



# The Living Donor Collective Pilot Evaluations of Living Liver Donor Candidates at 6 Programs

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## Introduction

The Organ Procurement and Transplantation Network (OPTN) registers all living donors at the time of donation, but does not collect data on candidates for living donation. A number of studies have suggested that two-thirds of candidates evaluated for living donation do not donate. However, potential barriers to living donation remain unclear. Therefore, the Health Resources and Services Administration (HRSA) asked the Scientific Registry of Transplant Recipients (SRTR) to conduct a pilot program to explore the feasibility of establishing a comprehensive registry to monitor processes and outcomes of living donation. To this end, SRTR formed The Living Donor Collective. In this report, we describe the results of the pilot registry, made up of 6 liver transplant programs,\* and the feasibility of a more comprehensive, nation-wide registry of living donor candidates and donors.

\*Participating Liver Transplant Programs:  
Baylor University Medical Center, Dallas, TX  
Johns Hopkins University, Baltimore, MD  
Mayo Clinic, Rochester, MN  
University of Minnesota, Minneapolis, MN  
Mount Sinai Hospital, New York, NY  
University of Pittsburgh, Pittsburgh, PA

## Methods

- This study used existing and newly-collected SRTR data. The SRTR data system includes data on all donors, waitlisted candidates, and transplant recipients in the US, submitted by the members of OPTN.
- Only potential donors who came to the transplant program for evaluation were considered to be candidates. Potential donors who declined or were excluded before being seen by members of the transplant team were not included in our cohort of potential donors. Data were collected at the time of evaluation. In addition, the decision to accept or reject donation was recorded, and the reasons for not donating were noted for those who were not accepted to donate.
- We examined differences between candidates who were or were not approved for donation. Univariate analysis for these comparisons included chi-square tests for differences in categorical data, and t-tests for normally distributed continuous variables that were logarithmically-transformed when necessary. In addition, we carried out multivariate logistic regression to determine which of the variables that were different between candidates who were approved versus not approved for donation were statistically independent.
- All analyses were conducted using the R Project application
- (<https://www.r-project.org/>).

## Results

Between May 2018 and the end of September 2019, 259 candidates completed evaluations at the 6 programs; 84 (43%) were approved to donate while 111 (57%) were not approved (Fig. 1). The median time from registration to donation decision varied between programs from 35 to 69 days (Fig. 2). There was a tendency for serum liver enzymes, aspartate aminotransferase (AST) and alanine aminotransferase (ALT) to be slightly lower in candidates approved for donation compared with those not approved (Table 1). However, no other candidate characteristics were different between candidates approved and not approved for donation (Table 2). The most common reason for not donating was that the recipient no longer needed a living donor (Fig. 3); Candidates who completed their evaluation and were suitable for donation except that the recipient no longer needed a living donor could be ideal controls to compare long-term outcomes with donors.

Figure 1. Outcomes for LDC transplant candidates

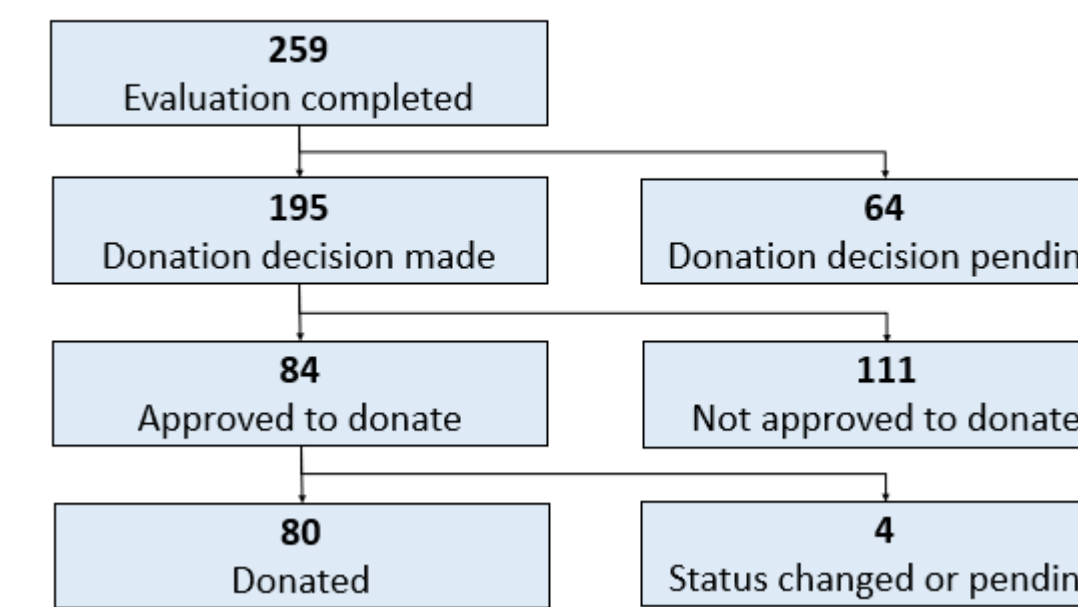


Figure 2. Time from registration to donation decision

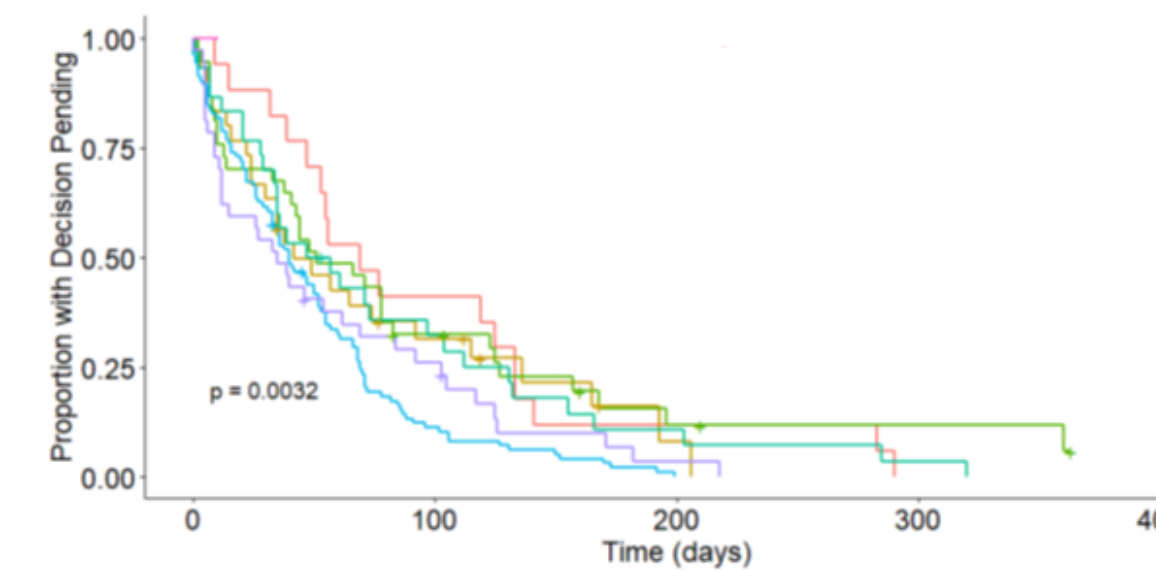


Figure 3. Sole reason for not donating

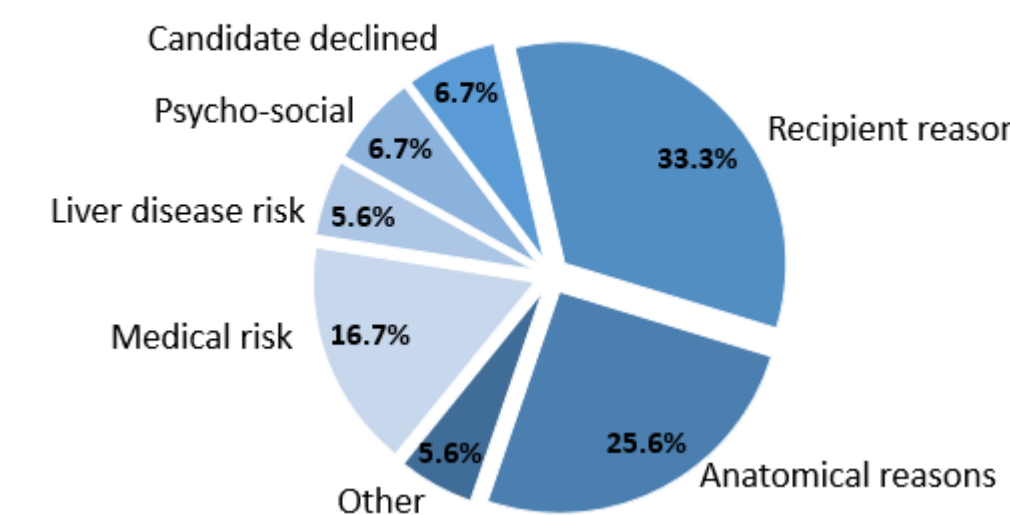


Table 1. Chemistries in candidates approved to donate versus candidates not approved to donate

	Approved to Donate (Mean ± SD)	Not Approved to Donate (Mean ± SD)	P-Value
Aspartate aminotransferase (AST, IU/L)	18.6 ± 5.7	21.7 ± 8.3	0.003
Alanine aminotransferase (ALT, IU/L)	21.1 ± 11.2	24.9 ± 14.6	0.041
Serum Albumin (g/dL)	4.47 ± 0.33	4.38 ± 0.39	0.068

Table 2. Characteristics that did not differ between candidates approved or not for donation

Age	Working for income	Platelet count
Sex	Cigarette smoking	Total bilirubin
Race/ethnicity	Hypertension	Blood glucose
Marital status	Blood pressure	Cholesterol
Recipient relation	Body mass index	HDL cholesterol
Education	eGFR	LDL cholesterol
Health insurance	INR	Triglycerides

## Conclusions

We conclude that establishing a registry of living liver donor candidates is feasible. Reporting the outcomes of donor candidate evaluations to transplant programs, compared with other programs, may help programs better understand their candidate evaluation processes. Long-term follow-up of donors and donor candidates who did not donate may provide much needed information on important outcomes, and may facilitate the donation process in the future.

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