



# Non-Directed Liver Donor: Creating a Standardized Approach to Candidacy

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# Objectives

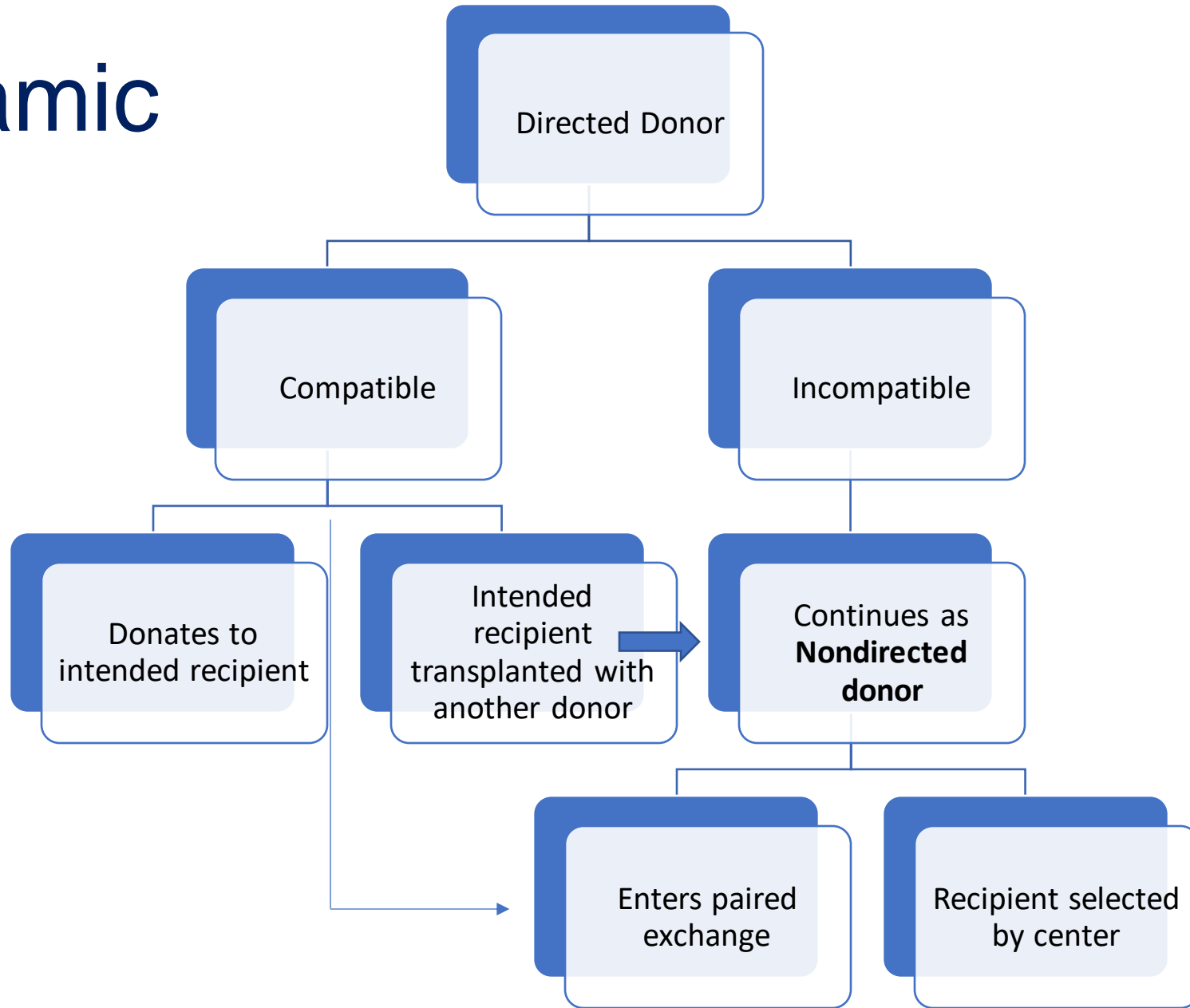
- Review published experience in non-directed living liver donation (ND-LLD)
- Highlight considerations in the evaluation & selection of non-directed donors (NDDs)
- Present a schema for NDD liver allocation among transplant waitlist candidates

# Terminology



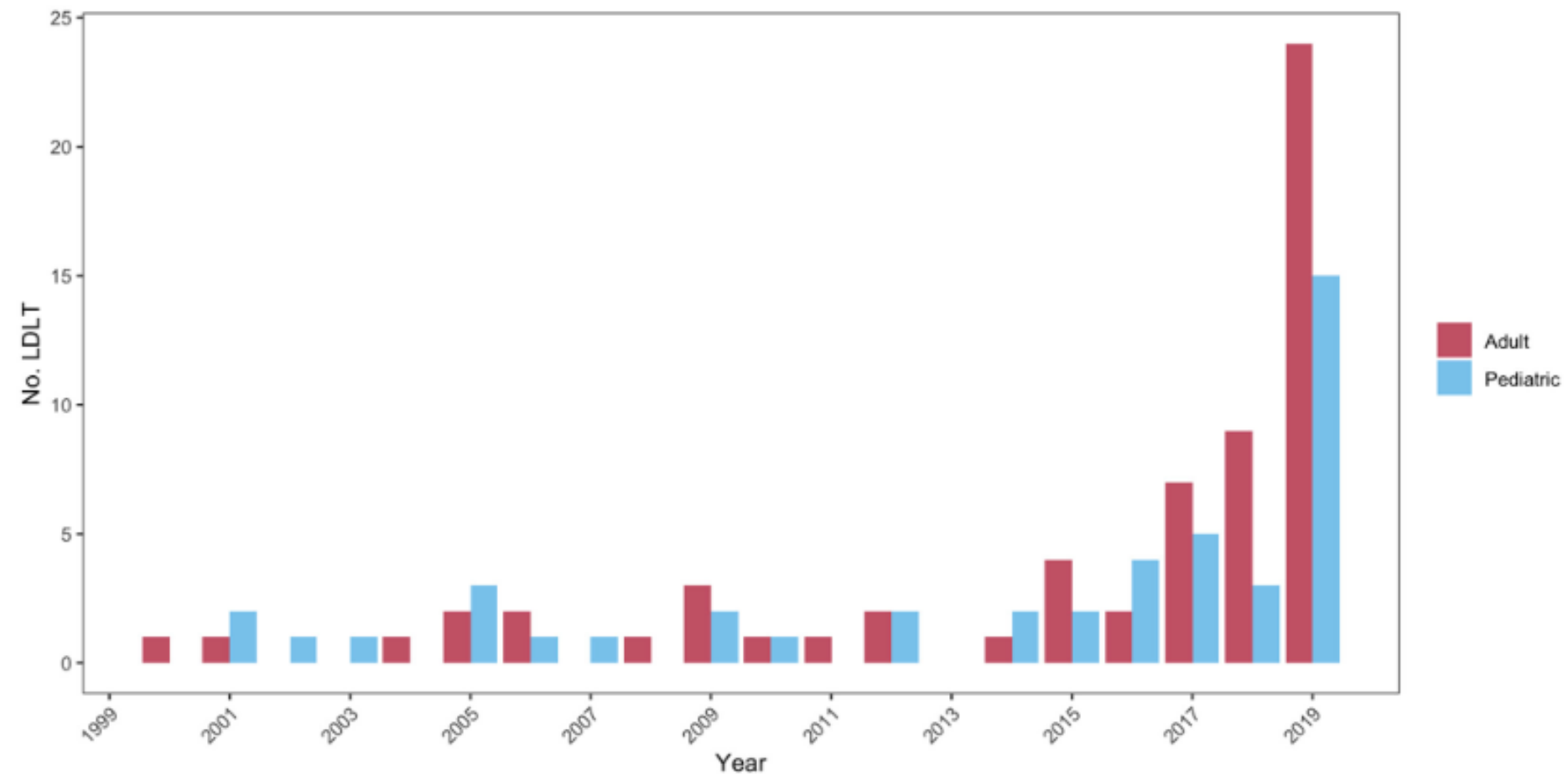
- **Altruistic**- describing those coming forward to donate whether directed or nondirected
  - **Anonymous**- identity unknown to the recipient and vice versa
  - **Directed**- donating an organ to a specified intended recipient
  - **Related**- describing those with a blood relation to the intended recipient
    - Directed Unrelated Affiliated- specifies intended recipient with whom they have relationship but not blood relative
    - Directed Unaffiliated- specifies intended recipient who they have learned about but do not know directly “Social Media Donor”
- Susan Rubman Gold- Transplant Psychology, Yale University*
- **Non-directed**- willing to donate to any appropriate recipient
  - **Unspecified**- analogous to nondirected, favored term in European literature

# Dynamic



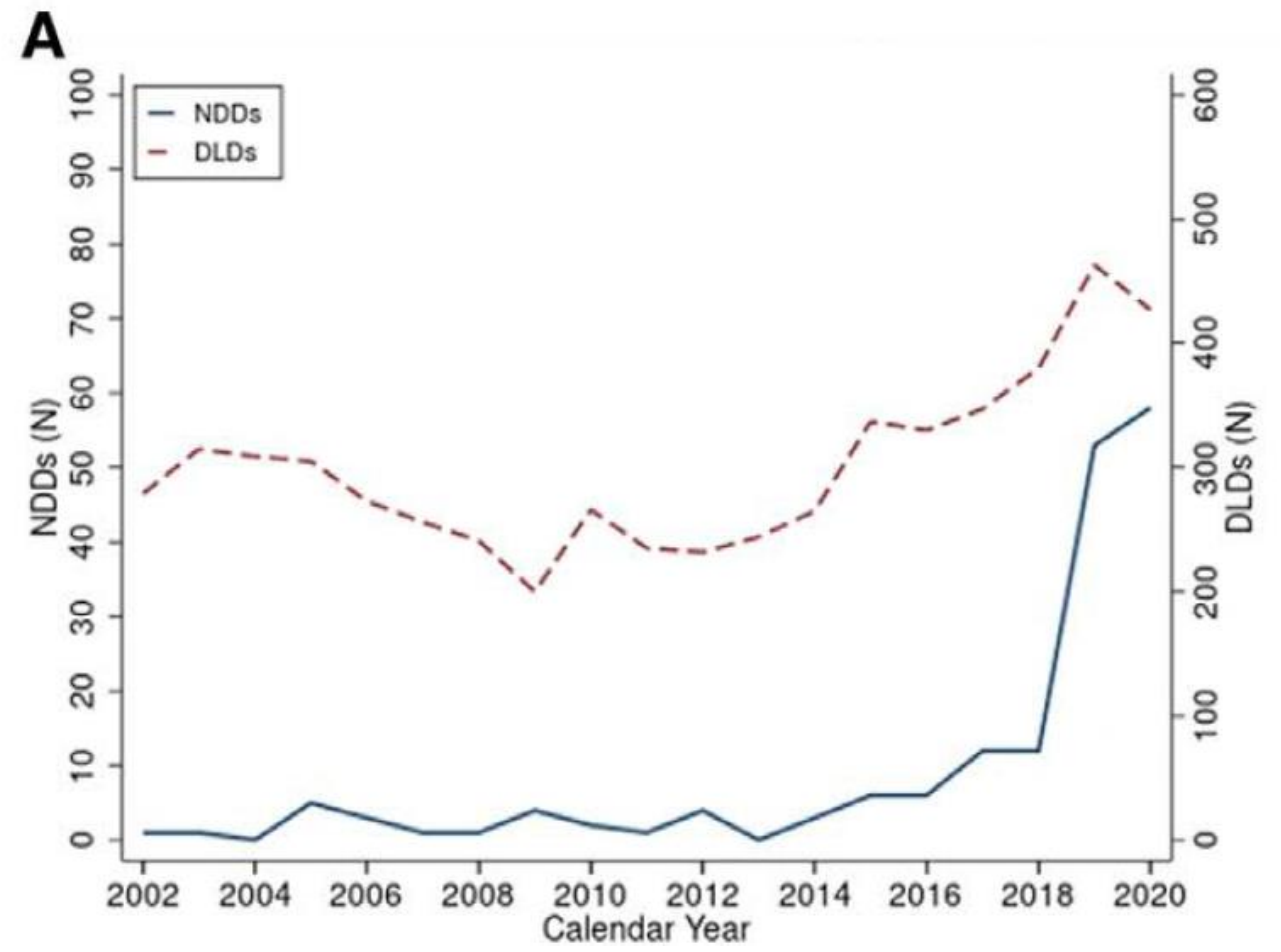
Anonymous D/R pair may choose to later disclose their identity

# The Numbers



Number of non-directed living donor liver transplants per year (US)

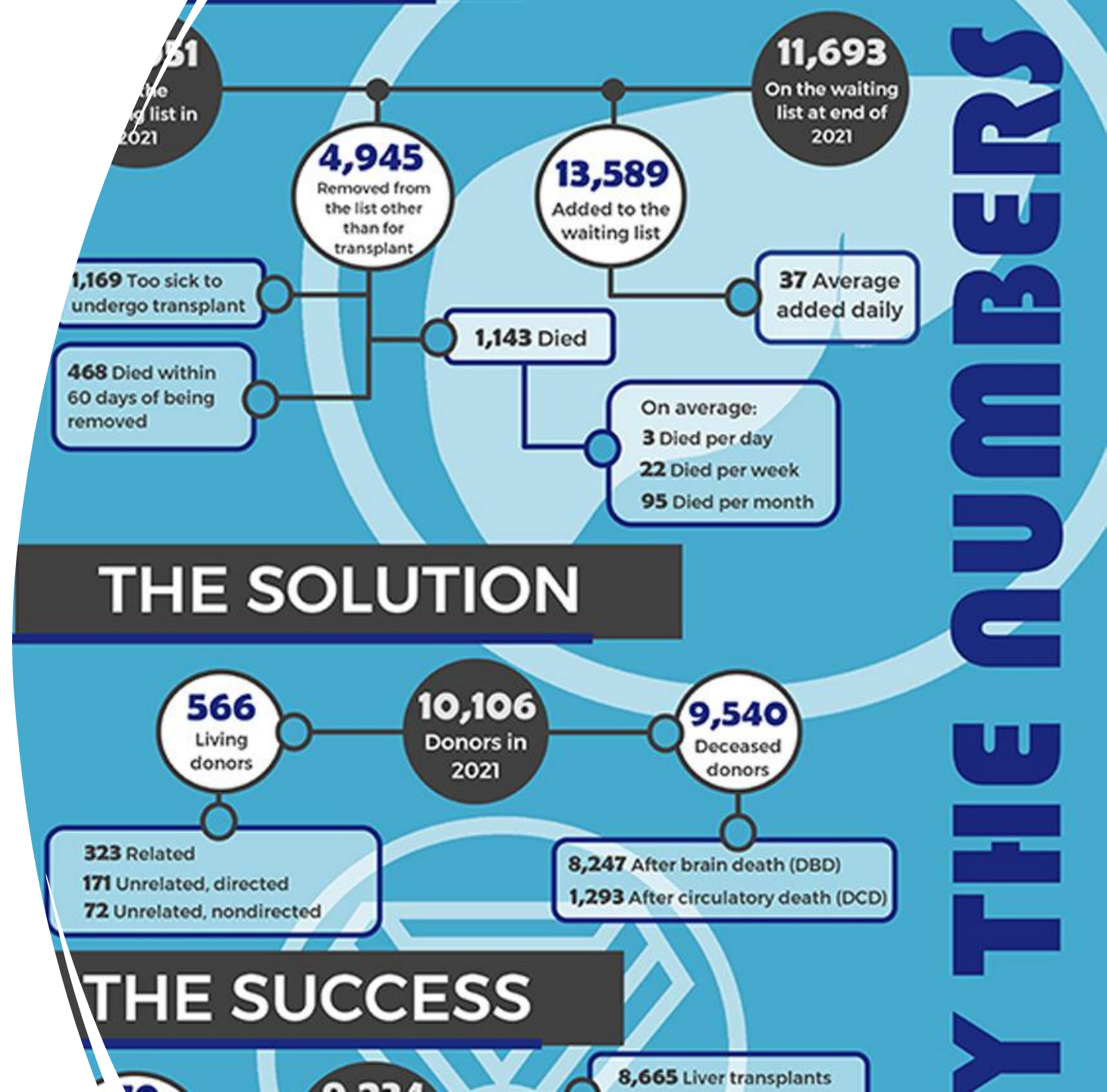
# The Numbers



Number of LDLTs per year by donor type (US)

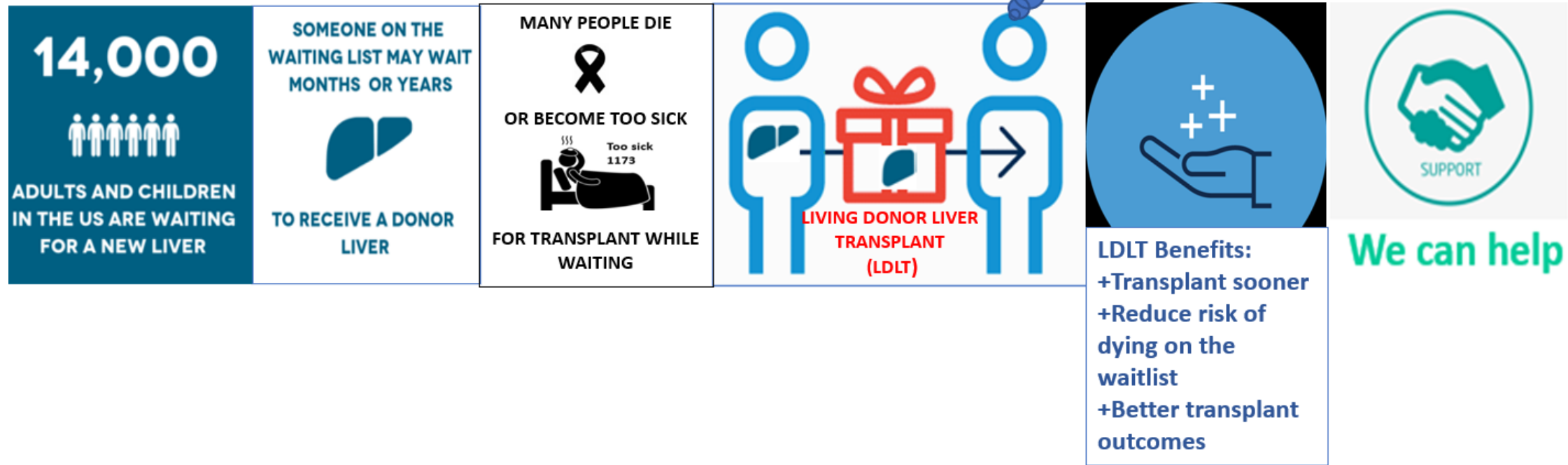
# The Numbers

- 2020: 491 LDLT of 8,416 Total Liver Transplants = 5.5%,
- 58 unrelated, non-directed donors
- NDD 58/ total LLD 485 = 12%
- **2021** OPTN Annual Data Report:
  - **72** unrelated, non-directed donors in the United States = **12.7% of LDLT**



# Context

## LDLT story line....





# Attention to LDLT



Nationally publicized media campaigns



Center-specific programs to educate recipients on the benefits of LDLT and aid in identification of donors



Social media testimonials





# Center Activity & Interest in ND-LLD

- Kaplan et al Survey- **65%** (n=33) of 51 US LT centers reported performance of ND-LLD, 78% of the 18 who hadn't reported they would consider it
- SRTR 3/2002 to 12/2020- **35 centers performed at least 1 ND-LLD**
- Both DLD and NDD transplants were **relatively concentrated at few centers**; the concentration of NDD (Gini coefficient 0.84) was more pronounced than that of DLD transplants (Gini 0.66).

TABLE 3. ND-LLD Program Characteristics

Characteristics	Values
Performance of ND-LLD	
Yes	33 (65)
No	18 (35)
Total	51
Number of ND-LLDs performed	
1-5	18 (55)
6-10	5 (15)
11-20	5 (15)
>20	3 (9)
Do not know	33 (100)
Total	51

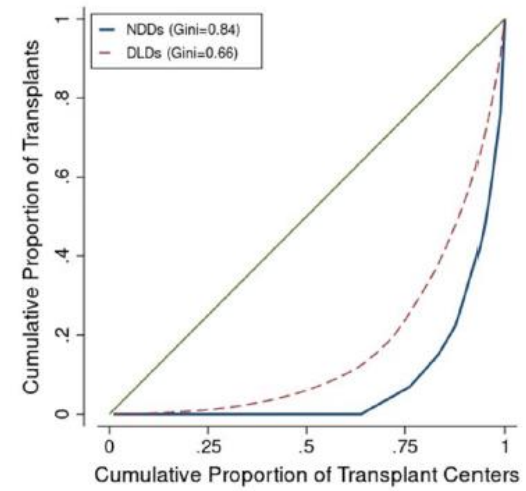


FIGURE 2. Center-level clustering in performance of NDD and DLD. DLD, directed living donation; NDD, nondirected living donation.

Kaplan A, Rosenblatt R, Jackson W, et al. Practices and Perceptions of Living Donor Liver Transplantation, Nondirected Donation, and Liver Paired Exchange: A National Survey. *Liver Transplantation* 28(5):p 774-781, May 2022.

Herbst LR, Herrick-Reynolds K, H, Zeiser, LB, et al. The landscape of nondirected living liver donation in the United States. *Transplantation*. 2022; 106(8):1600-1608.

# Personal Experience

- National (2020 OPTN/SRTR Annual Data Report) 491 LDLT of 8,416 Total Liver Transplants = 5.5%,
- NDD 58/ total LLD 485 = 12%
- **2022: Yale** 5 LDLT of 33 Total Liver Transplants = 15%,
- **NDD 3/ total LLD 5 = 60%**
- 2 Adult to Adult RL, 1 Adult to Pediatric LLS
- 1 was prior kidney donor
- 2023 thus far: NDD 2/ total LLD 3





# Reluctance

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- Lack of awareness or acknowledgement of LDLT benefit
- Providers' limited ability to accept such donor motivation
- Inherent complexity of developing & maintaining an NDD program
- Concern regarding potential regulatory and/or legal ramifications

*Gare R, Gogalniceanu P, Maple H, et al. Understanding barriers and outcomes of un-specified (non-directed altruistic) kidney donation from both professional's and patient's perspectives: research protocol for a national multicentre mixed-methods prospective cohort study. BMJ Open. 2017;7(9):e015971.*

*Fox, AN, Liapakis, A, Batra, R, et al; The North American Living Liver Donor Innovations Group (NALLDIG). The use of nondirected donor organs in living donor liver transplantation: Perspectives and guidance. Hepatology. 2022; 75: 1579– 1589.*



# OPTN Policy & Guidance

## 14.6.B Placement of Non-directed Living Donor Organs

Prior to determining the placement of a non-directed living donor organ, including non-directed organs from domino donors and non-domino therapeutic organ donors, the recovery hospital must obtain the match run of its waiting list candidates from its local OPO or the Organ Center.

When a non-directed living donor organ is placed, the recovery hospital must document how the organ is placed and the rationale for placement.

This requirement does not apply to non-directed living kidney donors who donate a kidney through a Kidney Paired Donation (KPD) arrangement.

## ^ Living Non-Directed Organ Donation

Reviewed and updated December 2015

[https://optn.transplant.hrsa.gov/media/eavh5bf3/optn\\_policies.pdf](https://optn.transplant.hrsa.gov/media/eavh5bf3/optn_policies.pdf)



# Experience NDD- LD

The Ethics Committee of the Transplantation Society endorsed the use of NDDS in 2006

Among the 11 highest volume LDLT countries, NDD was found to be explicitly legal in only 5 (Canada, India, US, Pakistan, Saudi Arabia)

Activity has been documented only in the US and Canada\*

*Pruett TL, Tibell A, Alabdulkareem A, et al. The ethics statement of the Vancouver Forum on the live lung, liver, pancreas, and intestine donor. Transplantation. 2006;81(10):1386– 7*

*Raza, MH, Aziz, H, Kaur, N, et al. Global experience and perspective on anonymous nondirected live donation in living donor liver transplantation. Clin Transplant. 2020; 34:e13836.*

*Fox, AN, Liapakis, A, Batra, R, Bittermann, T, et al; The North American Living Liver Donor Innovations Group (NALLDIG). The use of nondirected donor organs in living donor liver transplantation: Perspectives and guidance. Hepatology. 2022; 75: 1579– 1589.*

# Published Experience



**TABLE 2** Published experience of anonymous nondirected living liver donation

First author and year of publication	Country	Center	Year	N	Age range	Surgery (N)
M. Jendrisak, 2006 <sup>22</sup>	United States	Washington University, Washington University Medical Center	<sup>a</sup>	1	35	LLS
L. Wright, 2007 <sup>13</sup>	Canada	University of Toronto, Toronto General Hospital	<sup>a</sup>	1	46	LLS
J-B. Otte, 2009 <sup>14</sup>	Belgium	Université Catholique de Louvain, Cliniques Saint-Luc	2004	1	50	LLS
TW Reichman, 2010 <sup>15</sup>	Canada	University of Toronto, Toronto General Hospital	2005-2009	12	20-54	RTH (7), LLS (5)
N. Goldaracena, 2019 <sup>16</sup>	Canada	University of Toronto, Toronto General Hospital	2005-2017	50	*35 NDD 20-59	RTH (21), LLS (24), LL (5)

Abbreviations: LL, left hepatectomy; LLS, left lateral segmentectomy; RTH, right hepatectomy.

<sup>a</sup>Not provided.

# Published Experience

**O063**

## **NON-DIRECTED ALTRUISTIC LIVING LIVER DONATION: EVALUATION AND OUTCOMES**

P. Lodge, J. Jeffery, K. McGoohan, M. Attia, G. Toogood, D. Vijayanand, V. Upasani, J. Dillon, J. Moore, C. Chimakurthi, C. Hosker and E. Hidalgo  
*Leeds Teaching Hospitals NHS Trust, HPB and Transplant Unit, Leeds, United Kingdom*

**Results:** Since beginning our liver transplant (LT) program in 1985, we have performed 2574 adult and 319 paediatric LT. We began LDLT in 2007 and we have had 821 enquiries that converted into 321 live donor assessments and 84 LDLT. Of those enquiries, 85 represented NDAD (10%). They were predominantly males (63%), median age 40 years (range 18-60); 7 had previously donated a kidney. The main reasons for not progressing to donation were failure to engage after an initial enquiry (45%), or medical conditions precluding donation (30%). 11 progressed to donation (13%): 8 males, median age 26 years (19-54), all Caucasian, 8 single, and 1 after kidney donation. 10 donated a left lateral segment graft and 1 a right liver graft. The median hospital stay was 4 days (4-7), and the post-operative complications rate was 18%, all Clavien-Dindo grade 1.

**Conclusion:** Our donor cohort was demographically diverse but they all shared a common desire to help others; we found them to be intellectual, psychologically well balanced, self-aware, and with a universal sense of social and personal responsibility. We were able to carry out the surgery safely. We suggest that experienced LDLT programs should consider NDAD liver transplantation.





# Published Experience

- Non-directed living liver donation in prior living kidney donors
- Non-directed living liver donors to facilitate paired exchange

American Journal of  
**TRANSPLANTATION**



CASE REPORT | Free Access

## Expanding living donor liver transplantation: Report of first US living donor liver transplant chain

Hillary J. Braun, Ana M. Torres, Finesse Louie, Sandra D. Weinberg, Sang-Mo Kang, Nancy L. Ascher, John P. Roberts

First published: 10 November 2020 | <https://doi.org/10.1111/ajt.16396> | Citations: 13

American Journal of  
**TRANSPLANTATION**



LETTER TO THE EDITOR | Free Access

## Living liver donation in previous kidney donors: A single-center experience

Amit Nair, Jamak Modaresi Esfeh, Choon Hyuck David Kwon, Federico Aucejo, Cristiano Quintini, Koji Hashimoto

First published: 08 February 2020 | <https://doi.org/10.1111/ajt.15815> | Citations: 3

American Journal of  
**TRANSPLANTATION**



LETTER TO THE EDITOR | Free Access

## Reply to “Living liver donation in previous kidney donors: A single-center experience”

Whitney E. Jackson , Michael S. Kriss, James R. Burton Jr., Trevor L. Nydam, Kendra D. Conzen, James J. Pomposelli, Elizabeth A. Pomfret

First published: 18 June 2020 | <https://doi.org/10.1111/ajt.16153> | Citations: 2

Nair, A., Modaresi Esfeh, J., Kwon, C.H.D., et al. (2020), Living liver donation in previous kidney donors: A single-center experience. *Am J Transplant*, 20: 1461-1462.

Jackson, W.E., Kriss, M.S., Burton, J.R., Jr., Nydam, T.L., Conzen, K.D., Pomposelli, J.J. and Pomfret, E.A. (2021), Reply to “Living liver donation in previous kidney donors: A single-center experience”. *Am. J. Transplant.*, 21: 435-437.

Braun, H.J., Torres, A.M., Louie, F., et al. Expanding living donor liver transplantation: Report of first US living donor liver transplant chain. *Am J Transplant*, 21: 1633-1636.

**SRTR  
Data  
Review**

**TABLE 1** Characteristics of all ND-LLDs in the United States, 1998-2018. Data obtained from SRTR and given in n (%)

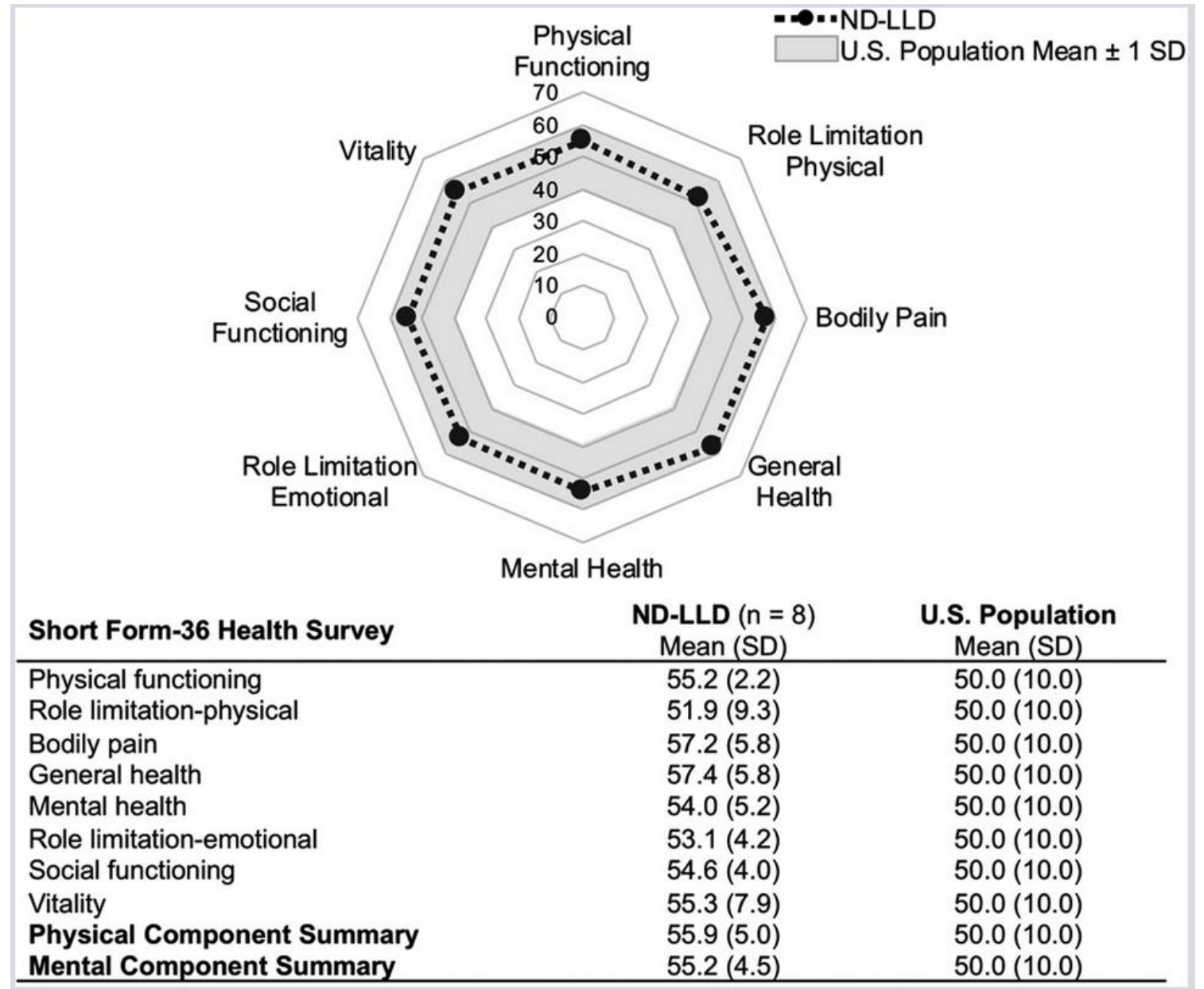
Variable	N = 105 total patients, N (%)
Age (mean ± SD), years	39.2 ± 10.3
Gender, male	51 (49)
Ethnicity	
Caucasian	98 (93)
Black	1 (1)
Asian	4 (4)
Multiracial	2 (2)
BMI (mean ± SD), kg/m <sup>2</sup>	25.2 ± 3.5
Type of donation	
Left lateral segment	33 (31)
Left lobe	19 (18)
Right lobe	46 (44)
Not reported	7 (7)
Transfusion	1 (1)
Education	
High school	13 (12)
Attended college/technical school	20 (19)
Associate/bachelor's degree	43 (41)
Graduate degree	20 (19)
Not reported	9 (9)

30 (29%) prior kidney donors

Employment status	
Full time	79 (89)
Part time	7 (8)
Not reported	3 (3)
Insurance status	
Medicaid	1 (1)
Medicare	2 (2)
Public-CHIP (Children's Health Insurance Program)	3 (3)
Unknown	99 (94)
Current donor status	
Alive	89 (85)
Deceased	0
Unknown	16 (15)
Marital status	
Married	54 (55)
Single	34 (34)
Divorced/separated/widowed	10 (10)
Not reported	1 (1)
Donor-experienced complications	
Biliary	3 (3)
Other complications	10 (10)
Readmission	6 (6)
Not reported	7 (7)

# Published Experience:

## Health Related Quality of Life Keck School of Medicine USC



Raza, MH, Aziz, H, Kaur, N, et al. Global experience and perspective on anonymous nondirected live donation in living donor liver transplantation. *Clin Transplant.* 2020; 34:e13836.

# Published Experience



Official Journal of  
The Transplantation Society &  
International Liver Transplantation Society

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### FORUM

## The nondirected live-kidney donor: ethical considerations and practice guidelines A National Conference Report<sup>1</sup>

Adams, Patricia L.; Cohen, David J.; Danovitch, Gabriel M.; Edington, Reverend Mark D.; Gaston, Robert S.; Jacobs, Cheryl L.; Luskin, Richard S.; Metzger, Robert A.; Peters, Thomas G.; Siminoff, Laura A.; Veatch, Robert M.; Rothberg-Wegman, Lynn; Bartlett, Stephen T.; Brigham, Lori; Burdick, James; Gunderson, Susan; Harmon, William; Matas, Arthur J.; Thistlethwaite, J. Richard; Delmonico, Francis L.<sup>2</sup>

[Author Information](#) ☺

*Transplantation* 74(4):p 582-589, August 27, 2002.



# Published Experience:

## “Second Chance St. Louis Donor Evaluation Protocol”

A program established within regional OPO (Mid-America Transplant Services) to evaluate potential NDDs (liver & kidney) prior to transplant center referral

Planning committee- transplant surgery, medicine, hospital administration, psychiatry, bioethics, OPO

Review committee- bioethics, law, religious community, media, lay public

Data reported from the initial 30 months of program operation

# Published Experience:

## “Second Chance St. Louis Donor Evaluation Protocol”

Table 2. Second chance St. Louis activity

Stage	N	NFA	MRO	
Inquiry	731	600	N/A	
Call-back	131	44	40	
History, Local Exam, Education	Phase I	47	6	16
Labs, CXR, EKG	Phase II	25	0	6
Psychometric testing, Support	Phase III	19	0	0
Compatibility, Imaging, Center & Recipient	Phase IV	19	0	0
Center Evaluation, Donation, Recovery	Phase V	19*	2**	2
Post-donation psychosocial interview	Phase VI	7	N/A	N/A

NFA = no further action, MRO = medical rule out. \*7 donated (6 kidney, 1 liver), 5 pending donation (2 kidney, 3 liver). \*\*Intended liver recipients unexpectedly receive deceased donor transplant.

**3 liver donor candidates were declined referral by transplant center for lack of need and are under evaluation for kidney donation**

# Published Experience:

## “Second Chance St. Louis Donor Evaluation Protocol”

### Psychological Testing and Personal Evaluation:

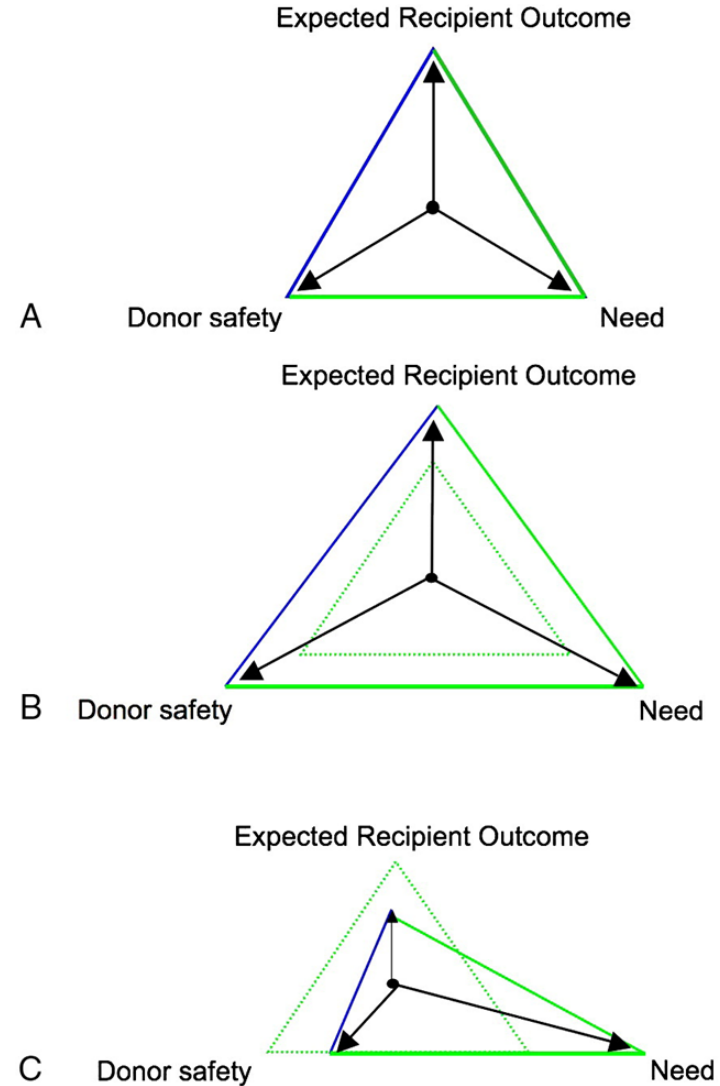
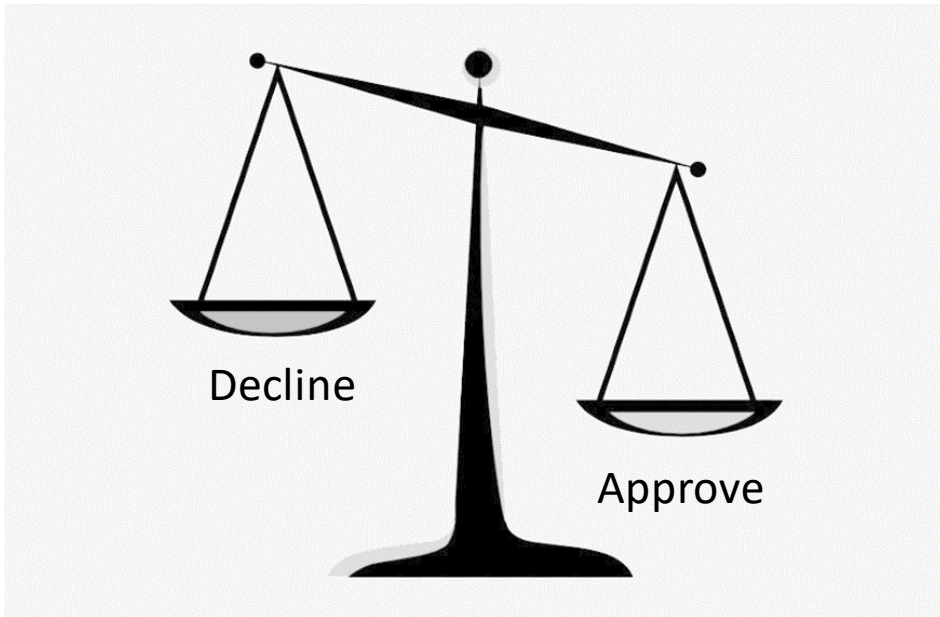
- Minnesota multiphasic personality inventory (**MMPI-2**) - validated measure of psychopathology
- Temperament and character inventory (**TCI**)- validated measure of personality traits
- Standard psychiatric interview using **DSM-IV** clinical **criteria** for major psychiatric disorders
- Mini mental status exam (**MMSE**)
- Assessment of donor motivation
- Interview of family for support

In total, the interview, MMPI-2 and TCI provided convergent evidence that these donor candidates were without psychiatric disorder, were not thrill seekers and appeared to be very self-confident and socially aware individuals. They chose to be donors on their own without influence from others.

# Considerations in the Donor Evaluation

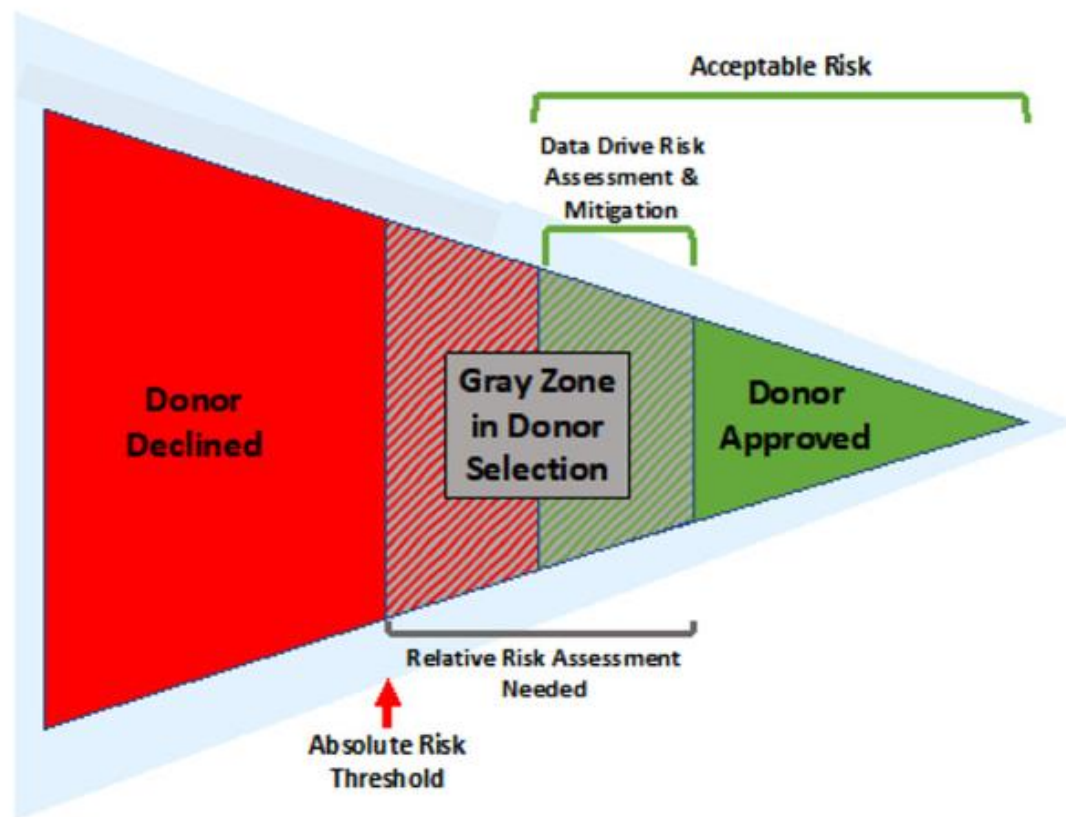


Dichotomous Decision with Multiple Points for Consideration with Unknowns





# Donor Evaluation



Across the domains of evaluation: Medical, Surgical, & Psychosocial, **should the acceptable risk threshold for non-directed donors differ from that of directed donors?** Points to consider....

- Emphasis on donor safety should be equivalent
- Role of shared decision making
- Risk may be modified by recipient selection
- An early negative outcome in NDD will have significant negative impact not only for the donor but for living donation in the US.

Jesse, MT, Jackson, WE, Liapakis, AM et al. Living donor liver transplant candidate and donor selection and engagement: Meeting report from the living donor liver transplant consensus conference. *Clin Transplant*. 2023;e14954.

Fox, AN, Liapakis, A, Batra, R, Bittermann, T, et al; The North American Living Liver Donor Innovations Group (NALLDIG). The use of nondirected donor organs in living donor liver transplantation: Perspectives and guidance. *Hepatology*. 2022; 75: 1579– 1589.

# Donor Evaluation: Thresholds

## Medical

- Attention to “grey zones”- age, metabolic profile, hypercoaguable assessment

## Surgical



# “Moral” Focus

*In addition to donor safety, the primary “ethical” or “moral” focus in NDD need be on attention to strict avoidance of coercion, assurance of informed consent, transparency, and respect for donor autonomy.*

- Avoid transplant center generated coercion
  - awareness vs. marketing initiatives
  - upfront education re: all donation options\*
- Education in informed consent
  - use of standard programs
  - disclosure re: options
  - discussion of risks specific to NDD
  - review of graft allocation algorithm
- Maintenance of confidentiality & anonymity
  - protocols to minimize a breach of confidentiality
  - recipient’s insurance explanation of benefits
  - process for disclosure of identify if mutually desired

# \*Discussion of Donation Options Statement vs. Ask?



## *Initial touch point*

Thank you for your courage in stepping forward to be evaluated as a potential living liver donor for xxx. I do not see any absolute contraindication in proceeding based on your health screening assessment. We will begin with blood typing and a liver panel (add others as applicable) to see if you are compatible as a donor for xxx and contact you when we have results. Should we note that your blood type is not compatible or if there is another anatomical reason noted further into your evaluation that limits you from being a directed donor for xxx, if you wish, and at your request, we can discuss potential paired donation, and/or consider you as non-directed donor (willing to donate to any eligible transplant waitlist candidate). If you are interested in this option should the need arise, we would be honored to continue to work with you.

## *Intended recipient transplanted*

Thank you for your courage in stepping forward to be evaluated as a potential living liver donor for xxx. I am calling to let you know that xxx has now successfully undergone transplantation. At xxx we do consider non-directed donors (someone willing to donate to any eligible transplant waitlist candidate). If you are interested in this option, we would be honored to continue to work with you. Please contact us back if this is the case.

# Evaluation & Allocation

- Kaplan et al Survey- Inquired re: respondents' thoughts on NDD evaluation and graft allocation.....



How should ND-LLD organs be allocated?	
Highest MELD eligible for living donation	14 (15)
Tumor within Milan criteria	11 (12)
Best size match	18 (19)
Other cancers (eg, neuroendocrine tumor, cholangiocarcinoma)	4 (4)
To patients with low MELD and complications	20 (22)
Paired exchange or chains	8 (9)
To pediatric recipients	18 (19)
Total	93 (100)*
Do ND-LLDs require additional screening at your center?	
Yes	9 (27)
No	24 (73)
Total	33

NOTE: Data are given as n (%).

\*Respondents were able to choose more than one answer for allocation hence why the total is greater than the total number of programs.

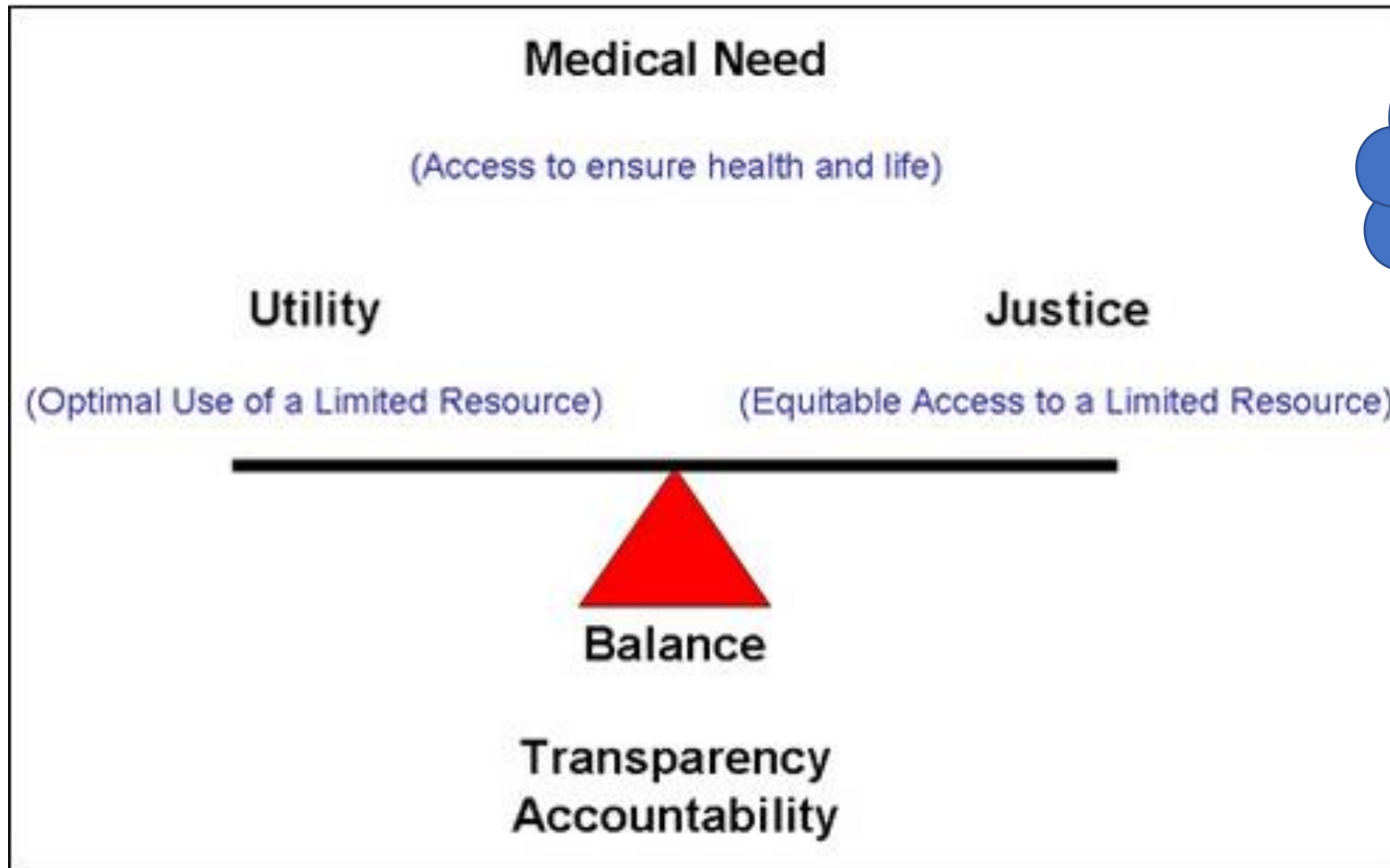
# Allocation- NDD Kidney



**TABLE 2** Organ allocation models in kidney transplantation

Donor-Centric	to the recipient with highest likelihood of success
Recipient-Centric	to the recipient with lowest likelihood of receiving any other organ
Utilization-Centric	to facilitate paired exchange transplants
Socio-Centric	to the recipient at the top of the waiting list

# Ethical Principles of Allocation



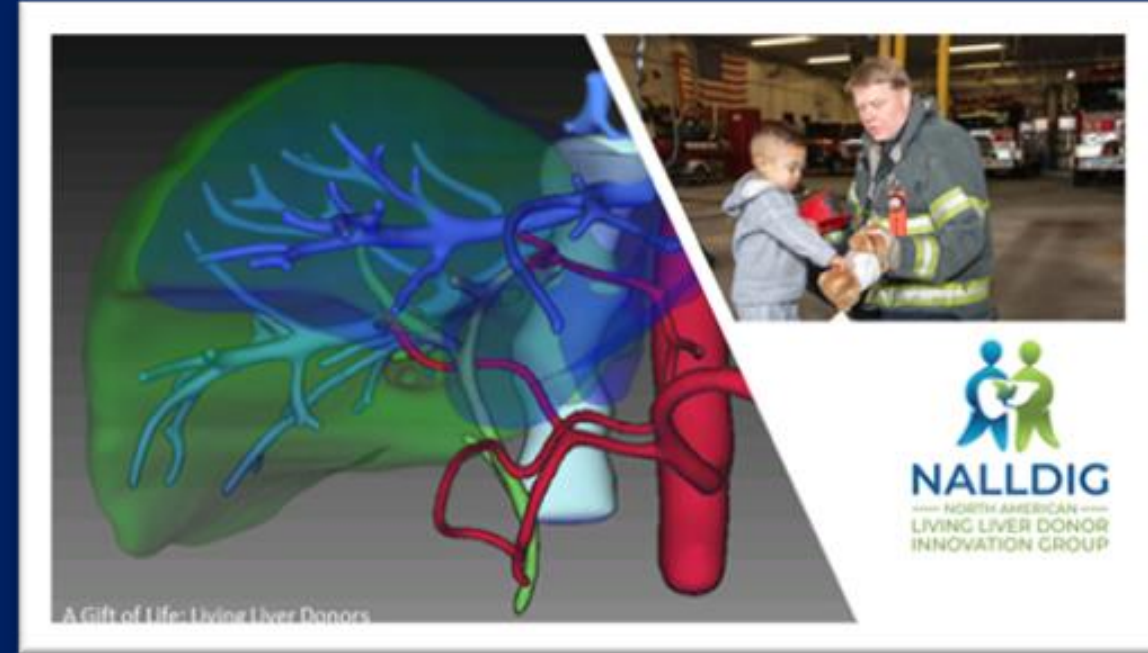
<https://www.transplantmanitoba.ca/transplant-program/kidney-allocation>

Fox, AN, Liapakis, A, Batra, R, Bittermann, T, et al; The North American Living Liver Donor Innovations Group (NALLDIG). The use of nondirected donor organs in living donor liver transplantation: Perspectives and guidance. *Hepatology*. 2022; 75: 1579– 1589.

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*Proposed algorithm for allocation of NDD liver grafts to promote higher utility within the bounds of non-futility, to be just, and to fairly distribute grafts to those in greatest need, who have significant mortality risk, who will derive maximal benefit, and who are without adequate access to donor organs otherwise.*

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# Principles to Guide NDD Graft Allocation



- Potential recipients of NDD grafts should be **medically appropriate to receive a partial liver graft**.
- Potential recipients of NDDD grafts should have **standard indications for LT**.
- The use of NDD grafts for patients with **MELD score exceptions** should be **guided by anticipated access** to deceased donor transplantation relative to the recipient's risk of waitlist dropout.
- Potential recipients who have **approved directed living donors** should be considered for NDD grafts if they are participating in **LPE** or initiation of a chain where NDD grafts could increase the donor pool and provide access to a patient without such an option.

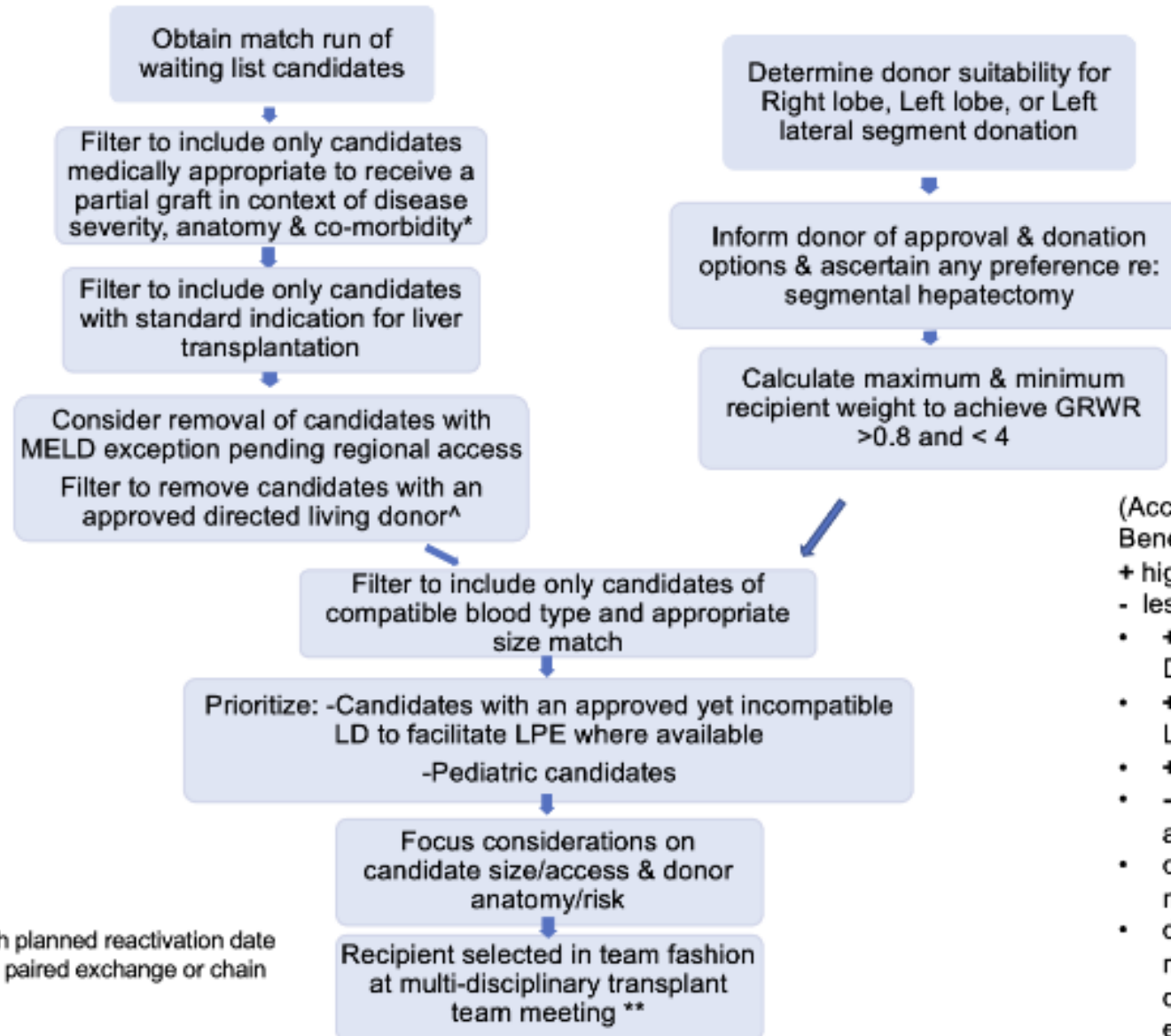
# Principles to Guide NDD Graft Allocation



- Potential recipients who have an **approved yet incompatible** (size or ABO) living donor should be given first priority for NDD grafts and the approved donor allocated to a compatible recipient (pediatric, if available) to allow for two transplants to occur.
- **Pediatric recipients** should **share first priority** for NDD grafts because pretransplant mortality rate is highest for pediatric candidates, especially those aged younger than 1 year.
- The **remaining** eligible candidate pool should be **considered by a multidisciplinary transplant team**.
- Assessment of appropriate **graft weight to body weight ratio** is complex and must include **consideration of not only size** but other factors such as recipient MELD, donor age, and graft steatosis.



# Paradigm for Allocation



\*include status 7 candidates with planned reactivation date  
^unless considering as part of a paired exchange or chain

- \*\*Considerations:**  
(Access, Urgency, Transplant Benefit)
- + higher priority
  - lesser priority
  - + if not candidate for DCD/ECD
  - + if effort made to pursue LDLT
  - + frequent hospitalizations
  - - if MELD driven by anticoagulation
  - consideration of age & co-morbidities
  - discourage donor direction, may consider in unique circumstance w/ potential ethics involvement

# US Recipients of NDD



**TABLE 3.**  
Multivariable analysis of factors potentially associated with receipt of NDD liver transplant among adults

Factor	aOR	95% CI	P
Age, y			
18–34	Ref	–	–
35–49	0.99	(0.43-2.29)	>0.9
50–64	1.58	(0.71-3.54)	0.3
65–79	0.62	(0.23-1.64)	0.3
Sex			
Male	Ref	–	–
Female	2.31	(1.44-3.7)	<b>&lt;0.01</b>
Race			
White	Ref	–	–
Black	1.51	(0.53-4.29)	0.4
Hispanic/Latino	0.48	(0.21-1.11)	0.1
Other	1.37	(0.47-3.99)	0.6
Primary diagnosis			
Alcohol-related disease	Ref	–	–
Viral hepatitis	0.62	(0.23-1.66)	0.2
Fatty liver disease	3.43	(1.63-7.22)	<b>&lt;0.01</b>
Primary sclerosing cholangitis	4.23	(1.9-9.4)	<b>&lt;0.001</b>
HCC	2.99	(1.24-7.24)	<b>0.02</b>
Other	2.35	(1.17-4.7)	<b>0.02</b>
BMI			
<25	Ref	–	–
25–30	0.8	(0.48-1.32)	0.4
>30	0.32	(0.17-0.59)	<b>&lt;0.001</b>
MELD/PELD			
<20	Ref	–	–
20–29	0.69	(0.02-0.15)	0.1

**TABLE 5.**  
Multivariable analysis of factors potentially associated with receipt of NDD liver transplant among children

Factor	aOR	95% CI	P
Age, y			
0–1	Ref	–	–
1–5	0.18	(0.07-0.46)	<b>&lt;0.001</b>
6–11	0.09	(0.02-0.31)	<b>&lt;0.001</b>
12–17	0.06	(0.02-0.21)	<b>&lt;0.001</b>
Sex			
Male	Ref	–	–
Female	0.39	(0.18-0.87)	<b>0.02</b>
Race			
White	Ref	–	–
Black	2.03	(0.7-5.86)	0.2
Hispanic/Latino	0.86	(0.34-2.16)	0.7
Other	0.55	(0.16-1.84)	0.3
Primary diagnosis			
Biliary atresia	1.72	(0.71-4.19)	<b>0.2</b>
Other	Ref	–	–
MELD/PELD			
<20	Ref	–	–
20–29	1.23	(0.41-3.68)	0.7
30–39	0.4	(0.14-1.13)	0.08
≥40	0.67	(0.22-2.04)	0.5
Status 1a/b	1.01	(0.26-3.85)	>0.9

# Conclusions:



- ND-LLD is increasing in the United States though currently activity is concentrated at distinct centers.
- NDDs in comparison to directed donors are older, more often Caucasian, and college educated.
- Prior kidney donation is prevalent among NDDs.
- NDDs have been utilized in liver paired exchange.
- Short time outcomes of NDDs are comparable to directed donors.
- Attention to “grey zones” in donor evaluation is advised, center thresholds vary.
- The North American Living Liver Donor Innovations Group has provided a suggested graft allocation algorithm.
- Current US NDD recipients are more often pediatric, female, and less likely to have Etoh related liver disease or viral hepatitis.

# Future Directions



Ensured access for NDDs to health and life insurance

Donor reimbursement for lost wages and travel

Registry enrollment to follow NDD outcomes over time

Consensus for allocation targeting those patients most disadvantaged on the waitlist

Innovative approaches to increasing utility of an NDD through paired exchange and chains

Exploration of the roles of education, advertising, and recruitment of donors in an ethical context

# Non-Directed Living Liver Donors



QUESTIONS



THANK YOU

# Session Survey

AnnMarie Liapakis, MD | April 20<sup>th</sup> 10:30 AM-11:00 AM



**14th Annual Living Donation Conference**  
Presented by the American Foundation for Donation and Transplantation