Background:
Many people would fulfil medical eligibility criteria for whole blood donation. However, only a small minority of people are willing to commit for altruistic activity. In the time of growing demand on blood products, the blood transfusion services (BTS) are forced to understand decision-making processes in order to optimise donor recruitment efforts. We evaluate various invitation strategies for positive decision making of potential blood donors differentiating between several sub-populations.

Methods:
The effectiveness of four different recruitment approaches is evaluated in a controlled field experiment involving more than 10,000 subjects. The control group received a regular written invitation. In the appeal treatment (AT), people additionally received a card reminding them on the importance of donating blood. In two further treatments, people were additionally offered either a free cholesterol check (CC) or a lottery ticket (LT). The different motivation strategies (AT, CC, LT) were implemented in parallel during a summer campaign in order to counteract the seasonal decline in donation frequency. The CC approach is expected to motivate intrinsically driven donors, who donate blood primarily for altruistic reasons. In opposite, the LT treatment is hypothesized to be appealing to people, who value material rewards (extrinsically driven donors).

Results:
Overall, there were only small effects for the three treatments. The efficacy of individual invitation strategies largely depends on various donor characteristics such as age (Fig. 2), gender (Fig. 3) and donation status (Fig. 1) (regular versus irregular donors). Age and irregular past donation behaviour were attenuating factors for LT. The recruitment effectiveness of CC was unexpectedly low.

Conclusions:
1. There is no single recruitment approach that works equally well with every potential donor group.
2. Recruitment approaches promising material rewards may fail on intrinsically motivated donors.
3. Material rewards e.g. lottery ticket may work effectively to reactivate former blood donors.
4. The offer of free laboratory screening, such as CC reveals at most minor efficacy in positive decision making of potential blood donors.
5. Donors may harbour both types of accessibility (intrinsic and extrinsic) in varying degrees at one time.