OPTN | UNOS Public Comment Proposal

Enhancing Liver Distribution

OPTN/UNOS Liver and Intestinal Organ Transplantation Committee

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Enhancing Liver Distribution

Affected Policies:	*Policy 1.2: Definitions, Policy 5.4.B: Order of Allocation, Policy 9.8: Liver Allocation, Classifications, and Rankings*
Sponsoring Committee:	*Liver and Intestinal Organ Transplantation*
Public Comment Period:	*July 31, 2017 – October 2, 2017*

Executive Summary

Over a 5-year period during the 1990's, the OPTN tried and failed to reach consensus on liver allocation policy revisions aimed at broader sharing for liver allografts, particularly for the most urgent patients. The Secretary of Health and Human Services became involved and one result was implementation of federal transplant regulations, the OPTN Final Rule in March 2000. The Rule stipulates that OPTN allocation policies must, among other factors, be based on sound medical judgment, seek to achieve the best use of donated organs, and shall not be based on the candidate's place of residence or place of listing except to the extent needed to satisfy other regulatory requirements.[1] The Rule stipulates additional OPTN requirements and restrictions that previously did not exist.

During the years immediately following Final Rule implementation, the MELD and PELD disease severity scoring systems were developed, seen as the first necessary step before readdressing broader liver sharing.[2] Additional liver allocation policies followed, with the understanding that the OPTN was moving toward broader sharing to reduce the observed geographic inequity in access to liver transplant for the sickest candidates. On November 13th, 2012, the OPTN/UNOS Board of Directors directed all OPTN organ-specific committees to identify allocation equity metrics appropriate to their organ types.[3] The Liver and Intestinal Organ Transplantation Committee (hereafter called "the Committee") selected variance in median MELD at time of transplant (for exception and non-exception candidates), among other metrics, and observed continued and significant variance in this metric across regions. The Board instructed the Committee to develop evidence-based policy proposals aimed at reducing this variance in accordance with the Final Rule.

The OPTN recognizes that there are not enough organs for patients in need of lifesaving transplants and is invested in increasing the number of transplants each year by increasing donation, reducing organ discards, and improving OPO performance. However, these efforts will not change the fact that current regional boundaries often physically separate urgent candidates from donors in close proximity. The result is that in some areas of the United States, candidates must reach a higher MELD or PELD score in order to get a transplant.

In progress for the last 5 years, the current proposal strives to balance equity in access while limiting the impact on travel and logistics. The Committee proposes a solution that implements a 150 nautical mile radius sharing circle around the donor hospital and increased sharing within the region. The 150 mile circle may include candidates outside of the region. Candidates at transplant hospitals within the circle will receive 5 additional MELD or PELD points. The Committee proposes sharing in the initial broader classification to be limited to candidates with a calculated MELD of at least 29 (candidate age greater than 18 at time of registration) and allocation MELD or PELD of at least 29 (candidate age less than 18).

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[1] 42 C.F.R. § 121.8, available at Electronic Code of Federal Regulations

[2] A liver candidate receives a Model for End-Stage Liver Disease (MELD) score or, if less than 12 years old, a Pediatric End Stage Liver Disease (PELD) score that is used for liver allocation. This calculated score is intended to reflect the candidate's disease severity, or the risk of 3-month mortality without access to liver transplant. Some candidates receive an "exception" MELD or PELD score when the urgency of their need for liver transplant is not reflected by the calculate "lab" MELD/PELD score.

[3] OPTN Board resolution "the existing geographic disparity in allocation of organs for transplant is unacceptably high, and directing the organ-specific committees to define the measurement of fairness and any constraints for each organ system by June 30, 2013"

The Committee also proposes a separate allocation classification for DCD donors or donors at least 70 years old. The new allocation for these donors is expected to increase utilization and address concerns with the broader sharing of specific donor livers.

Is the sponsoring Committee requesting specific feedback or input about the proposal?

Yes, the Committee requests feedback from the community regarding the proposed sharing threshold and proximity points provided to candidates within the 150 mile circle. Additionally, the community is encouraged to provide feedback on the size of the circle.

The Committee requests feedback on the concept of providing proximity points to the donor hospital DSA in addition to the proximity circle during public comment.

Members are asked to comment on both the immediate and long term budgetary impact on resources that may be required if this proposal is approved. This information will assist the Board in considering the proposal and its impact on the community.

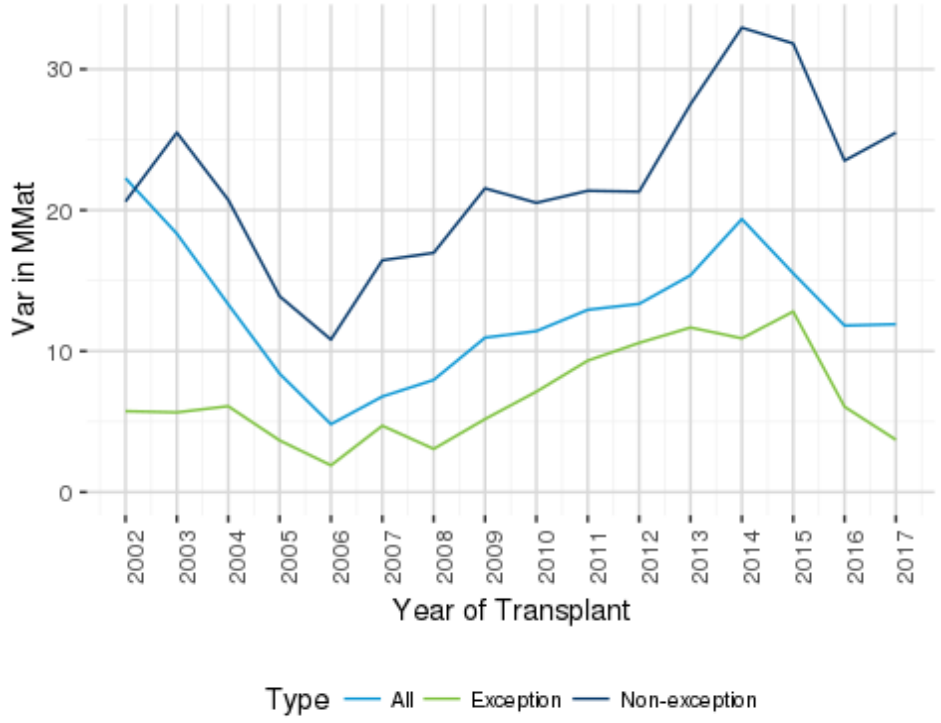
What problem will this proposal address?

The United States is currently divided into 11 regions and 58 donation service areas (DSAs). Adult deceased donor livers are first allocated to the most urgent candidates within a region (Status 1), followed by DSA and regional sharing for candidates by descending order of MELD score, through MELD 35. While the regions provide an effective mechanism for participation in the OPTN, neither the regional boundaries nor the DSA boundaries were designed to optimally distribute organs.[4]

In 2016, across the current OPTN/UNOS regions in 2016, the median MELD at transplant by DSA ranged from 20 to 40, which equates to an estimated risk of 3-month mortality without a liver transplant of 11% to nearly 100%. **Figure 1** shows the variance and range in the median allocation MELD or PELD score at transplant across the DSAs.

[4] The regional system provides an effective mechanism for communication among OPTN staff, the OPTN/UNOS Board of Directors and the transplant community. It facilitates the identification of geographically diverse transplant professionals to populate both the Board of Directors and Committees. The regions also provide a forum for consensus building and transparency of work throughout the OPTN/UNOS policy development process through regional meetings that are held twice a year during the public comment periods.

Figure 1. Variance and range in the median allocation MELD/PELD score at transplant across DSAs, by year for deceased donor liver transplants (non-Status 1) 2/27/2002 – 5/31/2017



It is important to note that the magnitude of variation is even greater among candidates whose MELD scores do not reflect assignment of exception points (hereafter referred to as "non-exception candidates"). For the purposes of this proposal, the "calculated MELD" refers to the MELD value based on a candidate's laboratory test results. "Allocation MELD" refers to the MELD score that is used in the allocation of livers, this score could be based on the candidate's calculated MELD or their MELD score that includes points based on a MELD exception, because calculated MELD doesn't reflect degree of urgency for all diagnoses.

Since the enactment of the Final Rule, the OPTN/UNOS has approved and implemented several policies to broaden geographic sharing of deceased donor livers. In June 2009, the OPTN/UNOS Board of Directors (hereafter, "the Board") approved regional sharing for Status 1A and 1B candidates to increase access to livers for patients with acute liver failure. Later that year, the Committee distributed a Request for Information (RFI) to solicit feedback from the transplant community and public regarding current liver distribution and allocation policy and opportunities for improvement. In April 2010, the OPTN/UNOS hosted a public forum that explored ways to improve organ allocation and distribution and to reduce geographic disparity in access to liver transplant. In June 2012, the Board passed "Share 35," a policy that sought to improve access to transplant for the sickest patients with chronic liver disease through:

- National sharing for candidates with MELD/PELD scores greater than 15
- Regional sharing for candidates with MELD/PELD scores of at least 35
- National sharing for liver-intestine candidates

The two year post-implementation outcome analysis suggest that, for patients with a MELD or PELD of at least 35, Share 35 increased the percentage of transplants from 19% to 27% and increased sharing within each region from 19% to 50%.[5]

Despite several efforts to expand liver sharing to regional candidates with the greatest medical urgency, the geographic disparity in disease severity at transplant persists.

Why should you support this proposal?

This proposal seeks to modify liver distribution to better match organs with urgent candidates, increasing access for those in need of liver transplant. This proposal strives to enhance equity in access while limiting the impact on travel and logistics. The Committee has relied on the collaborative approach to policy development facilitated by the OPTN/UNOS committee structure, extensive data analysis by UNOS staff, simulation modeling provided by The Scientific Registry of Transplant Recipients (SRTR) and input from the transplant community in the development of this proposal.

How was this proposal developed?

In June 2014, the Committee released the concept paper, "Redesigning Liver Distribution to Reduce Variation in Access to Liver Transplantation".[6] This paper, which included a survey to solicit feedback, provided the initial direction for the Committee. The Committee hosted two public forums in September 2014 and June 2015 to engage the community in a discussion of alternatives to the current system of distribution. In the interim, the Committee convened four Ad Hoc Subcommittees, which included non-Committee members, to develop recommendations for the development and implementation of solutions to reduce geographic disparity.

Based on feedback received from the forums and Committee discussions, the Committee adopted a comprehensive work plan to address geographic disparity in access to liver transplant. This included three projects:

1) Changes to the criteria for hepatocellular carcinoma (HCC) MELD exceptions
2) The establishment of a National Liver Review Board (NLRB)
3) Changes to liver distribution.

The OPTN/UNOS Board of Directors approved the HCC proposal in December 2016 and the NLRB proposal in June 2017.[7]

The Committee submitted a policy proposal for public comment in August 2016.[8] This proposal included an eight-district concept that changed the current 11 regions into eight mathematically-optimized districts. To address concerns for increased flying for procurement, the proposal included policy that provided three MELD proximity points to candidates within the district and within a 150-mile radius proximity circle of the donor hospital. Additionally, the initial broader sharing was restricted to a subset of the waiting list, candidates with a MELD or PELD of at least 29. The proposal was met with extensive public comment, both in support and opposition.[9] During the fall 2016 regional meetings, eight of 11 regions opposed the proposal with three regions in support. At the December 2016 Board of Directors meeting, Committee leadership acknowledged the community's response and outlined a plan to respond to public comment, engage stakeholders, and build consensus for a proposal to be submitted for public comment in July 2017.

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[5] Edwards, E. B., A. M. Harper, R. Hirose, "The impact of broader regional sharing of livers: 2-year results of 'Share 35.'" Liver Transplantation. 22(2016), 399-409.
[6] Concept paper available on the OPTN Website
[7] Policy Notices available on the OPTN website for *Changes to HCC Criteria for Auto Approval* and *Proposal to Establish a National Liver Review Board*
[8] Proposal available on the OPTN website
[9] Public comment available on the OPTN website

Recent Development

In January 2017, a gathering of liver surgeons, physicians, and stakeholders (hereafter the "Liver Panel"), was arranged during the American Society of Transplant Surgeons (ASTS) Winter Symposium. The goal was to build consensus on the topic of liver redistribution and develop recommendations for the Committee in their development of a proposal. The Liver Panel developed several recommendations that guided the Committee's efforts in 2017. Those recommendations and the Committee's response are outlined below.

Supply and Demand

In response to public comment regarding the supply and demand metrics used to construct and evaluate the eight-district concept, the panel recommended the Committee pursue supply and demand metrics that are independent of Donor Service Area (DSA) procurement performance and transplant center listing practices. The Committee had already begun addressing this concern by submitting a revised SRTR Liver Simulated Allocation Model (LSAM) request in December. This request included *concentric circle* and *neighborhoods* concepts, in addition to an eight-district concept. Both concentric circles and neighborhoods do not rely on supply and demand metrics in the construction of geographic areas of distribution.

In addition to modeling distribution concepts that are independent of supply and demand, UNOS staff requested data and created new "heat maps" that demonstrate alternative metrics of supply and demand. These maps were presented to the Committee and provided a different perspective on the current supply and demand for liver transplant, as well as the overall burden of liver disease in the country. Ultimately, the Committee voted in May to no longer pursue an eight-district proposal, alleviating concern on the use of supply and demand metrics in the development of a distribution concept.

Metrics to Assess Efficacy

The Liver Panel recommended that the metrics used to assess efficacy of proposed solutions should not be limited to MELD at transplant. The Committee has always prioritized three metrics to assess efficacy: the distribution and variance in MELD at transplant, transplant rate, and waitlist mortality. Additionally, the Committee has always assessed travel metrics including median transport distance and percentage of organs flying. MELD at transplant is certainly an important metric because livers are allocated by MELD score. However, the Committee embraced the recommendation of the Liver Panel and emphasized other metrics in its 2017 deliberations.

Effects on Medically Underserved Areas

In response to public comment that raised concern for the effect of broader sharing on certain vulnerable populations, the Liver Panel recommended the Committee investigate the potential effects on Medically Underserved Areas (MUAs). MUA is a designation by the Health Resources and Services Administration (HRSA) for areas of the country with a lack of access to primary care services.[10] UNOS staff investigated the MUA designation and provided analyses that correlated MUAs with OPTN data. Unfortunately, because candidate residence information is limited by zip code entered int the Transplant Candidate Registration (TCR) forms and MUAs are assigned to a variety of geographic divisions ranging from census tracts to groups of counties, determining with certainity whether a candidate resides in an MUA is not possible. For these reasons, the Committee is no longer investigating the effect of broader sharing on MUAs.

The Committee continues to discuss the effect of any proposal on vulnerable populations. This is an active area of research in the community and Committee members have discussed the topic with researchers focused on this issue. The Committee's goal is to better distribute livers to candidates on the waiting list. Issues with access to the waiting list are complex and cannot be solved with this proposal. However, the Committee has investigated, and will continue to investigate whether a proposal will *further*

[10] Available at https://bhw.hrsa.gov/shortage-designation/muap

disadvantage any specific population. Any proposal brought forward to the Board will include an analysis of potential impact on vulnerable populations.

Logistical challenges

The Liver Panel echoed public comment with their concern for logistical issues with sharing livers more broadly. This is a priority to the Committee, but also an effort by the Organ Procurement Organization (OPO) Committee. The *System Optimizations Work Group* has been developing a proposal for July 2017 public comment that will address several of the concerns raised during public comment for the eight-district concept.

The Committee is also working to address logistical concerns by developing policy that prevents the flying of organs for small differences in MELD scores, and providing priority to candidates that are close to the donor hospital. The Committee's logistical considerations, as well as the OPO Committee's work, will be reviewed by the Board of Directors and incorporated into the implementation plan for this proposal in a manner that addresses concerns and facilitates the transition to broader sharing.

Phased Implementation Strategies

The Liver Panel acknowledged the benefit of a phased implementation strategy to broader sharing to prevent unintended consequences. These include potential financial, logistical, and contractual consequences that are better mitigated with a phased approach. The Committee agrees with this approach and has accepted that the ultimate goal may be better accomplished through a series of changes in contrast to what some may consider a drastic change to current liver transplantation. This approach has influenced the Committee's July 2017 proposal and will influence the timeline of the implementation plan if this proposal is approved by the Board.

Current Proposal

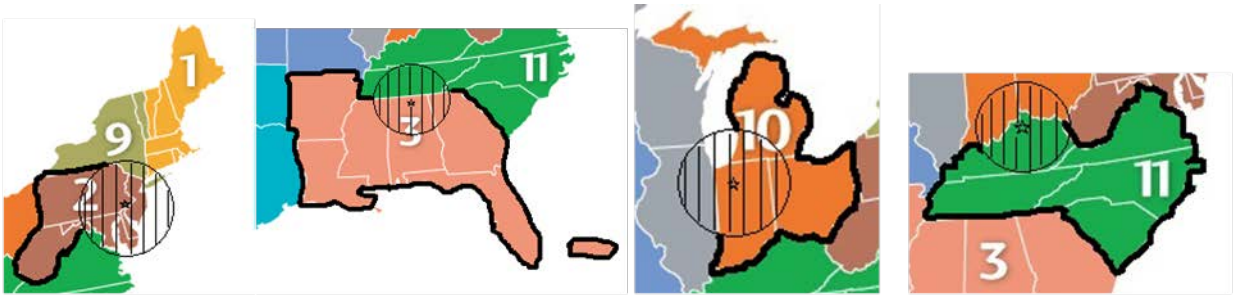
The current proposal has four significant parts:

1. Increased sharing within the region + 150-nautical mile radius circle
2. Proximity points
3. Broader sharing to adult candidates based on calculated MELD and pediatric candidates based on allocation MELD or PELD
4. Separate allocation for DCD or donors at least 70 years old

Increased sharing within the region + 150-nautical mile radius circle

The proposal broadens the geographic areas in the initial sharing classifications from regional sharing to include out-of-region sharing within 150 miles of the donor hospital. The Committee proposes a broader sharing concept that includes a 150-nautical mile radius circle around the donor hospital. This circle may extend outside of the regional boundaries, (**Figure 2**).

Figure 2. Examples of 150-nautical mile radius circles around a donor hospital that include liver programs outside of the region. Note, circles are not exactly drawn to scale.



The 150-nautical mile radius circles around a donor hospital achieve the goal of expanding distribution beyond the regional boundaries, while being conscious of the logistical and financial challenges of broader sharing. The concept of circular distribution units around the donor hospital is utilized in thoracic

allocation currently and serves as a unit of distribution that is well-matched with current organ offer and acceptance practices.

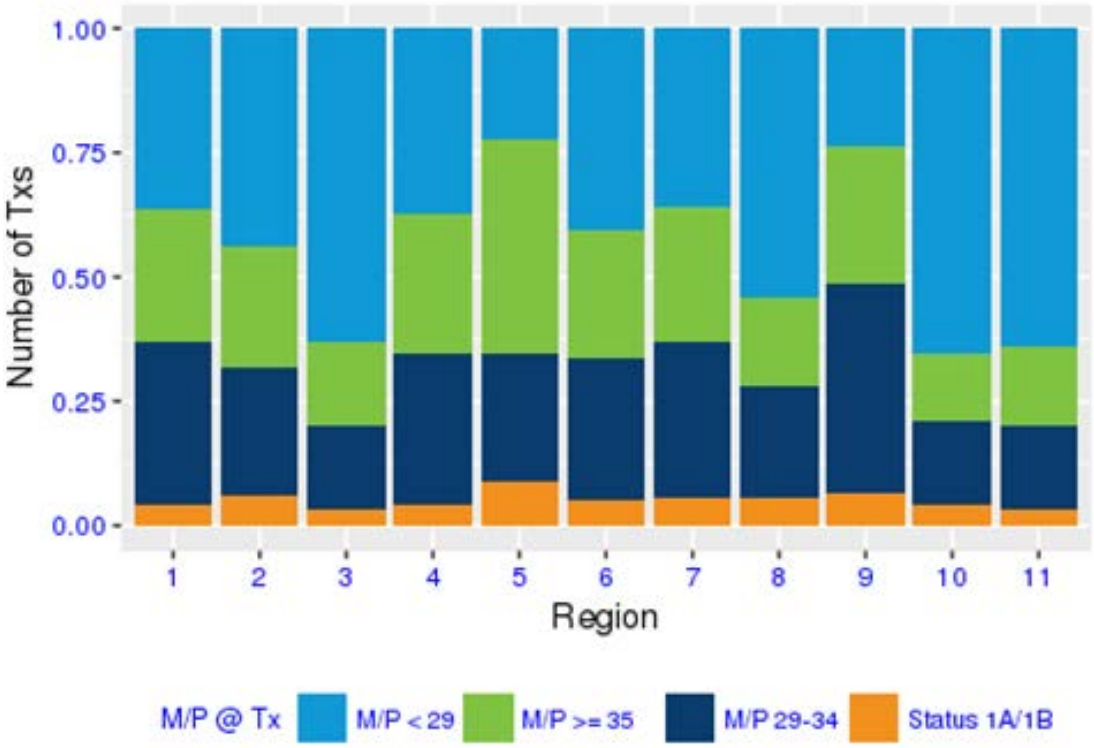
These initial broader sharing classifications are changed from all candidates with a MELD/PELD of at least 35, commonly referred to Share35, to include all candidates at least 18 years old at time of registration with a calculated MELD of at least 29, and candidates less than 18 at time of registration with an allocation MELD or PELD of 29 before introducing local (DSA) priority. The first eight classifications for adult deceased donor livers are provided in **Table 1**.

Table 1. Proposed allocation of livers from non-DCD deceased donors at least 18 years old and less than 70 years old, candidates with a MELD or PELD of at least 15

Classification	Candidates that are within the OPO's:	And are:
1	Region or Circle	Adult or pediatric status 1A
2	Region or Circle	Pediatric status 1B
3	Region or Circle	Any of the following: • At least 18 years old at time of registration and calculated MELD of at least 29 • 12 to 17 years old at time of registration and allocation MELD of at least 29 • Less than 12 years old at time of registration and allocation PELD of at least 29
4	DSA	MELD or PELD of at least 15
5	Region or Circle	MELD or PELD of at least 15
6	Nation	Adult or pediatric status 1A
7	Nation	Pediatric status 1B
8	Nation	MELD or PELD of at least 15

The Committee discussed the appropriate sharing threshold to use in the initial broader sharing allocation classification. The sharing threshold is used to expose a specific subset of the waiting list to the initial broader sharing, both to prioritize candidates with the greatest medical urgency due to their MELD or PELD score, and to constrain the amount of travel that would be expected if the entire waitlist was exposed in the initial broader sharing classification (no sharing threshold). The Committee analyzed data on the breakdown of deceased donor transplants by allocation MELD or PELD score and region (**Figure 3**).

Figure 3. Deceased donor transplants in 2016, by allocation MELD or PELD score and region



The Committee decided that a MELD or PELD sharing threshold of 29 would expose the most urgent candidates to broader sharing while limiting the impact on transportation logistics that could result from opening the initial broader sharing to the entire waitlist. The specifics of the sharing threshold are discussed in *Priority for calculated MELD candidates* below. For all pediatric liver donors less than 18 years old, the Committee proposes sharing within the region or circle for all candidates. Due to their acute medical urgency, Status 1A and 1B candidates in the circle do not receive additional priority over other Status 1A and 1B candidates in the region based on proximity to the donor hospital.

Proximity points

Liver candidates within the circle will receive 5 MELD or PELD priority points. The specifics of the priority points are detailed below in **Table 2:**

Table 2: Proximity points in the 150-nautical mile circle around the donor hospital, by candidate age

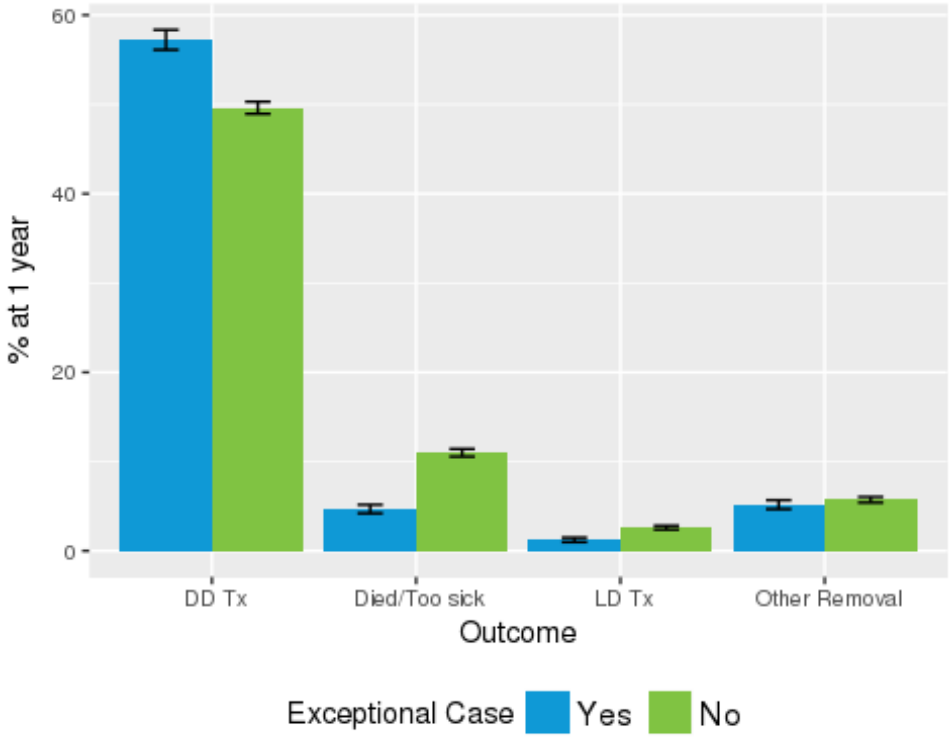
Candidate age at time of registration on the waiting list:	**Proximity Points**
At least 18 years old	Five proximity points to their calculated MELD score
12 to 17 years old	Five proximity points to their allocation MELD score
Less than 12 years old	Five proximity points to their allocation PELD score

Candidates within the 150-nautical mile radius circle around the donor hospital will receive the additional points, whether they are in the region of the OPO or the circle extends outside of the region. Candidates within the circle and region do not receive additional priority compared to candidates in the circle and outside the region. These points are added prior to the match run so that their MELD reflects the additional points at time of allocation. The Committee discussed the distinction for the points to be added

to the calculated MELD (versus allocation MELD) is to prioritize urgent candidates with elevated calculated MELD scores.

A competing risks analysis was used to determine waiting list outcomes (deceased donor transplant, living donor transplant, removed for death/too sick, removed for other reason) (**Figure2**). The analysis shows that a greater percentage of exception candidates received a deceased donor transplant and fewer exception candidates were removed from the waiting list due to death or too sick for transplant**.** This data supported the Committee's intention to provide additional priority to non-exception candidates by providing the proximity points to the calculated MELD of adult candidates.

Figure 4. Competing risks outcomes by exceptional case, candidates added to the OPTN liver waiting list, 2014-2016



For candidates less than 18 years old, the proximity points will be added to their allocation MELD or PELD scores. The majority of pediatric liver candidates have an allocation MELD or PELD score that reflects exception points, (**Table 3**).

Table 3. Pediatric Deceased Donor Liver Transplants, 2016

Age	Status 1A	Status 1B	Standard M/P	Exc Case	Total	% Exception
0-11	62	110	96	149	417	35.7
12-17	17	13	13	51	94	54.3

The Committee believes that adding proximity points to a pediatric candidate's calculated MELD or PELD and basing their allocation on their calculated MELD or PELD, would potentially disadvantage them in the allocation of livers from donors greater than 18 years old. The percentage of pediatric candidates transplanted under exception demonstrates the limitations of using the calculated MELD or PELD to show medical urgency for transplant. Therefore, the Committee proposes that the proximity points are added to their allocation MELD or PELD.

Providing priority to candidates within the 150-mile circle addresses concerns for flying livers for negligible differences in MELD or PELD score, both within the regional sharing and out-of-region sharing in the proximity circle. The Committee requests feedback on the concept of providing proximity points to the donor hospital DSA in addition to the proximity circle during public comment.

Broader sharing to adult candidates based on calculated MELD and pediatric candidates based on allocation MELD or PELD

For the allocation of non-DCD donors at least 18 years old and less than 70 years old at time of registration, this proposal provides priority for adult (>18 years old) candidates with a calculated MELD score above a MELD sharing threshold of 29 in the initial broader sharing classification. The Committee discussed that these candidates have the greatest medical urgency and should be prioritized in the initial broader sharing classification. As mentioned previously, the geographical disparity is greatest in non-exception candidates. Additionally, these candidates experience worse waiting list outcomes compared with exception candidates (**Figure 1**). **Table 4** shows examples of candidates included or excluded from the initial broader sharing classification for non-DCD donors at least 18 years old and less than 70 years old.

Table 4. Examples of candidates included in initial broader sharing classification (region or circle) for non-DCD donors at least 18 years old and less than 70 years old

Candidate Age	Calculated MELD or PELD	Allocation MELD or PELD (including potential exception points)	In the proximity circle?	MELD including proximity points	Included in initial broader sharing?
10	17	24 with exception	Yes	29	Yes
13	20	20	Yes	25	No
17	20	30 with exception	No	30	Yes
25	29	29	No	29	Yes
30	24	24	Yes	29	Yes
40	18	30 with exception	Yes	23	No
45	24	30	Yes	29	Yes

After the initial broader sharing classification, the sharing threshold no longer applies and candidates are allocated based on their allocation MELD or PELD. The distinction between calculated and allocation MELD only applies to the initial broader sharing classification for non-DCD donors at least 18 years old and less than 70 years old.

Separate allocation for DCD or donors at least 70 years old

The Committee discussed the potential logistical and clinical obstacles of offering certain donors with broader sharing. The Committee has identified a small subset of donors (age ≥70 years and donor after cardiac death (DCD) donors) that will be allocated differently from other donors. The Committee expects this change to better allocate this small subset of livers and requests feedback from the community on this topic. **Table 5** describes the share type and status/score at transplant for DCD liver transplants between 2014-2016.

Table 5. Share type and status/score at transplant for DCD liver transplants, 2014-2016

Status/Score at Transplant	# Local	% Local	# Regional	% Regional	# National	% National	Total
Status 1A	9	60.0	5	33.3	1	6.7	15
Status 1B	1	50.0	1	50.0	0	0	2
MELD or PELD <29	564	67.4	210	25.1	63	7.5	837
MELD or PELD 29-34	189	75.0	53	21.0	10	4.0	252
MELD or PELD 35+	59	57.3	43	41.7	1	1.0	103
Total	822	68.0	312	25.8	75	6.2	1209

The data in Table 5 reveals that 68% of DCD liver transplants in 2014-2016 occurred locally (within the DSA that the organ is recovered). This data reinforced the Committee's intentions to develop a separate allocation classification for DCD livers that prioritized allocation within the DSA (**Table 6**).

Table 6. Proposed allocation of livers from DCD Donors or donors at least 70 years old

Classification	Candidates that are within the OPO's:	And are:
1	Region or Circle	Adult or Pediatric status 1A
2	Region or Circle	Pediatric status 1B
3	DSA	MELD or PELD of at least 15
4	Region or Circle	MELD or PELD of at least 15
7	Nation	Adult or Pediatric status 1A
8	Nation	Pediatric status 1B
9	Nation	MELD or PELD of at least 15
10	DSA	MELD or PELD less than 15
11	Region or Circle	MELD or PELD less than 15
12	Nation	MELD or PELD less than 15

In 2014-2016, 17% of livers recovered from donors at least 70 years old were discarded, compared to 9% for donors less than 70 years old.[11]The Committee proposes including donors at least 70 years old in the same allocation as DCD donors. The Committee believes the inclusion of DCD donors and donors at least 70 years old in a separate allocation classification will better allocate this subset of donor livers by prioritizing local allocation and limiting the logistical concerns for allocating these donor livers over broader geographical areas.

How well does this proposal address the problem statement?

The SRTR modeled a similar concept in 2015. This concept included regional sharing to the full waitlist (no sharing threshold) and 150-nautical mile out-of-region circles around the donor hospital, as indicated by the arrow in the following figures, hereafter referred to "11R 5P 150Mi Out". This modeling included 5

[11] Based on OPTN data retrieved July 7, 2017

proximity points to candidates within the circle, matching the current proposal. Results of this modeling are included in **Figures 5-8**. For interpretation of the following graphs, 11R=11 Regions, 4D = 4 Districts, and 8D = 8 Districts. The three concepts are separated by scenarios based on the size of the proximity circle and the amount of proximity points provided.

Figure 5. Variance in median allocation MELD or PELD at transplant by DSA (all transplants)

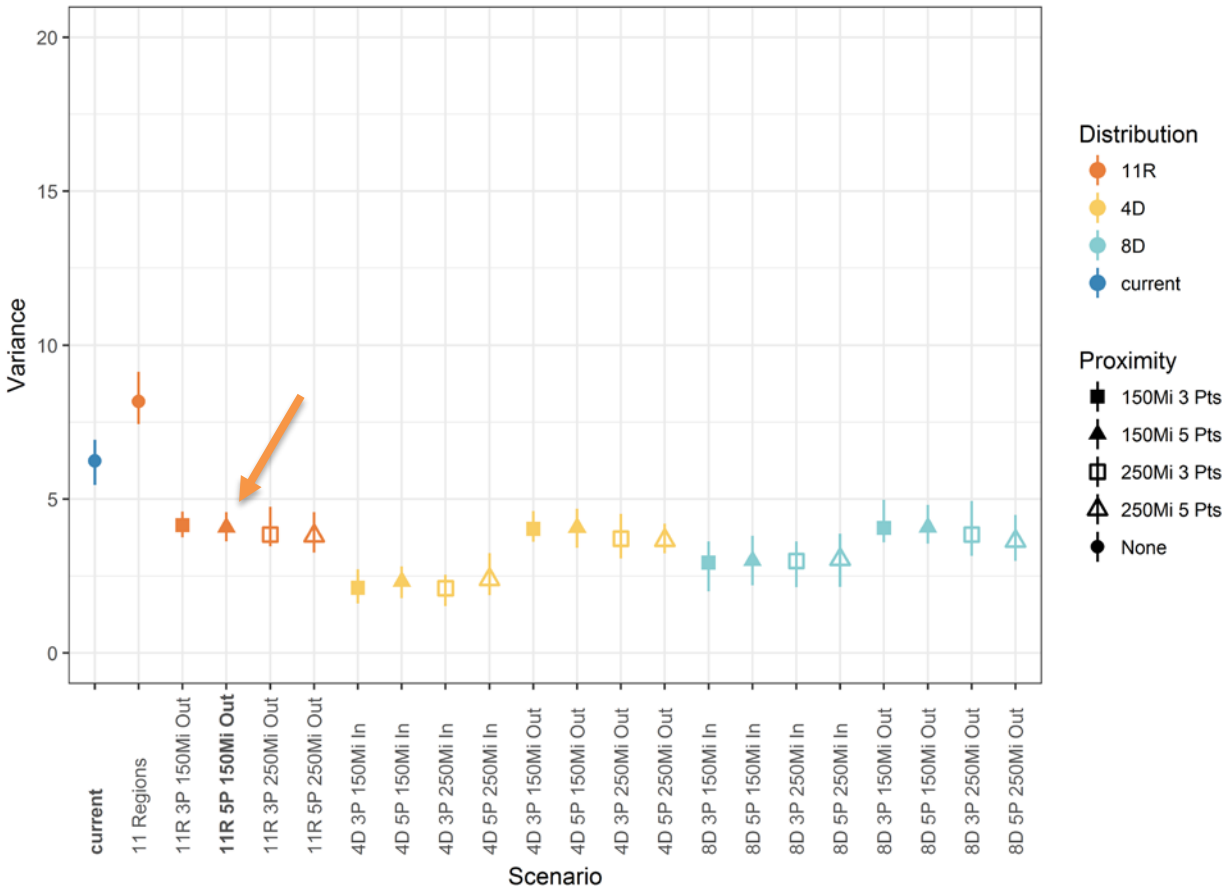


Figure 5 shows that for the 11R 5P 150Mi Out concept, the variance in median allocation MELD or PELD at transplant for all transplants decreased. The decrease in variation is comparable to scenarios using four districts or 8 districts. The variance in this analysis includes all candidates (exception and non-exception).

Figure 6. Variance in median calculated MELD/PELD at transplant by DSA (recipients with no exception points)

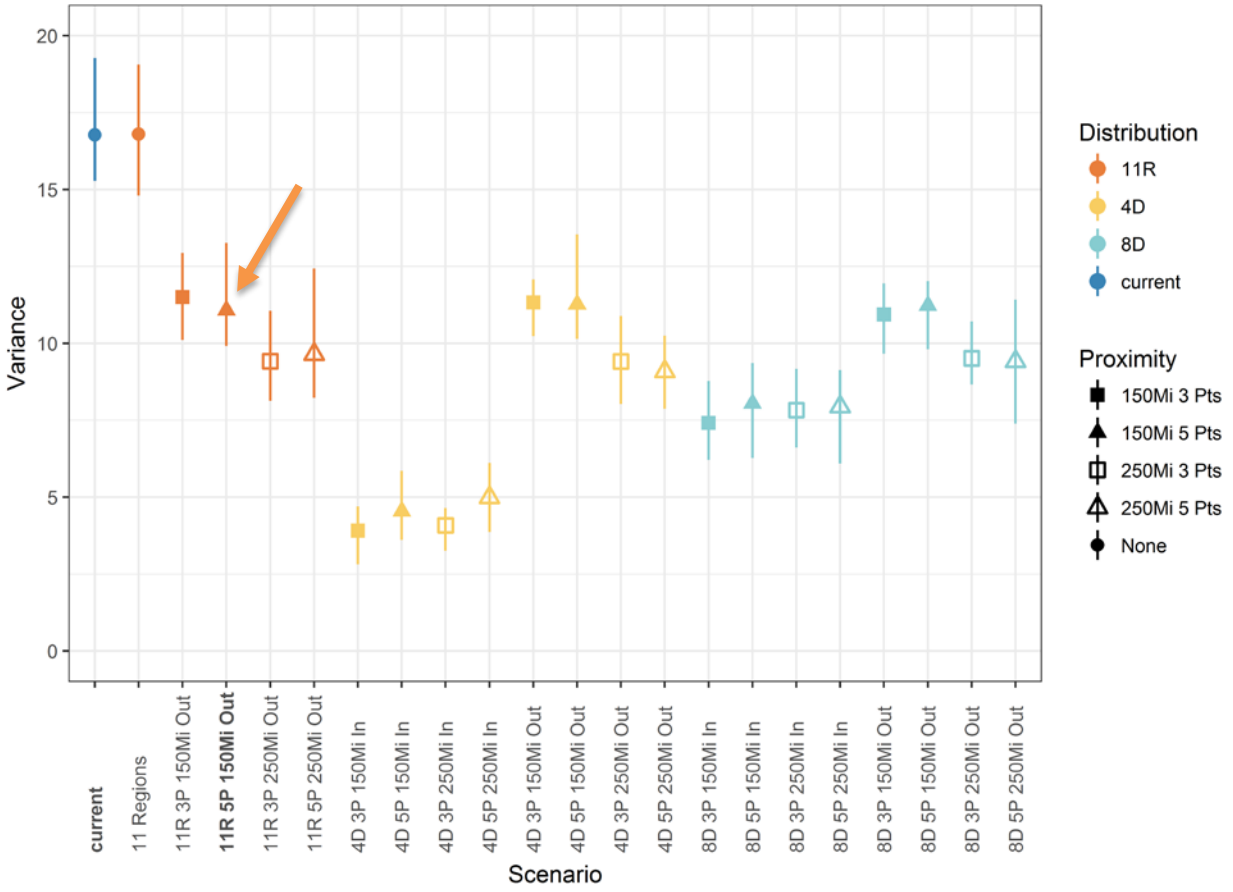


Figure 6 shows that for the 11R 5P 150Mi Out concept, the variance in median allocation MELD or PELD at transplant for non-exception candidates decreased. The decrease in variation is comparable to scenarios using four districts or 8 districts. The variance in this analysis excludes candidates with exception points.

Figure 7. Percentage of organs flying

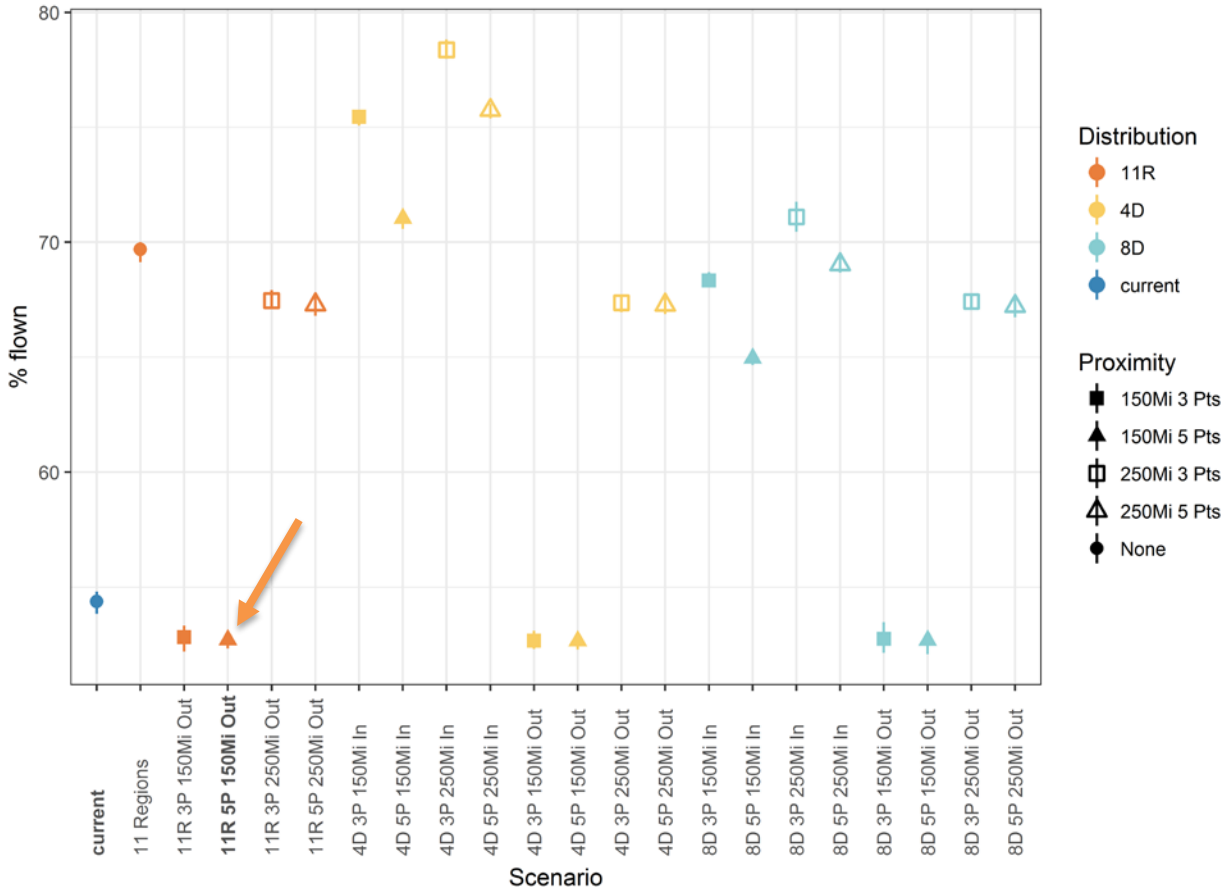


Figure 7 shows that for the 11R 5P 150Mi Out concept, the percentage of organs flying is less than that of the current system (2015). It's important to note the substantial difference between the current proposal and the *8D 3P 150Mi In* proposal. This scenario represents the fall 2016 public comment proposal with the exception of the previously proposed sharing threshold with the 8-district proposal.

Figure 8. Median transport distance (miles)

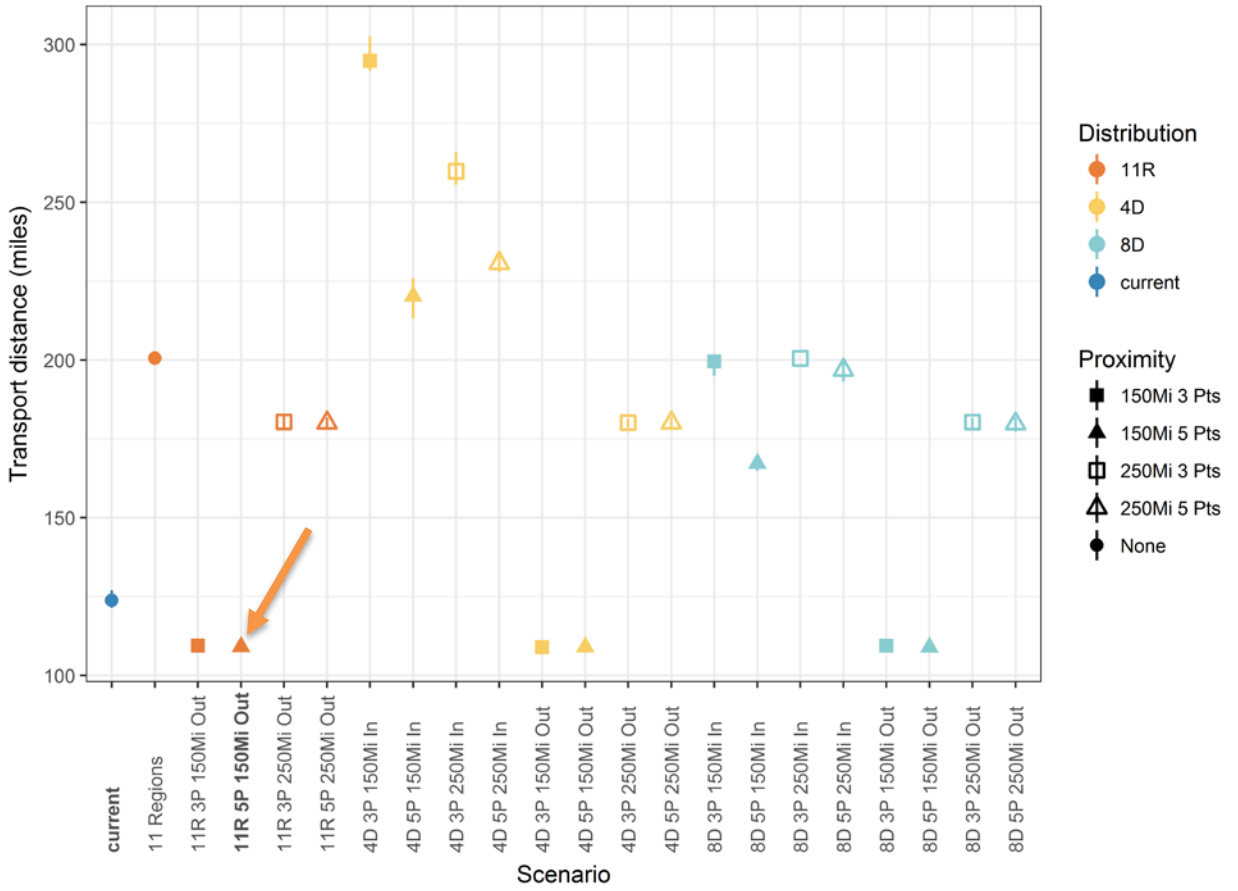


Figure 8 shows that for the 11R 5P 150Mi Out concept, the median transport distance is less than that of the current system (2015). It's important to note the substantial difference between the current proposal and the *8D 3P 150Mi In* proposal. This scenario represents the fall 2016 public comment proposal with the exception of the previously proposed sharing threshold with the 8-district proposal.

The 2015 modeling shows that the concept of full sharing with the 11 regions, plus a 150-nautical mile out-of-region proximity circle with 5 points provided to candidates within the circle, is a concept that has a substantial effect on variation in median MELD at transplant (for all candidates and non-exception candidates) in addition to a predicted decrease in flying and transport distance compared to the current system.

While the SRTR modeled this similar concept in 2015, the current proposal with a sharing threshold of MELD or PELD 29 has not been modeled. However, the Committee believes that the predicted impact from the new modeling on variation in MELD at transplant, waiting list mortality, transplant rate, percentage flying and transport distance will fall within the boundaries seen in prior analyses. Lowering the MELD threshold from the curren Share35 to 29 will increase the number of candidates impacted and thus decrease the variation in MELD at transplant. However, limiting this broader sharing classification to calculated MELD will offset some of the impact made by this change. Thus, these two changes could counter each other and the final impact should be within the boundaries seen in prior analysis.

The updated modeling will also include an analysis of the potential impact of this proposal on vulnerable populations, including the effect on rural populations and candidate insurance status. The data analysis has begun and the Committee will be reviewing the results over the next few months. Preliminary results are expected during public comment and the Committee, as well as OPTN/UNOS leadership, will identify numerous communication channels to provide the community and Board of Directors with access to the

modeling data. These efforts include a national webinar and targeted communication to liver programs, OPOs, and the Board of Directors so that feedback on any unanticipated findings from these analyses can be incorporated into decisions by the Committee and the Board.

This proposal reduces the extent of geographic sharing in the previous 8-district proposal but it addresses the concerns for increased flying of organs and potential unintended consequences resulting from an immediate shift to significantly broader sharing. The Committee acknowledges that this solution may not *solve* disparity in access to transplant. However it is expected to improve current distribution and the overall structure provides a foundation for subsequent modifications. Going forward the Committee will be finalizing target metrics for improvement in geographic disparity to be assessed once the modified policy is implemented and discussing additional changes to the system to be considered if disparity targets aren't met. Finally, the Committee plans to employ a robust post-implementation analysis to monitor the efficacy of the proposal and promptly address any unintended effects, see *"How will the sponsoring Committee evaluate whether this proposal was successful post implementation?"* below.

Which populations are impacted by this proposal?

The goal of this project is to reduce the geographic disparity in access to transplant among the estimated 14,500 candidates waiting for a liver transplant each day. Candidates on the waiting list above the sharing threshold will have increased access to transplant within their region. Additionally, these candidates will have increased access to organs that may be outside their region, but within 150 nautical miles of their transplant program.

How does this proposal impact the OPTN Strategic Plan?

1. *Increase the number of transplants*: There is no expected impact to this goal
2. *Improve equity in access to transplants*: The primary goal of this proposal is to improve geographic disparity in access to liver transplant. Based on extensive previous modeling, this proposal is expected to decrease the variation in median MELD at transplant for all liver candidates.
3. *Improve waitlisted patient, living donor, and transplant recipient outcomes:* Overall pre- and post-transplant deaths are not predicted to increase over the current system.
4. *Promote living donor and transplant recipient safety*: No expected impact on this goal.
5. *Promote the efficient management of the OPTN*: No expected impact on this goal.

How will the OPTN implement this proposal?

If the Board approves this proposal, the OPTN plans to coordinate implementation such that the NLRB and revisions to standardized eligibility criteria for HCC exceptions are in place upon the implementation of this proposal. Additionally, all current regional variances will be removed upon implementation of this proposal.

This proposal will require programming in UNet^{SM}. The OPTN/UNOS will follow established protocols to inform members and educate them on any policy changes through Policy Notices. Due to the significant impact of these policy changes, the OPTN/UNOS will offer learning opportunities to specific audiences to promote knowledge, awareness, and compliance related to policy and system changes in advance of implementation. The OPTN/UNOS will deliver communications to the membership when instructional offerings are available. Members should take advantage of relevant educational opportunities offered.

UNOS IT provides cost estimates for each public comment proposal that will require programming to implement. The estimates can be small (108-419 hours), medium (420-749 hours), large (750-1,649 hours), very large (1,650-3,999 hours), or enterprise (4,000-8,000 hours). The IT estimate for this proposal is enterprise.

How will members implement this proposal?

OPOs and transplant hospitals may need to devote significant effort in developing new working relationships for organ offers that travel outside of current boundaries. Any broader sharing policy may pose logistical and financial challenges. The OPO Committee is currently addressing some of these challenges with their proposal, *Improving the Efficiency of Organ Allocation*.

OPOs

OPOs will need to prepare for any additional cost and coordination of transportation. OPOs may be interacting with transplant programs outside of their region more frequently than with the current system.

Transplant Hospitals

Transplant hospitals may also need to prepare for the additional cost and coordination of transportation. Transplant programs may be interacting with OPOs and donor hospitals outside of their region more frequently than with the current system.

Will this proposal require members to submit additional data?

No, this proposal does not require additional data collection.

How will members be evaluated for compliance with this proposal?

The proposed language will not change the current monitoring of OPTN members. Organ allocation according to the match run will still be subject to OPTN review, and members are required to provide documentation as requested.

How will the sponsoring Committee evaluate whether this proposal was successful post implementation?

Using pre vs. post comparisons, analyses will be performed post-implementation at approximate 3-month intervals (as appropriate, up to 2 years) to identify trends and potentially unanticipated consequences of the policy. Analysis of post-transplant outcomes will be performed after sufficient follow-up data has accrued, which is dependent on submission of 6-month follow-up forms.

The primary metric for evaluation of this policy change is the variance in the median MELD at transplant by DSA, since the main goal of this policy is to reduce the variance in that metric.

Other metrics evaluated will include:

- Number of deceased donor liver transplants
- Size and composition of the waiting list
- Waiting list mortality rates, transplant rates
- Transplant recipient demographics (age, gender, diagnosis, ethnicity, socioeconomic factors as available for analysis)
- Transplants by exception (HCC, non-HCC)
- Post-transplant survival rates, overall and stratified by MELD/PELD category
- Post-transplant length of stay
- Liver discard rates (of livers recovered)
- Livers not recovered
- Organ travel distance, cold ischemia time, donor risk index
- Changes in transplant center or DSA-level transplant outcomes

Policy or Bylaws Language

Proposed new language is underlined (example) and language that is proposed for removal is struck through (~~example~~).

1.2 Definitions

Circle

A geographic area used in the allocation of certain organs. For the allocation of deceased donor livers, a circle is a 150 nautical mile radius around the donor hospital.

Geographical Area

A physical area used to group potential transplant recipients in a classification. OPTN Policy uses the following geographical areas for organ allocation: *circle, DSA, region, nation, and zones*.

5.4.B Order of Allocation

The process to allocate deceased donor organs occurs with these steps:

1. The match system eliminates candidates who cannot accept the deceased donor based on size or blood type.
2. The match system ranks candidates according to the allocation sequences in the organ allocation policies.
3. OPOs must first offer organs to potential recipients in the order that the potential recipients appear on a match run.
4. If no transplant program on the initial match run accepts the organ, the host OPO may give transplant programs the opportunity to update their candidates' data with the OPTN Contractor. The host OPO must re-execute the match run to allocate the organ.
5. If no transplant program within the DSA or through an approved regional sharing arrangement accepts the organ, the Organ Center will allocate ~~an abdominal organ first regionally and then nationally, according to allocation Policies. The Organ Center will allocate thoracic organs according to *Policy 6: Allocation of Hearts and Heart-Lungs* and *Policy 10: Allocation of Lungs*~~ the organ according to Policy.
6. Members may export deceased donor organs to hospitals in foreign countries only after offering these organs to all potential recipients on the match run. Members must submit the *Organ Export Verification Form* to the OPTN Contractor prior to exporting deceased donor organs.

This policy does not apply to VCA transplants; instead, members must allocate VCAs according to *Policy 12.2: VCA Allocation*.

9.8 Liver Allocation, Classifications, and Rankings

~~Livers from pediatric deceased donors are first allocated to pediatric potential transplant recipients with respect to geographical proximity to donor and medical urgency, according to *Tables 9-7* and *9-8.*~~

9.8.B Allocation of Livers for Other Methods of Hepatic Support

A liver must be offered first for transplantation according to the match run before it is offered for use in other methods of hepatic support. If the liver is not accepted for transplant within 6 hours of attempted allocation by the OPTN Contractor, the OPTN Contractor will offer the liver for other methods of hepatic support, according to *Tables 9-4, 9-5*, and *9-6* below ~~to status 1A and 1B candidates, followed by all candidates in order of their MELD or PELD scores. Livers allocated for other methods of hepatic support will be offered first locally, then regionally, and then nationally in descending point order~~.

9.8.C Allocation of Livers by Blood Type

Livers from blood type O deceased donors may be offered to *any* of the following:

- Status 1A and 1B candidates.
- Blood type O candidates.
- Blood type B candidates with a MELD or PELD score greater than or equal to 30.
- Any remaining blood type compatible candidates once the blood type O and B candidates on the match run have been exhausted at the region~~al~~ plus circle, and national level.

For status 1A or 1B candidates or candidates with a MELD or PELD score greater than or equal to 30, transplant hospitals may specify on the waiting list if those candidates will accept a liver from a deceased donor of any blood type. Candidates are given points depending on their blood type according to *Policy 9.7.B: Points Assigned by Blood Type*.

9.8.D MELD or PELD Points for Geographic Proximity to the Donor Hospital

At the time of the match run, a liver candidate with a MELD or PELD score registered at a transplant hospital within the circle receives five additional MELD or PELD points according to Table 9-3 below:

Table 9-3: Proximity Points by Candidate Age

Candidate age at time of registration on the waiting list:	Proximity Points
At least 18 years old	Five proximity points to their calculated MELD score
12 to 17 years old	Five proximity points to their allocation MELD score
Less than 12 years old	Five proximity points to their allocation PELD score

9.8.~~D~~E Sorting Within Each Classification

Within each status 1A allocation classification, candidates are sorted in the following order:

1. ~~Total points, highest to lowest (waiting time points, plus blood type compatibility points)~~ Total waiting time and blood type compatibility points (highest to lowest), according to *Policy 9.5: Liver Allocation Points*
2. Total waiting time at status 1A (highest to lowest)

Within each status 1B allocation classification, candidates are sorted in the following order:

1. ~~Total points (highest to lowest)~~ Total waiting time and blood type compatibility points (highest to lowest), according to *Policy 9.7: Liver Allocation Points*
2. Total waiting time at status 1B (highest to lowest)

Within each ~~allocation~~ MELD or PELD score allocation classification, candidates with ~~a score ≤ six~~ a MELD of 6 or a PELD less than or equal to 6 are sorted in the following order:

~~1. Identical blood types, compatible blood types, then incompatible blood types~~
~~2. Total waiting time (highest to lowest)~~

~~3. Then those waiting list positions assigned to candidates with a MELD or PELD score ≤ are redistributed between the pediatric candidates, according to their PELD or MELD score (highest to lowest).~~

1. First, all candidates are sorted in the following order:
   a. Identical blood types, compatible blood types, then incompatible blood types
   b. Waiting time at the current or highest MELD or PELD score (highest to lowest)
   c. Total waiting time (highest to lowest)
2. Then, pediatric candidates are sorted by their PELD score, calculated according to *Policy 9.1.E: PELD Score* (highest to lowest).

Within each ~~allocation~~ MELD or PELD score allocation classification, all other candidates are sorted in the following order:

1. MELD or ~~/~~PELD score (highest to lowest)
2. Identical blood types, compatible blood types, then incompatible blood types
3. Waiting time at the current or higher MELD or PELD score (highest to lowest)
4. Total waiting time (highest to lowest)~~.~~

9.8.~~E~~F Allocation of Non-DCD Livers from Deceased Donors at Least 18 Years Old and Less than 70 years old

Livers from non-DCD deceased donors at least 18 years old and less than 70 years old are allocated to candidates according to *Table 9-~~3~~4* below.

Table 9-~~3~~4: Allocation of Non-DCD Livers from Deceased Donors at Least 18 Years Old and Less than 70 Years Old

~~Classification~~	~~Candidates that are within the:~~	~~And are:~~
~~1~~	~~OPO's region~~	~~Adult or pediatric status 1A~~
~~2~~	~~OPO's region~~	~~Pediatric status 1B~~
~~3~~	~~OPO's DSA~~	~~MELD/PELD of 40~~
~~4~~	~~OPO's region~~	~~MELD/PELD of 40~~
~~5~~	~~OPO's DSA~~	~~MELD/PELD of 39~~
~~6~~	~~OPO's region~~	~~MELD/PELD of 39~~
~~7~~	~~OPO's DSA~~	~~MELD/PELD of 38~~
~~8~~	~~OPO's region~~	~~MELD/PELD of 38~~
~~9~~	~~OPO's DSA~~	~~MELD/PELD of 37~~
~~10~~	~~OPO's region~~	~~MELD/PELD of 37~~
~~11~~	~~OPO's DSA~~	~~MELD/PELD of 36~~
~~12~~	~~OPO's region~~	~~MELD/PELD of 36~~
~~13~~	~~OPO's DSA~~	~~MELD/PELD of 35~~
~~14~~	~~OPO's region~~	~~MELD/PELD of 35~~
~~15~~	~~OPO's DSA~~	~~MELD/PELD of at least 15~~
~~16~~	~~OPO's region~~	~~MELD/PELD of at least 15~~
~~17~~	~~Nation~~	~~Adult or Pediatric status 1A~~
~~18~~	~~Nation~~	~~Pediatric status 1B~~
~~19~~	~~Nation~~	~~MELD/PELD of at least 15~~

Classification	Candidates that are within the:	And are:
20	OPO's DSA	MELD/PELD less than 15
21	OPO's region	MELD/PELD less than 15
22	Nation	MELD/PELD less than 15
23	OPO's DSA	MELD/PELD at least 40 and compatible blood type
24	OPO's region	MELD/PELD at least 40 and compatible blood type
25	OPO's DSA	MELD/PELD of 39 and compatible blood type
26	OPO's region	MELD/PELD of 39 and compatible blood type
27	OPO's DSA	MELD/PELD of 38 and compatible blood type
28	OPO's region	MELD/PELD of 38 and compatible blood type
29	OPO's DSA	MELD/PELD of 37 and compatible blood type
30	OPO's region	MELD/PELD of 37 and compatible blood type
31	OPO's DSA	MELD/PELD of 36 and compatible blood type
32	OPO's region	MELD/PELD of 36 and compatible blood type
33	OPO's DSA	MELD/PELD of 35 and compatible blood type
34	OPO's region	MELD/PELD of 35 and compatible blood type
35	OPO's DSA	MELD/PELD of at least 15 and compatible blood type
36	OPO's region	MELD/PELD of at least 15 and compatible blood type
37	Nation	MELD/PELD of at least 15 and compatible blood type
38	OPO's DSA	MELD/PELD less than 15 and compatible blood type
39	OPO's region	MELD/PELD less than 15 and compatible blood type
40	Nation	MELD/PELD less than 15 and compatible blood type
41	OPO's DSA	Adult or pediatric status 1A and in need of other method of hepatic support
42	OPO's DSA	Pediatric status 1B and in need of other method of hepatic support
43	OPO's DSA	Any MELD/PELD and in need of other method of hepatic support
44	OPO's region	Adult or pediatric status 1A and in need of other method of hepatic support
45	OPO's region	Pediatric status 1B and in need of other method of hepatic support
46	OPO's region	Any MELD/PELD and in need of other method of hepatic support

~~Classification~~	~~Candidates that are within the:~~	~~And are:~~
~~47~~	~~Nation~~	~~Adult or pediatric status 1A and in need of other method of hepatic support~~
~~48~~	~~Nation~~	~~Pediatric status 1B and in need of other method of hepatic support~~
~~49~~	~~Nation~~	~~Any MELD/PELD and in need of other method of hepatic support~~
~~50~~	~~OPO's DSA~~	~~Any MELD/PELD in need of other method of hepatic support, and a blood type compatible with the donor~~
~~51~~	~~OPO's region~~	~~Any MELD/PELD in need of other method of hepatic support, and blood type compatible with the donor~~
~~52~~	~~Nation~~	~~Any MELD/PELD in need of other method of hepatic support, and blood type compatible with the donor~~

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Classification	Candidates that are within the OPO's:	And are:	When the donor is this blood type:
1	Region or Circle	Adult or pediatric status 1A	Any
2	Region or Circle	Pediatric status 1B	Any
3	Region or Circle	Any of the following: • At least 18 years old at time of registration and calculated MELD of at least 29 • 12 to 17 years old at time of registration and allocation MELD of at least 29 • Less than 12 years old at time of registration and allocation PELD of at least 29	Any
4	DSA	MELD or PELD of at least 15	Any
5	Region or Circle	MELD or PELD of at least 15	Any
6	Nation	Adult or pediatric status 1A	Any
7	Nation	Pediatric status 1B	Any
8	Nation	MELD or PELD of at least 15	Any
9	DSA	MELD or PELD less than 15	Any
10	Region or Circle	MELD or PELD less than 15	Any
11	Nation	MELD or PELD less than 15	Any
12	Region or Circle	MELD or PELD of at least 29, blood type compatible	O

Classification	Candidates that are within the OPO's:	And are:	When the donor is this blood type:
13	DSA	MELD or PELD of at least 15, blood type compatible	O
14	Region or Circle	MELD or PELD of at least 15, blood type compatible	O
15	Nation	MELD or PELD of at least 15, blood type compatible	O
16	DSA	MELD or PELD less than 15, blood type compatible	O
17	Region or Circle	MELD or PELD less than 15, blood type compatible	O
18	Nation	MELD or PELD less than 15, blood type compatible	O
19	DSA	Adult or pediatric status 1A, in need of other method of hepatic support	Any
20	DSA	Pediatric status 1B, in need of other method of hepatic support	Any
21	DSA	Any MELD or PELD, in need of other method of hepatic support	Any
22	Region or Circle	Adult or pediatric status 1A, in need of other method of hepatic support	Any
23	Region or Circle	Pediatric status 1B, in need of other method of hepatic support	Any
24	Region or Circle	Any MELD or PELD, in need of other method of hepatic support	Any
25	Nation	Adult or pediatric status 1A, in need of other method of hepatic support	Any
25	Nation	Pediatric status 1B, in need of other method of hepatic support	Any
26	Nation	Any MELD or PELD, in need of other method of hepatic support	Any
27	DSA	Any MELD or PELD, in need of other method of hepatic support, blood type compatible	O
28	Region or Circle	Any MELD or PELD, in need of other method of hepatic support, blood type compatible	O
29	Nation	Any MELD or PELD, in need of other method of hepatic support, blood type compatible	O

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9.8.~~F~~G Allocation of Non-DCD Livers from Deceased Donors 11 to 17 Years Old

Livers from non-DCD deceased donors 11 to 17 years old are allocated to candidates according to *Table 9-~~4~~5* below.

Table 9-~~4~~5: Allocation of Non-DCD Livers from Deceased Donors 11 to 17 Years Old

~~Classification~~	~~Candidates that are within the:~~	~~And are:~~
~~1~~	~~OPO's DSA~~	~~Pediatric status 1A~~
~~2~~	~~OPO's region~~	~~Pediatric status 1A~~
~~3~~	~~OPO's DSA~~	~~Adult status 1A~~
~~4~~	~~OPO's region~~	~~Adult status 1A~~
~~5~~	~~OPO's DSA~~	~~Pediatric status 1B~~
~~6~~	~~OPO's region~~	~~Pediatric status 1B~~
~~7~~	~~OPO's DSA or region~~	~~Any PELD~~
~~8~~	~~OPO's DSA~~	~~MELD of at least 15 and 12 to 17 years old~~
~~9~~	~~OPO's DSA~~	~~MELD of at least 15 and at least 18 years old~~
~~10~~	~~OPO's region~~	~~MELD of at least 15 and 12 to 17 years old~~
~~11~~	~~OPO's region~~	~~MELD of at least 15 and at least 18 years old~~
~~12~~	~~OPO's DSA~~	~~MELD less than 15 and 12 to 17 years old~~
~~13~~	~~OPO's DSA~~	~~MELD less than 15 and at least 18 years old~~
~~14~~	~~OPO's region~~	~~MELD less than 15 and 12 to 17 years old~~
~~15~~	~~OPO's region~~	~~MELD less than 15 and at least 18 years old~~
~~16~~	~~Nation~~	~~Pediatric status 1A~~
~~17~~	~~Nation~~	~~Adult status 1A~~
~~18~~	~~Nation~~	~~Pediatric status 1B~~
~~19~~	~~Nation~~	~~Any PELD~~
~~20~~	~~Nation~~	~~Any MELD and 12 to 17 years old~~
~~21~~	~~Nation~~	~~Any MELD and at least 18 years old~~
~~22~~	~~OPO's region~~	~~Any PELD, and compatible blood type~~
~~23~~	~~OPO's DSA~~	~~MELD at least 15, 12 to 17 years old, and Compatible blood type~~
~~24~~	~~OPO's DSA~~	~~MELD at least 15, at least 18 years old, and compatible blood type~~
~~25~~	~~OPO's region~~	~~MELD at least 15, 12 to 17 years old, and compatible blood type~~
~~26~~	~~OPO's region~~	~~MELD at least 15, at least 18 years old, and compatible blood type~~
~~27~~	~~OPO's DSA~~	~~MELD less than 15, 12 to 17 years old, and compatible blood type~~
~~28~~	~~OPO's DSA~~	~~MELD less than 15, at least 18 years old, and compatible blood type~~

~~Classification~~	~~Candidates that are within the:~~	~~And are:~~
~~29~~	~~OPO's region~~	~~MELD less than 15, 12 to 17 years old, and compatible blood type~~
~~30~~	~~OPO's region~~	~~MELD less than 15, at least 18 years old, and compatible blood type~~
~~31~~	~~Nation~~	~~0 to 11 years old and compatible blood type~~
~~32~~	~~Nation~~	~~12 to 17 years old and compatible blood type~~
~~33~~	~~Nation~~	~~Any MELD, at least 18 years old, and compatible blood type~~
~~34~~	~~OPO's DSA~~	~~Adult or pediatric status 1A and in need of other method of hepatic support~~
~~35~~	~~OPO's DSA~~	~~Pediatric status 1B and in need of other method of hepatic support~~
~~36~~	~~OPO's DSA~~	~~Any MELD/PELD and in need of other method of hepatic support~~
~~37~~	~~OPO's region~~	~~Adult or pediatric status 1A and in need of other method of hepatic support~~
~~38~~	~~OPO's region~~	~~Pediatric status 1B and in need of other method of hepatic support~~
~~39~~	~~OPO's region~~	~~Any MELD/PELD and in need of other method of hepatic support~~
~~40~~	~~Nation~~	~~Adult or pediatric status 1A and in need of other method of hepatic support~~
~~41~~	~~Nation~~	~~Pediatric status 1B and in need of other method of hepatic support~~
~~42~~	~~Nation~~	~~Any MELD/PELD and in need of other method of hepatic support~~
~~43~~	~~OPO's DSA~~	~~Any MELD/PELD in need of other method of hepatic support, and compatible blood type~~
~~44~~	~~OPO's region~~	~~Any MELD/PELD in need of other method of hepatic support, and compatible blood type~~
~~45~~	~~Nation~~	~~Any MELD/PELD in need of other method of hepatic support, and compatible blood type~~

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Classification	Candidates that are within the OPO's:	And are:	When the donor is this blood type:
1	Region or Circle	Pediatric status 1A	Any
2	Region or Circle	Adult status 1A	Any
3	Region or Circle	Pediatric status 1B	Any
4	Region or Circle	Any PELD	Any
5	Region or Circle	MELD of at least 15 and 12 to 17 years old	Any

Classification	Candidates that are within the OPO's:	And are:	When the donor is this blood type:
6	Region or Circle	MELD of at least 15 and at least 18 years old	Any
7	Region or Circle	MELD less than 15 and 12 to 17 years old	Any
8	Region or Circle	MELD less than 15 and at least 18 years old	Any
9	Nation	Pediatric status 1A	Any
10	Nation	Adult status 1A	Any
11	Nation	Pediatric status 1B	Any
12	Nation	Any PELD	Any
13	Nation	Any MELD and 12 to 17 years old	Any
14	Nation	Any MELD and at least 18 years old	Any
15	Region or Circle	Any PELD and blood type compatible	O
16	Region or Circle	MELD at least 15, 12 to 17 years old, and blood type compatible	O
17	Region or Circle	MELD at least 15, at least 18 years old, and blood type compatible	O
18	Region or Circle	MELD less than 15, 12 to 17 years old, and blood type compatible	O
19	Region or Circle	MELD less than 15, at least 18 years old, and blood type compatible	O
20	Nation	Any PELD and blood type compatible	O
21	Nation	Any MELD, 12 to 17 years old, and blood type compatible	O
22	Nation	Any MELD, at least 18 years old, and blood type compatible	O
23	Region or Circle	Adult or pediatric status 1A and in need of other method of hepatic support	Any
24	Region or Circle	Pediatric status 1B and in need of other method of hepatic support	Any
25	Region or Circle	Any MELD or PELD and in need of other method of hepatic support	Any

Classification	Candidates that are within the OPO's:	And are:	When the donor is this blood type:
26	Nation	Adult or pediatric status 1A and in need of other method of hepatic support	Any
27	Nation	Pediatric status 1B and in need of other method of hepatic support	Any
28	Nation	Any MELD or PELD and in need of other method of hepatic support	Any
29	Region or Circle	Any MELD or PELD, in need of other method of hepatic support, and blood type compatible	O
30	Nation	Any MELD or PELD, in need of other method of hepatic support, and blood type compatible	O

9.8.~~G~~H Allocation of Non-DCD Livers from Deceased Donors Less than 11 Years Old

Livers from non-DCD donors less than 11 years old are allocated to candidates according to *Table 9-~~5~~6* below.

Table 9-~~5~~6: Allocation of Non-DCD Livers from Deceased Donors less than 11 Years Old

~~Classification~~	~~Candidates that are within the…~~	~~And are…~~
~~**1**~~	~~OPO's region~~	~~Pediatric status 1A~~
~~**2**~~	~~Nation~~	~~Pediatric status 1A (0-11)~~
~~**3**~~	~~OPO's DSA~~	~~Adult status 1A~~
~~**4**~~	~~OPO's Region~~	~~Adult status 1A~~
~~**5**~~	~~OPO's Region~~	~~Pediatric status 1B~~
~~**6**~~	~~OPO's Region~~	~~Any PELD~~
~~**7**~~	~~OPO's DSA~~	~~MELD of at least 15 and 12 to 17 years old~~
~~**8**~~	~~OPO's DSA~~	~~MELD of at least 15 and at least 18 years old~~
~~**9**~~	~~OPO's Region~~	~~MELD of at least 15 and at least 12 to 17 years old~~
~~**10**~~	~~OPO's Region~~	~~MELD of at least 15 and at least 18 years old~~
~~**11**~~	~~OPO's DSA~~	~~MELD less than 15 and 12 to 17 years old~~
~~**12**~~	~~OPO's DSA~~	~~MELD less than 15 and at least 18 years old~~
~~**13**~~	~~OPO's Region~~	~~MELD less than 15 and 12 to 17 years old~~
~~**14**~~	~~OPO's Region~~	~~MELD less than 15 and at least 18 years old~~
~~**15**~~	~~Nation~~	~~Status 1A and 12 to 17 years old~~

Classification	Candidates that are within the…	And are…
16	Nation	Status 1A and at least 18 years old
17	Nation	Status 1B and 0 to 17 years old
18	Nation	Any PELD
19	Nation	Any MELD and 12 to 17 years old
20	Nation	Any MELD and at least 18 years old
21	OPO's Region	Any PELD and compatible blood type
22	OPO's DSA	MELD of at least 15, 12 to 17 years old, and compatible blood type
23	OPO's DSA	MELD of at least 15, at least 18 years old, and compatible blood type
24	OPO's Region	MELD of at least 15, 12 to 17 years old, and compatible blood type
25	OPO's Region	MELD of at least 15, at least 18 years old, and compatible blood type
26	OPO's DSA	MELD less than 15, 12 to 17 years old, and compatible blood type
27	OPO's DSA	MELD less than 15, at least 18 years old, and compatible blood type
28	Region	MELD less than 15, 12 to 17 years old, and compatible blood type
29	Region	MELD less than 15, at least 18 years old, and compatible blood type
30	Nation	Any PELD and compatible blood type
31	Nation	Any MELD, 12 to 17 years old, and compatible blood type
32	Nation	Any MELD, at least 18 years old, and compatible blood type
33	OPO's DSA	Adult or pediatric status 1A and in need of other method of hepatic support
34	OPO's DSA	Pediatric status 1B and in need of other method of hepatic support
35	OPO's DSA	Any MELD/PELD and in need of other method of hepatic support
36	OPO's region	Adult or pediatric status 1A and in need of other method of hepatic support
37	OPO's region	Pediatric status 1B and in need of other method of hepatic support
38	OPO's region	Any MELD/PELD, any age, and in need of other method of hepatic support
39	Nation	Adult or pediatric status 1A and in need of other method of hepatic support
40	Nation	Pediatric status 1B and in need of other method of hepatic support

~~Classification~~	~~Candidates that are within the…~~	~~And are…~~
~~41~~	~~Nation~~	~~Any MELD/PELD, any age, and in need of other method of hepatic support~~
~~42~~	~~OPO's DSA~~	~~Any MELD/PELD, any age, in need of other method of hepatic support, and compatible blood type~~
~~43~~	~~OPO's region~~	~~Any MELD/PELD, any age, in need of other method of hepatic support, and compatible blood type~~
~~44~~	~~Nation~~	~~Any MELD/PELD, any age, in need of other method of hepatic support, and compatible blood type~~

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Classification	Candidates that are within the OPO's:	And are…	When the donor is this blood type:
1	Region or Circle	Pediatric status 1A	Any
2	Nation	Pediatric status 1A and 0 to 11 years old	Any
3	Region or Circle	Adult status 1A	Any
4	Region or Circle	Pediatric status 1B	Any
5	Region or Circle	Any PELD	Any
6	Region or Circle	MELD of at least 15 and 12 to 17 years old	Any
7	Region or Circle	MELD of at least 15 and at least 18 years old	Any
8	Region or Circle	MELD less than 15 and 12 to 17 years old	Any
9	Region or Circle	MELD less than 15 and at least 18 years old	Any
10	Nation	Pediatric status 1A and 12 to 17 years old	Any
11	Nation	Adult status 1A	Any
12	Nation	Pediatric status 1B and 0 to 17 years old	Any
13	Nation	Any PELD	Any
14	Nation	Any MELD and 12 to 17 years old	Any
15	Nation	Any MELD and at least 18 years old	Any
16	Region or Circle	Any PELD and compatible blood type	O
17	Region or Circle	MELD of at least 15, 12 to 17 years old and blood type compatible	O
18	Region or Circle	MELD of at least 15, at least 18 years old and blood type compatible	O
19	Region or Circle	MELD less than 15, 12 to 17 years old and blood type compatible	O
20	Region or Circle	MELD less than 15, at least 18 years old, and blood type compatible	O

Classification	Candidates that are within the OPO's:	And are…	When the donor is this blood type:
21	Nation	Any PELD and blood type compatible	O
22	Nation	Any MELD, 12 to 17 years old, and blood type compatible	O
23	Nation	Any MELD, at least 18 years old, and blood type compatible	O
24	Region or Circle	Adult or pediatric status 1A and in need of other method of hepatic support	Any
25	Region or Circle	Pediatric status 1B and in need of other method of hepatic support	Any
26	Region or Circle	Any MELD or PELD, any age, and in need of other method of hepatic support	Any
27	Nation	Adult or pediatric status 1A and in need of other method of hepatic support	Any
28	Nation	Pediatric status 1B and in need of other method of hepatic support	Any
29	Nation	Any MELD or PELD, any age, and in need of other method of hepatic support	Any
30	Region or Circle	Any MELD or PELD, any age, in need of other method of hepatic support, and blood type compatible	O
31	Nation	Any MELD or PELD, any age, in need of other method of hepatic support, and blood type compatible	O

9.8.I Allocation of Livers from DCD Donors or Donors at Least 70 Years Old

Livers from DCD donors or donors at least 70 years old are allocated to candidates according to *Table 9-7* below.

Table 9-7: Allocation of Livers from DCD Donors or Donors at Least 70 Years Old

Classification	Candidates that are within the OPO's:	And are:
1	Region or Circle	Adult or Pediatric status 1A
2	Region or Circle	Pediatric status 1B
3	DSA	MELD or PELD of at least 15
4	Region or Circle	MELD or PELD of at least 15
7	Nation	Adult or Pediatric status 1A
8	Nation	Pediatric status 1B
9	Nation	MELD or PELD of at least 15
10	DSA	MELD or PELD less than 15
11	Region or Circle	MELD or PELD less than 15
12	Nation	MELD or PELD less than 15

9.8.~~H~~J Allocation of Liver-Intestines from Deceased Donors at Least 18 Years Old

Livers and intestines from deceased donors at least 18 years old are allocated to candidates according to *Table 9-~~6~~8* below:

Table 9-~~6~~8: Allocation of Liver-Intestines from Deceased Donors at Least 18 Years Old

~~Classification~~	~~Candidates that are within the:~~	~~And are:~~
~~1~~	~~OPO's region~~	~~Liver or liver-intestine, adult or pediatric status 1A~~
~~2~~	~~OPO's region~~	~~Liver or liver-intestine, pediatric status 1B~~
~~3~~	~~OPO's DSA~~	~~Liver or liver-intestine, MELD/PELD of 40~~
~~4~~	~~OPO's region~~	~~Liver or liver-intestine, MELD/PELD of 40~~
~~5~~	~~OPO's DSA~~	~~Liver or liver-intestine, MELD/PELD of 39~~
~~6~~	~~OPO's region~~	~~Liver or liver-intestine, MELD/PELD of 39~~
~~7~~	~~OPO's DSA~~	~~Liver or liver-intestine, MELD/PELD of 38~~
~~8~~	~~OPO's region~~	~~Liver or liver-intestine, MELD/PELD of 38~~
~~9~~	~~OPO's DSA~~	~~Liver or liver-intestine, MELD/PELD of 37~~
~~10~~	~~OPO's region~~	~~Liver or liver-intestine, MELD/PELD of 37~~
~~11~~	~~OPO's DSA~~	~~Liver or liver-intestine, MELD/PELD of 36~~
~~12~~	~~OPO's region~~	~~Liver or liver-intestine, MELD/PELD of 36~~
~~13~~	~~OPO's DSA~~	~~Liver or liver-intestine, MELD/PELD of 35~~
~~14~~	~~OPO's region~~	~~Liver or liver-intestine, MELD/PELD of 35~~
~~15~~	~~OPO's DSA~~	~~Liver or liver-intestine, MELD/PELD of at least 29~~
~~16~~	~~Nation~~	~~Liver or liver-intestine, LI/IN status 1A~~
~~17~~	~~Nation~~	~~Liver or liver-intestine, LI/IN status 1B~~
~~18~~	~~Nation~~	~~Liver or liver-intestine, LI/IN MELD/PELD (highest to lowest)~~
~~19~~	~~OPO's DSA~~	~~Liver or liver-intestine, MELD/PELD of at least 15~~
~~20~~	~~OPO's region~~	~~Liver or liver-intestine, MELD/PELD less than 15~~
~~21~~	~~Nation~~	~~Liver or liver-intestine, adult or pediatric status 1A~~
~~22~~	~~Nation~~	~~Liver or liver-intestine, pediatric status 1B~~
~~23~~	~~Nation~~	~~Liver or liver-intestine, MELD/PELD of at least 15~~
~~24~~	~~OPO's DSA~~	~~Liver or liver-intestine, MELD/PELD less than 15~~
~~25~~	~~OPO's region~~	~~Liver or liver-intestine, MELD/PELD less than 15~~
~~26~~	~~Nation~~	~~Liver or liver-intestine, MELD/PELD less than 15~~
~~27~~	~~OPO's DSA~~	~~Liver or liver-intestine, MELD/PELD at least 40 and compatible blood type~~
~~28~~	~~OPO's region~~	~~Liver or liver-intestine, MELD/PELD at least 40 and compatible blood type~~

Classification	Candidates that are within the:	And are:
29	OPO's DSA	Liver or liver-intestine, MELD/PELD of 39 and compatible blood type
30	OPO's region	Liver or liver-intestine, MELD/PELD of 39 and compatible blood type
31	OPO's DSA	Liver or liver-intestine, MELD/PELD of 38 and compatible blood type
32	OPO's region	Liver or liver-intestine, MELD/PELD of 38 and compatible blood type
33	OPO's DSA	Liver or liver-intestine, MELD/PELD of 37 and compatible blood type
34	OPO's region	Liver or liver-intestine, MELD/PELD of 37 and compatible blood type
35	OPO's DSA	Liver or liver-intestine, MELD/PELD of 36 and compatible blood type
36	OPO's region	Liver or liver-intestine, MELD/PELD of 36 and compatible blood type
37	OPO's DSA	Liver or liver-intestine, MELD/PELD of 35 and compatible blood type
38	OPO's region	Liver or liver-intestine, MELD/PELD of 35 and compatible blood type
39	OPO's DSA	Liver or liver-intestine, MELD/PELD of at least 15 and compatible blood type
40	OPO's region	Liver or liver-intestine, MELD/PELD of at least 15 and compatible blood type
41	Nation	Liver or liver-intestine, MELD/PELD of at least 15 and compatible blood type
42	OPO's DSA	Liver or liver-intestine, MELD/PELD less than 15 and compatible blood type
43	OPO's region	Liver or liver-intestine, MELD/PELD less than 15 and compatible blood type
44	Nation	Liver or liver-intestine, MELD/PELD less than 15 and compatible blood type
45	OPO's DSA	Liver or liver-intestine, adult or pediatric status 1A and in need of other method of hepatic support
46	OPO's DSA	Liver or liver-intestine, pediatric status 1B and in need of other method of hepatic support
47	OPO's DSA	Liver or liver-intestine, any MELD/PELD and in need of other method of hepatic support
48	OPO's region	Liver or liver-intestine, adult or pediatric status 1A and in need of other method of hepatic support
49	OPO's region	Liver or liver-intestine, pediatric status 1B and in need of other method of hepatic support
50	OPO's region	Liver or liver-intestine, any MELD/PELD and in need of other method of hepatic support

~~Classification~~	~~Candidates that are within the:~~	~~And are:~~
~~51~~	~~Nation~~	~~Liver or liver-intestine, adult or pediatric status 1A and in need of other method of hepatic support~~
~~52~~	~~Nation~~	~~Liver or liver-intestine, pediatric status 1B and in need of other method of hepatic support~~
~~53~~	~~Nation~~	~~Liver or liver-intestine, any MELD/PELD and in need of other method of hepatic support~~
~~54~~	~~OPO's DSA~~	~~Liver or liver-intestine, any MELD/PELD in need of other method of hepatic support, and a blood type compatible with the donor~~
~~55~~	~~OPO's region~~	~~Liver or liver-intestine, any MELD/PELD in need of other method of hepatic support, and blood type compatible with the donor~~
~~56~~	~~Nation~~	~~Liver or liver-intestine, any MELD/PELD in need of other method of hepatic support, and blood type compatible with the donor~~

Classification	Candidates that are within the OPO's:	And are:	When the donor is this blood type:
1	Region or Circle	Liver or liver-intestine and adult or pediatric status 1A	Any
2	Region or Circle	Liver or liver-intestine and pediatric status 1B	Any
3	Region or Circle	Liver or liver-intestine and MELD or PELD of at least 30	Any
4	Nation	Liver-intestine and adult or pediatric status 1A	Any
5	Nation	Liver-intestine and pediatric status 1B	Any
6	Nation	Liver-intestine and any MELD or PELD	Any
7	OPO's DSA	Liver and MELD or PELD of at least 15	Any
8	Region or Circle	Liver and MELD or PELD of at least 15	Any
9	Nation	Liver and adult or pediatric status 1A	Any
10	Nation	Liver and pediatric status 1B	Any
11	Nation	Liver and MELD or PELD of at least 15	Any
12	OPO's DSA	Liver and MELD or PELD less than 15	Any
13	Region or Circle	Liver and MELD or PELD less than 15	Any

Classification	Candidates that are within the OPO's:	And are:	When the donor is this blood type:
14	Nation	Liver and MELD or PELD less than 15	Any
15	OPO's DSA	Liver or liver-intestine, MELD or PELD of at least 40, and blood type compatible	O
16	Region or Circle	Liver or liver-intestine, MELD or PELD of at least 40, and blood type compatible	O
17	OPO's DSA	Liver or liver-intestine, MELD or PELD of at least 39, and blood type compatible	O
18	Region or Circle	Liver or liver-intestine, MELD or PELD of at least 39, and blood type compatible	O
19	OPO's DSA	Liver or liver-intestine, MELD or PELD of at least 38, and blood type compatible	O
20	Region or Circle	Liver or liver-intestine, MELD or PELD of at least 38, and blood type compatible	O
21	OPO's DSA	Liver or liver-intestine, MELD or PELD of at least 37, and blood type compatible	O
22	Region or Circle	Liver or liver-intestine, MELD or PELD of at least 37, and blood type compatible	O
23	OPO's DSA	Liver or liver-intestine, MELD or PELD of at least 36, and blood type compatible	O
24	Region or Circle	Liver or liver-intestine, MELD or PELD of at least 36, and blood type compatible	O
25	OPO's DSA	Liver or liver-intestine, MELD or PELD of at least 35, and blood type compatible	O
26	Region or Circle	Liver or liver-intestine, MELD or PELD of at least 35, and blood type compatible	O
27	OPO's DSA	Liver or liver-intestine, MELD or PELD of at least 34, and blood type compatible	O
28	Region or Circle	Liver or liver-intestine, MELD or PELD of at least 34, and blood type compatible	O

Classification	Candidates that are within the OPO's:	And are:	When the donor is this blood type:
29	OPO's DSA	Liver or liver-intestine, MELD or PELD of at least 33, and blood type compatible	O
30	Region or Circle	Liver or liver-intestine, MELD or PELD of at least 33, and blood type compatible	O
31	OPO's DSA	Liver or liver-intestine, MELD or PELD of at least 32, and blood type compatible	O
32	Region or Circle	Liver or liver-intestine, MELD or PELD of at least 32, and blood type compatible	O
33	OPO's DSA	Liver or liver-intestine, MELD or PELD of at least 31, and blood type compatible	O
34	Region or Circle	Liver or liver-intestine, MELD or PELD of at least 31, and blood type compatible	O
35	OPO's DSA	Liver or liver-intestine, MELD or PELD of at least 30, and blood type compatible	O
36	Region or Circle	Liver or liver-intestine, MELD or PELD of at least 30, and blood type compatible	O
37	Nation	Liver-intestine, any MELD or PELD, and blood type compatible	O
38	OPO's DSA	Liver, MELD or PELD of at least 15, and blood type compatible	O
39	Region or Circle	Liver, MELD or PELD of at least 15 and blood type compatible	O
40	Nation	Liver, MELD or PELD of at least 15, and blood type compatible	O
41	OPO's DSA	Liver, MELD or PELD less than 15, and blood type compatible	O
42	Region or Circle	Liver, MELD or PELD less than 15, and blood type compatible	O
43	Nation	Liver, MELD or PELD less than 15, and blood type compatible	O
44	OPO's DSA	Liver or liver-intestine, adult or pediatric status 1A, and in need of other method of hepatic support	Any
45	OPO's DSA	Liver or liver-intestine, pediatric status 1B, and in need of other method of hepatic support	Any

Classification	Candidates that are within the OPO's:	And are:	When the donor is this blood type:
46	OPO's DSA	Liver or liver-intestine, any MELD or PELD, and in need of other method of hepatic support	Any
47	Region or Circle	Liver or liver-intestine, adult or pediatric status 1A, and in need of other method of hepatic support	Any
48	Region or Circle	Liver or liver-intestine, pediatric status 1B, and in need of other method of hepatic support	Any
49	Region or Circle	Liver or liver-intestine, any MELD or PELD, and in need of other method of hepatic support	Any
50	Nation	Liver or liver-intestine, adult or pediatric status 1A, and in need of other method of hepatic support	Any
51	Nation	Liver or liver-intestine, pediatric status 1B, and in need of other method of hepatic support	Any
52	Nation	Liver or liver-intestine, any MELD or PELD, and in need of other method of hepatic support	Any
53	OPO's DSA	Liver or liver-intestine, adult or pediatric status 1A, in need of other method of hepatic support, and blood type compatible	O
54	Region or Circle	Liver or liver-intestine, adult or pediatric status 1A, in need of other method of hepatic support, and blood type compatible	O
55	Nation	Liver or liver-intestine, adult or pediatric status 1A, in need of other method of hepatic support, and blood type compatible	O
56	OPO's DSA	Liver or liver-intestine, pediatric status 1B, in need of other method of hepatic support, and blood type compatible	O
57	Region or Circle	Liver or liver-intestine, pediatric status 1B, in need of other method of hepatic support, and blood type compatible	O
58	Nation	Liver or liver-intestine, pediatric status 1B, in need of other method of hepatic support, and blood type compatible	O

Classification	Candidates that are within the OPO's:	And are:	When the donor is this blood type:
59	OPO's DSA	Liver or liver-intestine, any MELD or PELD, in need of other method of hepatic support, and blood type compatible	O
60	Region or Circle	Liver or liver-intestine, any MELD or PELD, in need of other method of hepatic support, and blood type compatible	O
61	Nation	Liver or liver-intestine, any MELD or PELD, in need of other method of hepatic support, and blood type compatible	O

~~9.6.J Allocation of Liver-Intestine from Donors at Least 11 Years of age~~

~~For combined liver-intestine allocation from donors at least 11 years of age, the liver must first be offered as follows:~~

~~1. According to *Policy 9.6.F: Allocation of Livers from Deceased Donors 11 to 17 Years Old*~~
~~2. Sequentially to *each* potential liver recipient, including all MELD/PELD potential recipients, through national Status 1A and 1B offers~~

~~The liver may then be offered to combined liver-intestine potential recipients sequentially according to the intestine match run.~~

9.8.K Allocation of Combined Liver-Intestines from Donors 11 to 17 Years Old

For combined liver-intestine allocation from donors 11 to 17 years old, the liver must first be offered as follows:

1. According to *Policy 9.8.G: Allocation of Livers from Deceased Donors 11 to 17 Years Old*
2. Sequentially to *each* liver candidate, including all MELD and PELD candidates, through national status 1A and 1B offers

The liver may then be offered to combined liver-intestine potential recipients sequentially according to the intestine match run.

9.8.~~I~~L Allocation of Liver-Intestines from Donors less than 11 Years Old

Livers and intestines from donors less than 11 years old are allocated to candidates according to *Table 9-~~7~~9* below.

Table 9-~~79~~9: Allocation of Combined Liver-Intestines from Donors less than 11 Years Old

~~Classification~~	~~Candidates that are within the:~~	~~And are:~~
~~The~~	~~Following classifications~~	~~Appear for all blood types~~
~~1~~	~~OPO's region~~	~~Liver or liver-intestine, Pediatric Status 1A~~
~~2~~	~~Nation~~	~~Liver or liver-intestine, Pediatric Status 1A, and 0 to less than 12 years of age~~
~~3~~	~~Nation~~	~~Liver-intestine, Pediatric Status 1A, and 12 to less than 18 years of age~~
~~4~~	~~OPO's DSA~~	~~Liver or liver-intestine, Adult Status 1A~~
~~5~~	~~OPO's region~~	~~Liver or liver-intestine, Adult Status 1A~~
~~6~~	~~OPO's region~~	~~Liver or liver-intestine, Pediatric Status 1B~~
~~7~~	~~OPO's region~~	~~Liver or liver-intestine, PELD greater than 20, and 0 to less than 12 years of age~~
~~8~~	~~Nation~~	~~Liver-intestine, Pediatric Status 1B~~
~~9~~	~~Nation~~	~~Liver-intestine, PELD greater than 20~~
~~10~~	~~OPO's region~~	~~Liver or liver-intestine, PELD of less than 21~~
~~11~~	~~OPO's DSA~~	~~Liver or liver-intestine, MELD of at least 15, and 12 to less than 18 years of age~~
~~12~~	~~OPO's DSA~~	~~Liver or liver-intestine, MELD of at least 15, and at least 18 years of age~~
~~13~~	~~OPO's region~~	~~Liver or liver-intestine, MELD of at least 15, and 12 to less than 18 years of age~~
~~14~~	~~OPO's region~~	~~Liver or liver-intestine, MELD of at least 15, and at least 18 years of age~~
~~15~~	~~OPO's DSA~~	~~Liver or liver-intestine, MELD less than 15, and 12 to less than 18 years of age~~
~~16~~	~~OPO's DSA~~	~~Liver or liver-intestine, MELD less than 15, and at least 18 years of age~~
~~17~~	~~OPO's region~~	~~Liver or liver-intestine, MELD less than 15, and 12 to less than 18 years of age~~
~~18~~	~~OPO's region~~	~~Liver or liver-intestine, MELD less than 15, and at least 18 years of age~~
~~19~~	~~Nation~~	~~Liver, Pediatric Status 1A, and 12 to less than 18 years of age~~
~~20~~	~~Nation~~	~~Liver or liver-intestine, Adult Status 1A~~
~~21~~	~~Nation~~	~~Liver, Pediatric Status 1B~~
~~22~~	~~Nation~~	~~Liver or liver-intestine, with any PELD~~

Classification	Candidates that are within the:	And are:
23	Nation	Liver or liver-intestine, with any MELD/PELD, and 12 to less than 18 years of age
24	Nation	Liver or liver-intestine, with any MELD, and at least 18 years of age
The	Following classifications	Appear for all blood types
25	OPO's region	Liver or liver-intestine, with any PELD, and compatible blood type match with the donor
26	OPO's DSA	Liver or liver-intestine, MELD of at least 15, 12 to less than 18 years of age, and compatible blood type match with the donor
27	OPO's DSA	Liver or liver-intestine, MELD of at least 15, at least 18 years of age, and compatible blood type match with the donor
28	OPO's region	Liver or liver-intestine, MELD of at least 15, 12 to less than 18 years of age, and compatible blood type match with the donor
29	OPO's region	Liver or liver-intestine, MELD of at least 15, at least 18 years of age, and compatible blood type match with the donor
30	OPO's DSA	Liver or liver-intestine, MELD less than 15, 12 to less than 18 years of age, and compatible blood type match with the donor
31	OPO's DSA	Liver or liver-intestine, MELD less than 15, at least 18 years of age, and compatible blood type match with the donor
32	OPO's region	Liver or liver-intestine, MELD less than 15, 12 to less than 18 years of age, and compatible blood type match with the donor
33	OPO's region	Liver or liver-intestine, MELD less than 15, at least 18 years of age, and compatible blood type match with the donor
34	Nation	Liver or liver-intestine, with any PELD, and compatible blood type match with the donor
35	Nation	Liver or liver-intestine, with any MELD, 12 to less than 18 years of age, and compatible blood type match with the donor
36	Nation	Liver or liver-intestine, with any MELD, at least 18 years of age, and compatible blood type match with the donor
The	Following classifications	Appear for all blood types

~~Classification~~	~~Candidates that are within the:~~	~~And are:~~
~~37~~	~~OPO's DSA~~	~~Liver or liver-intestine, Adult or Pediatric Status 1A, and in need of other method of hepatic support~~
~~38~~	~~OPO's DSA~~	~~Liver or liver-intestine, Pediatric Status 1B, and in need of other method of hepatic support~~
~~39~~	~~OPO's DSA~~	~~Liver or liver-intestine, with any MELD/PELD, and in need of other method of hepatic support~~
~~40~~	~~OPO's region~~	~~Liver or liver-intestine, Adult or Pediatric Status 1A, and in need of other method of hepatic support~~
~~41~~	~~OPO's region~~	~~Liver or liver-intestine, Pediatric Status 1B, and in need of other method of hepatic support~~
~~42~~	~~OPO's region~~	~~Liver or liver-intestine, with any MELD/PELD, and in need of other method of hepatic support~~
~~43~~	~~Nation~~	~~Liver or liver-intestine, Adult or Pediatric Status 1A, and in need of other method of hepatic support~~
~~44~~	~~Nation~~	~~Liver or liver-intestine, Pediatric Status 1B, and in need of other method of hepatic support~~
~~45~~	~~Nation~~	~~Liver or liver-intestine, with any MELD/PELD, and in need of other method of hepatic support~~
~~The~~	~~Following classifications~~	~~Appear for all blood types~~
~~46~~	~~OPO's DSA~~	~~Liver or liver-intestine, with any MELD/PELD, in need of other method of hepatic support, and compatible blood type match with the donor~~
~~47~~	~~OPO's region~~	~~Liver or liver-intestine, with any MELD/PELD, in need of other method of hepatic support, and compatible blood type match with the donor~~
~~48~~	~~Nation~~	~~Liver or liver-intestine, with any MELD/PELD, in need of other method of hepatic support, and compatible blood type match with the donor~~

Classification	Candidates that are within the OPO's:	And are:	When the donor is this blood type:
1	Region or Circle	Liver or liver-intestine and pediatric status 1A	Any

Classification	Candidates that are within the OPO's:	And are:	When the donor is this blood type:
2	Nation	Liver or liver-intestine, pediatric status 1A, and 0 to 11 years old	Any
3	Nation	Liver-intestine, pediatric status 1A, and 12 to 17 years old	Any
4	Region or Circle	Liver or liver-intestine and adult status 1A	Any
5	Region or Circle	Liver or liver-intestine and pediatric status 1B	Any
6	Region or Circle	Liver or liver-intestine and PELD greater than 20	Any
7	Nation	Liver-intestine and pediatric status 1B	Any
8	Nation	Liver-intestine and PELD greater than 20	Any
9	Region or Circle	Liver or liver-intestine and PELD less than or equal to 20	Any
10	Region or Circle	Liver or liver-intestine, MELD of at least 15, and 12 to 17 years old	Any
11	Region or Circle	Liver or liver-intestine, MELD of at least 15, and at least 18 years old	Any
12	Region or Circle	Liver or liver-intestine, MELD less than 15, and 12 to 17 years old	Any
13	Region or Circle	Liver or liver-intestine, MELD less than 15, and at least 18 years old	Any
14	Nation	Liver, pediatric status 1A, and 12 to 17 years old	Any
15	Nation	Liver or liver-intestine and adult status 1A	Any
16	Nation	Liver and pediatric status 1B	Any
17	Nation	Liver or liver-intestine and any PELD	Any
18	Nation	Liver or liver-intestine and any MELD, 12 to 17 years old	Any
19	Nation	Liver or liver-intestine, any MELD, and at least 18 years old	Any
20	Region or Circle	Liver or liver-intestine, any PELD, and blood type compatible	O

Classification	Candidates that are within the OPO's:	And are:	When the donor is this blood type:
21	Region or Circle	Liver or liver-intestine, MELD of at least 15, 12 to 17 years old, and blood type compatible	O
22	Region or Circle	Liver or liver-intestine, MELD of at least 15, at least 18 years old, and blood type compatible	O
23	Region or Circle	Liver or liver-intestine, MELD less than 15, 12 to 17 years old, and blood type compatible	O
24	Region or Circle	Liver or liver-intestine, MELD less than 15, at least 18 years old, and blood type compatible	O
25	Nation	Liver or liver-intestine, any PELD, and blood type compatible	O
26	Nation	Liver or liver-intestine, any MELD, 12 to 17 years old, and blood type compatible	O
27	Nation	Liver or liver-intestine, any MELD, at least 18 years old, and blood type compatible	O
28	Region or Circle	Liver or liver-intestine, adult or pediatric status 1A, and in need of other method of hepatic support	Any
29	Region or Circle	Liver or liver-intestine, pediatric status 1B, and in need of other method of hepatic support	Any
30	Region or Circle	Liver or liver-intestine, any MELD or PELD, and in need of other method of hepatic support	Any
31	Nation	Liver or liver-intestine, adult or pediatric status 1A, and in need of other method of hepatic support	Any
32	Nation	Liver or liver-intestine, pediatric status 1B, and in need of other method of hepatic support	Any
33	Nation	Liver or liver-intestine, any MELD or PELD, and in need of other method of hepatic support	Any
34	Region or Circle	Liver or liver-intestine, adult or pediatric status 1A, and in need of other method of hepatic support, and blood type compatible	O

Classification	Candidates that are within the OPO's:	And are:	When the donor is this blood type:
35	Nation	Liver or liver-intestine, adult or pediatric status 1A, and in need of other method of hepatic support, and blood type compatible	O
36	Region or Circle	Liver or liver-intestine, pediatric status 1B, in need of other method of hepatic support, and blood type compatible	O
37	Nation	Liver or liver-intestine, pediatric status 1B, in need of other method of hepatic support, and blood type compatible	O
38	Region or Circle	Liver or liver-intestine, any MELD or PELD, in need of other method of hepatic support, and blood type compatible	O
39	Nation	Liver or liver-intestine, any MELD or PELD, in need of other method of hepatic support, and blood type compatible	O

~~Blood type matches for combined liver-intestine allocation are determined according to *Policy 9.6.C: Allocation of Livers by Blood Type*.~~

[*Cross-references to headings and table captions affected by the re-numbering of this policy will also be changed as necessary.*]

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