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Short report

Comparing the effects of defaults in organ donation systems

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ABSTRACT

The ability of patients in many parts of the world to benefit from transplantation is limited by growing shortages of transplantable organs. The choice architecture of donation systems is said to play a pivotal role in explaining this gap. In this paper we examine the question how different defaults affect the decision to register as organ donor. Three defaults in organ donation systems are compared: mandated choice, presumed consent and explicit consent. Hypothetical choices from a national survey of 2069 respondents in May 2011 in the Netherlands – a country with an explicit consent system – suggests that mandated choice and presumed consent are more effective at generating registered donors than explicit consent.

1. Introduction

Throughout the developed world one of the most pressing health problems is a persistent shortage for transplantable organs. The discrepancy between demand and supply results in long waiting times for patients who are in need of an organ (British Medical Association, 2012; Howard, 2007; Johnson and Goldstein, 2003). The policy debate in many countries revolves around solving this shortage. To shed light and inform this debate this paper exams how different systems of organ donation registration affect individual choice. The main debate seems to focus on the two most dominant systems: the explicit consent versus the presumed consent system. In the explicit consent system, the default is that nobody is a donor, and in order to become one they have to officially register ('opt in') their status as organ donor. The drawback of relying on such a spontaneous form of altruism is that due to procrastination or inertia the donation rate can be quite low and less than the willingness to donate. Some of these drawbacks are resolved in a presumed consent system. In such a system every adult citizen is by default a donor, unless they choose to opt out of this system. Johnson and Goldstein (2003) used a US sample to show how a presumed consent system in which people may 'opt out' generates a substantially higher percentage of registered donors than a system which explicitly makes people state their consent to donate their organs in case they die.

One of the drawbacks of the presumed consent system is that families of a deceased relative may object and withdraw the presumed consent. Furthermore, government can be seen as taking advantage of the inertia or inattention of citizens in giving consent. Spital (1995, 1996) was one of the first to suggest a way out of this dilemma: mandated choice. By forcing people to make a choice one can mitigate the ethical drawbacks of the presumed consent system, but it remains uncertain whether this will lead to substantial higher donation rates. Even clearly framed questions cannot prevent the possibility that people are uncertain and leave room for revoking an earlier made decision. In this paper we provide a replication and extension of the widely cited study of Johnson and Goldstein (2003) and measure whether there are substantial differences across three alternative donation systems. We use a survey among the Dutch population of which 48 percent of the respondents say they are registered organ donors. The Netherlands is a country which has an explicit consent system and like many other countries has to solve the problem of too few organ donors (Coppen et al. 2008).

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2. Setting defaults in organ donation

It is well-established that defaults matter in individual choice (cf. Abadie and Gay, 2006; Choi et al., 2003; Dinner et al., 2011; Johnson and Goldstein, 2003; Kahneman, 2003; Keller et al., 2011) and organ donation is no exception to this rule. The basic reason why defaults generate such a large effect is that people, contrary to what neoclassical economists would assume, do not have explicit preferences with respect to every imaginable good or service. It would be more appropriate to assume that people specifically in the case of organ donation still have to form preferences. Under such circumstances the framing and setup of donation systems can be of crucial importance. Governments may be giving 'nudges' towards citizens by the setting of defaults of what may be an optimal standard for the average citizen (see Thaler and Sunstein, 2009). For those who are inert in forming preferences the default will offer solace in resolving their choice problem. Another reason why defaults exert such a large influence is that people often display loss aversion in making choices. Moving away from the default involves losses and gains, and those losses typically receive disproportionate weight which makes people stick to the status quo or default option.

Besides the presumed and explicit consent system a third option has gained some popularity in policy debates, i.e. mandated choice. Evidence on the effects of a mandated choice system is limited. Only New Zealand has since the 1980s a system a mandated choice system in which registration is only possible via the driver's license (see Rosenblum et al., 2012). Hence the system excludes all non-drivers, including those under age 15 to register as donor. Besides the New Zealand practice only a few experiments of recent date exist. From 1 August 2011 British citizens who wish to apply for a new, or renewed, driving license online have been required to answer a question about organ donation (British Medical Association, 2012). A similar system has been used in a number of US states. E.g., in the 1990s licensed drivers in Texas were required to state their views about donation before obtaining a license (Klassen and Klassen, 1996; Siminoff and Mercer, 2001). However, the experience of Texas has been disappointing and has led the state to abandon this system. New experiments in some states (such as Illinois) with an alternative design seem to be promising (Thaler et al., 2010). Overall, the limited experience with mandated choice is mixed and suggests that it is not clear *a priori* whether a mandated choice yields more registered donors than the prevailing systems of donation. The debate about donation system is in need of empirical answers of what works and of gaining insight into how people choose across different systems within one country.

3. Method

3.1. Sample

In May 2011 we administered a survey among the Dutch population of age 16 and older ($N = 2069$ and response rate 77 percent). The survey was conducted by the CentERdata, a survey institute of Tilburg University (for details, see http://www.centerdata.nl/en/) that maintains a large panel of households in the Netherlands and acts in accordance with the ethical standards which apply to data collection in the social sciences. The inclusion of immigrants in this panel is weak and because immigrants are known for having far lower donation rates than native born the presented donation rates in this survey may not apply to the entire population. However, for the purpose at hand – comparing donation rates under various institutional regimes and understanding the underlying forces – the survey is well attuned. Furthermore, we carried out a *t*-test to see whether the donor question referring to the explicit consent regime (which is the Dutch system) is in line with the actual (self-reported) donor registration rates. As it turned out the mean difference between the two donation rates (respectively 49.6% and 48.4%) is not different from zero (p-value = 0.64).

3.2. Donor systems compared

To test for differences in choices across donation systems, the sample was divided into four different groups A, B, C and D of equal size and assignment to the groups was random.

In total four systems or donation regimes were compared: an explicit consent system ($N = 466$); the presumed consent system ($N = 513$); the system in which the donor choice is mandatory ($N = 528$); and finally a neutral system was presented in which respondents were asked whether they would be willing to become an organ donor ($N = 562$). For the entire sample we also asked whether respondents are officially registered as an organ donor. The latter question is used as a benchmark to study in depth the way actual donor choices are in line with donation behavior across donor systems. The various donor systems are introduced to the respondents by asking a different question to each of the four subgroups. Respondents of each group were told in the introduction to the question that it is assumed that each state or province within the Netherlands has the right to decide upon their own system of donation.

3.3. Explicit consent

Group A had to make a choice in an explicit consent system (also known as 'opt in'-system). Respondents were asked "Suppose you move to another province where the donor system is such that you are not automatically an organ donor. You have to explicitly register as a donor. What would you do?" The answer options were (a) I will leave it as it is and not become a donor; (b) I will register as a donor; and (c) Don't know.

3.4. Presumed consent

Group B dealt with the case of the presumed consent system (also known as an 'opt out'-system). Respondents were asked: "Suppose you move to another province where the system is such that you are automatically a donor, unless you explicitly object. What would you do?" The answer options were (a) I will leave it as it is and become automatically a donor; (b) I will object and will not become a donor; and (c) Don't know.

3.5. Mandated choice

Group C faced the mandated choice system. This system was introduced to respondents as follows: "Suppose that every time you have to renew your passport at the local municipality you are also obliged to make a choice with respect to organ donation. In case you will renew your passport in the coming week what will be your response with respect to the question 'Do you want to be an organ donor?'" The simple answer options were (a) Yes, and (b) No.

3.6. Willingness to become organ donor

Finally, group D was asked the neutral question "Are you willing to become an organ donor?" The answer options were (a) Yes, I want to become a donor and; (b) No, I don't want to become a donor; and (c) I don't know and I will delegate this decision to my relatives. The neutrality stems from the fact that no institutional detail is provided by terms of defaults. However, one could also