizing compensation for bone marrow donations through apheresis was initiated by private individuals (32). A company prompted a 2010 European Court of Justice ruling that allowed importation of blood products obtained from compensated donors (33). Researchers and clinicians have noted that some WHO guidelines (e.g., emphasis on exclusive use of nonremunerated donors and centralizing blood collection organizations) are unintentionally adversely affecting blood collection in sub-Saharan Africa (34).

In addition to economic incentives, policy-makers should consider nonpecuniary rewards (e.g., symbolic and with social recognition) and various appeals. Debates on ethical issues around giving rewards for donations (35) should be encouraged. But there should be little debate that the most relevant empirical evidence shows positive effects of offering economic rewards on donations.

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Supplementary Materials

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