

Organ Donation Knowledge, Willingness, and Beliefs of Motor Vehicle Clerks

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Motor vehicle (MV) clerks are at the epicenter of organ donor registration. We show that MV clerks ($n = 225$) in two northeastern states have knowledge gaps and negative beliefs about organ donation. A majority believe it may be possible to buy organs on the black market (81%) and that recovery from brain death is possible (65%), whereas nearly half believe that doctors might not work as hard to save the life of a registered donor (46%). Organ procurement organizations should conduct formal educational programming with MV staff, considering their prominent role in the donor registration process.

Keywords: Organ donation, Donor registration.

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Motor vehicle (MV) clerks are at the epicenter of organ donor registration. Every person who has a valid driver's license in the United States has interacted with an MV clerk at least once. In every instance, this clerk has asked for or confirmed the customer's decision about organ donation. This interaction repeats itself many times during the driver's lifetime, as license renewals often require reconfirmation of the donation decision with MV clerks. Collectively, MV clerks ask about or confirm a donor registration decision more than 25 million times annually in the United States (1).

Increasing donor registration rates in the United States is important for several reasons. First, donor registration documents one's intention and is actionable on death. Second, next-of-kin are more likely to accept donation when the deceased's

intentions are documented (2–4). Third, half of all recovered organs are authorized through donor registries administered by MV departments (1). In the past 5 years, a national grassroots campaign has led to a 16% increase in donor registrations rates, with 42% of all licensed drivers now registered (1).

In addition to asking customers about their donation decision, MV clerks sometimes field questions by customers about organ donation. Customers may want to know about the need for organs, how they are used, the organ recovery process, and their own donation attitudes. Despite the importance of clerks in the donor registration process, surprisingly little research has examined their donation attitudes. There is only one published study which found that MV clerks had similar organ donation attitudes as the general public (5). We sought to assess the donation knowledge, willingness, and beliefs of MV clerks and their association with demographic characteristics. We intend to use these data to guide the development of a donation education program for MV staff. Study procedures were approved by the BIDMC Committee on Clinical Investigations.

RESULTS

Participant Characteristics

Two hundred twenty-five surveys were returned, which represents an approximate 75% participation rate. The majority of participants were female (84%), white (77%; 6% black; 6% Hispanic; 3% Asian; 4% other; 4% unknown), and had completed some post-secondary education (73%). Mean age was 46.9 (± 11.7) years (range, 19–72 years).

The majority of MV branch offices in Massachusetts ($n=22$) and Rhode Island ($n=3$) were represented. Massachusetts MV offices represented in the study completed approximately 49,600 driver's license transactions per month or about 78% of all transactions statewide. The mean monthly customer volume was not significantly different between MV offices represented by survey participants ($2,254 \pm 1,169$) and those not represented

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(1,717±1,027) ($t=1.15$, $P=0.26$). In Rhode Island, MV offices completed approximately 20,500 license transactions per month.

Donor Registration Status and Previous Donation Education

Most ($n=128$, 57%) MV clerks were registered donors. The majority of registered donors ($n=109$, 85%) shared their decision with a family member, whereas fewer non-donors ($n=23$, 26%) had shared their decision with someone ($P<0.001$). Registered donors were more likely to be white than minority (64% vs. 36%, $P=0.001$). One third of clerks ($n=85$, 38%) took part in an organ procurement organizations (OPO)-led organ donation learning session in the past year.

Organ Donation Knowledge, Willingness, and Beliefs

Knowledge

Three questions assessed knowledge of the need for more organs for transplantation and clerks answered an average of only less than 1 (0.58 ± 0.7) question correctly. In Massachusetts, knowledge was highest in MV offices with high donor registration performance ($t=2.4$, $P=0.02$). Knowledge scores did not differ significantly by age, sex, race, education, donor status, or previous participation in donation education. Few MV clerks knew the correct range of people on the transplant waiting list (10%) of deceased organ donors annually (11%), or of licensed drivers registered as donors (39%) (Table 1).

Willingness

Most clerks ($n=163$, 72%) were willing to consider future donor registration. Among registered donors ($n=128$), 97% stated a willingness to renew their donor registration status at the time of next driver's license transaction. In contrast, 39% of 94 clerks not currently registered expressed willingness to consider registering as organ donors the next time they renewed their driver's license. In all, 57 (25%) clerks were not registered donors and were unwilling to register in the future. Nonregistered clerks who were white ($P=0.002$) and who participated in a general donation learning session in the past year (conducted by the OPO) ($P=0.04$) were more willing to register as organ donors in the future. In Massachusetts, MV offices with high or moderate donor registration performance had significantly more clerks who were willing to register as donors at the time of license renewal ($P=0.04$).

Beliefs

Most clerks ($n=159$, 72%) believed that people should register as organ donors. Whites and already-registered donors were more likely than minorities and nonregistered clerks to believe others should register as donors (76% vs. 58%, $P=0.01$ and 94% vs. 42%, $P<0.001$, respectively). A majority believed it is possible to buy organs on the black market in the United States ($n=173$, 81%) and that people can recover from brain death ($n=138$, 65%), with men more likely than women to believe recovery is possible (79% vs. 62%, $P=0.03$). Clerks who believed recovery from brain death is possible or who believed in a black market were less likely to register as donors in the

future ($P=0.04$ and $P=0.002$, respectively). Most ($n=164$, 77%) believed that organ donation was consistent with their religion. Those who believed donation was against their religion were more likely to be older ($t=2.4$, $P=0.02$), less likely to be a registered donor ($P=0.01$), and less likely to register in the future ($P=0.001$).

One third of clerks believed that donated organs may go to those who are unworthy or underserving ($n=74$, 33%). However, nearly half believed that doctors might not work as hard to save the life of a registered donor ($n=104$, 46%). Clerks with concerns about the worthiness of transplant recipients and about less optimal life-saving medical care were less likely to be registered donors, were less willing to register as donors in the future, and were more likely to be minority (all P values <0.01).

DISCUSSION

Although they may not recognize or fully appreciate it, MV clerks play an important role in efforts to increase the donor registration rate in the United States. Therefore, it is important to better understand their donation knowledge and beliefs because these have the potential to impact the donor registration experience of their customers. Although donor registration rates among MV clerks are slightly higher than those for the general public, we found gaps in their knowledge about the need for donor organs and persistent negative beliefs about donation and transplantation. Additionally, MV clerks at branches in Massachusetts with low donor registration rates had less donation knowledge. These data underscore the need for more focused educational programming for MV clerks to potentially elevate the rate of donor registration at MV branches.

The 57% donor registration rate for MV clerks compares favorably to general population donor registration rates in Massachusetts (42%) and Rhode Island (46%). This higher rate of donor registration may be attributable to repeated exposure to the OPO liaison, the routine display of organ donation materials in MV offices, and voluntary participation in annual donation learning sessions. However, there are opportunities to improve knowledge about the need for more organ donors because more than half (57%) overestimated the number of organ donors annually, and one third (33%) overestimated the percent of registered organ donors in the United States. Overestimation of the organ supply may contribute to a feeling that the demand for organs is already met or not that insurmountable. Additionally, some of the misperceptions and apparent lack of trust about the donation process in the general public (6) were even more common among MV clerks in this study (i.e., doctors will not work as hard to save the life of a registered donor, people can recover from brain death, and donated organs may go to the underserving). What is striking about this finding, both in our study and in the Harrison et al. (5) study, is that MV clerks are repeatedly exposed to donation materials (e.g., pamphlets, posters, and so on) in their waiting rooms that are designed to dispel common myths and highlight the need for more organs.

The OPOs spend substantial time and money to ensure that coordinators have been effectively trained to make the most optimal donation request from family members of the deceased (7–9). Also, healthcare providers have been the

TABLE 1. Number (percentage) of MV clerk selecting each response option for questions assessing organ donation knowledge, willingness, and beliefs

Survey question ^a	N (%)
Knowledge^b	
People in the United States on waiting list for organ transplant? (N=225)	
Less than 25,000	2 (1.1)
25,000 to 50,000	15 (8.3)
50,000 to 75,000	26 (14.4)
75,000 to 100,000	24 (13.3)
100,000 to 125,000	18 (9.9)
125,000 to 150,000	28 (15.5)
More than 150,000	68(37.6)
Deceased donors in United States each year? (N=225)	
Less than 2,500	18 (10.3)
2,500 to 5,000	10 (5.7)
5,000 to 7,500	28 (16.0)
7,500 to 10,000	20 (11.4)
10,000 to 15,000	28 (16.0)
More than 15,000	71(40.6)
Percentage licensed drivers in United States who are registered donors? (N=225)	
Less than 20%	24 (13.0)
20% to 35%	28 (15.1)
35% to 50%	72 (38.9)
50% to 65%	28 (15.1)
65% to 80%	24 (13.0)
More than 80%	9 (4.9)
Willingness	
Willing to register as organ donor at next driver's license renewal? (N=225)	
Yes	163 (72.4)
No or uncertain	62 (27.6)
Beliefs	
Believe people should register to become organ donors? (N=220)	
Yes	159 (72.3)
No or uncertain	61 (27.7)
Believe people can buy organs on black market in the United States? (N=213)	
Yes or uncertain	173 (81.2)
No	40 (18.8)
Believe people who are brain dead can recover? (N=214)	
Yes or uncertain	138 (64.5)
No	76 (35.5)
Believe organ donation is against your religion? (N=212)	
Yes or uncertain	48 (22.6)
No	164 (77.4)
Believe doctors might not work as hard to save life of donor? (N=225)	
Yes or uncertain	104 (46.2)
No	121 (53.8)
Believe organs might go to those who do not deserve them? (N=225)	
Yes or uncertain	74 (32.9)
No	151 (67.1)

^a N for each question varies because of missing data.

^b Bolded response choice represents the correct answer.

focus of interventions to improve their understanding about organ donation and how their interactions with family members may influence the family's eventual donation decision (10, 11). However, the same level of effort has not been expended in training MV clerks about how to effectively communicate with the public about donation, which is surprising considering they will engage in more direct donation requests in 1 month than most procurement coordinators or healthcare providers will in 1 year. Harrison et al. (5) developed a 1-hr training program for MV clerks, which reviewed basic information about donation, common myths and concerns, and effective communication strategies for interacting with the public about donation. Their findings showed that this brief educational program increased MV clerks' knowledge, attitudes, and behavioral intentions toward donation as well as yielded higher rates of donor registry enrollment by MV customers in the months that followed. Rodrigue et al. (12) also found that a MV intervention in which clerks were educated and trained about the importance of their role in the donation process led to significantly higher donor registration rates compared to MV offices without active MV clerk involvement.

Limitations of the current study must be acknowledged. We relied entirely on clerk self-report because we were unable to obtain independent verification of their organ donor registration status. Also, we were not able to determine if study participants differed systematically from nonparticipating clerks. The study was conducted in two northeastern states and generalizability to MV clerks across the United States cannot be assumed. Another limitation is the low minority representation in the study. We were not able to assess whether the organ donor registration rates of minority clerks mirrors that of the general population because neither state captures race or ethnicity data from licensed drivers. Finally, we were not able to directly assess the link between clerk knowledge, beliefs, and registration status and their role in clerk interactions with MV customers. It is possible that MV clerks are still able to have effective donation discussions with customers despite having insufficient knowledge and less favorable attitudes about donation. Future research is needed to evaluate the differential impact of MV clerk-based educational interventions on donor registration rates of MV customers.

In conclusion, although MV clerks are not hired based on their knowledge or beliefs about organ donation, they have the potential to influence the customer's donor registration decision and more focused attention on them is warranted as interventions are implemented in MV offices (5, 12–15). We suggest that OPOs consider developing a formal liaison program with MV staff and administration, with the goal of enhancing their knowledge and improving attitudes and beliefs about organ donation among those interacting with the public about this issue. Annual educational seminars for MV staff in which organ donation and transplantation (e.g., types of transplants and how they help people) are discussed as well as frequent informal interactions with an OPO liaison may help clerks feel more comfortable about donation issues, which in turn may facilitate higher donor registration rates in the general public.

MATERIALS AND METHODS

We used a 17-question survey to gather information about the donation knowledge and beliefs of MV clerks in Massachusetts and Rhode Island (5). Surveys, along with an introductory letter from the MV director, were delivered to clerks at all MV branch offices in both states during the 2013 calendar year. Clerks were informed that the questionnaire was entirely voluntary and anonymous. Completed questionnaires were placed in a large envelope for pick-up by a research team member or mailed in a prepaid envelope to the research team.

PASW 17.0 (SPSS, Inc., Chicago, IL) was used for data entry and analysis. Data are presented as the percentage of MV clerks with specific responses or as mean (standard deviation). There were no differences between clerks in the two states, thus survey responses were combined. Responses were examined by age group, sex, education level, and race. We had branch donor registration data for Massachusetts only. We divided branches into tertiles based on average monthly donor registration rates during the study period (low, moderate, high) and examined the association between donation rates and survey responses. Analyses included t tests for continuous variables and Fisher exact test (variables with two categories) or chi-square test (variables with three or more categories) for categorical variables.

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