OPTN

Briefing to the OPTN Board of Directors on

Remove CPRA 99-100% Form for Highly Sensitized Candidates

OPTN Histocompatibility Committee

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Remove CPRA 99-100% Form for Highly Sensitized Candidates

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Affected Data Collection:	*OPTN Waiting List*
Sponsoring Committee:	*Histocompatibility*
Public Comment Period:	*July 27, 2023 – September 19, 2023*
Board of Directors Meeting:	*December 4, 2023*

Executive Summary

Current OPTN policy requires that members must submit additional documentation for kidney and kidney-pancreas candidates whose calculated panel reactive antibody (CPRA) is 99-100% to receive higher allocation priority. This proposal removes this additional documentation and would allow candidates to immediately gain priority. The OPTN Computer System calculates a CPRA for every candidate, and the transplant surgeon or physician and the Human Leukocyte Antigen (HLA) histocompatibility lab director must sign off on a form in the OPTN Waiting List before a candidate with a 99-100% CPRA will receive the associated kidney allocation priority for highly sensitized candidates. There is a delay for a candidate to show up in the higher match sequences if the required signatures are not obtained at the same time as the candidate's unacceptable antigens are entered. Removing this required documentation will allow candidates to gain allocation priority for 99-100% CPRA as soon as their unacceptable antigens are entered. The Histocompatibility Committee ("Committee") proposes eliminating the requirement for the "Candidate CPRA Greater than 98% Approval" form and signatures to allow highly sensitized candidates the broadest access to compatible donors at listing.

This proposal was issued for public comment from July 27, 2023 to September 19, 2023. The Committee reviewed the public comments and no changes were made to the policy language. The rationale for that decision is discussed below.

Purpose

This proposal is intended to reduce the time it takes for a highly sensitized patient to gain allocation priority through removing approval signature submission requirements and administrative work, therefore increasing candidate equity.

Background

The required data collection for candidates to gain allocation priority if they have a CPRA of 99-100% was implemented in 2015 with the updates to the Kidney Allocation System.[1] *OPTN Policy 8.4.F: Highly Sensitized Candidates* requires a candidate's HLA lab director and transplant physician or surgeon to review and sign a written approval of the candidate's unacceptable antigens for CPRA 99-100% candidates to gain allocation priority. This was intended as a safeguard against concerns that programs may assign unnecessary unacceptable antigens to gain priority, as kidney candidates with CPRA 99-100% were given allocation priority at the regional and national share levels. Compliance monitoring has found no cases of improper assignment of unacceptable antigens, and the Histocompatibility Committee feels it would be unlikely, as the assignment of unacceptable antigens screens off additional donors and therefore would not provide the candidate with an allocation advantage.[2]

The community has not found the additional required documentation helpful or necessary. It can add time for a candidate to be eligible to receive higher levels of allocation priority. Because these patients are highly sensitized, the pool of compatible donors is smaller and delays in eligibility for higher priority could result in a missed opportunity to receive a compatible donor organ.

In the two years following *Removal of DSA and Region from Kidney Allocation Policy*, kidney candidates with a CPRA 99-100% waited a median time of approximately seven days for the required signatures to be entered in the OPTN Computer System.[3] See **Figure 1** for the time in days between when kidney candidates' unacceptable antigens reached 99-100% in the OPTN Waiting List and when the signatures were entered and the candidates began receiving allocation priority.[4] This analysis does not take into account candidates who may have been listed for living donor transplant only, or time candidates may have been inactive. Single kidney registrations for kidney-pancreas candidates were excluded from this analysis.

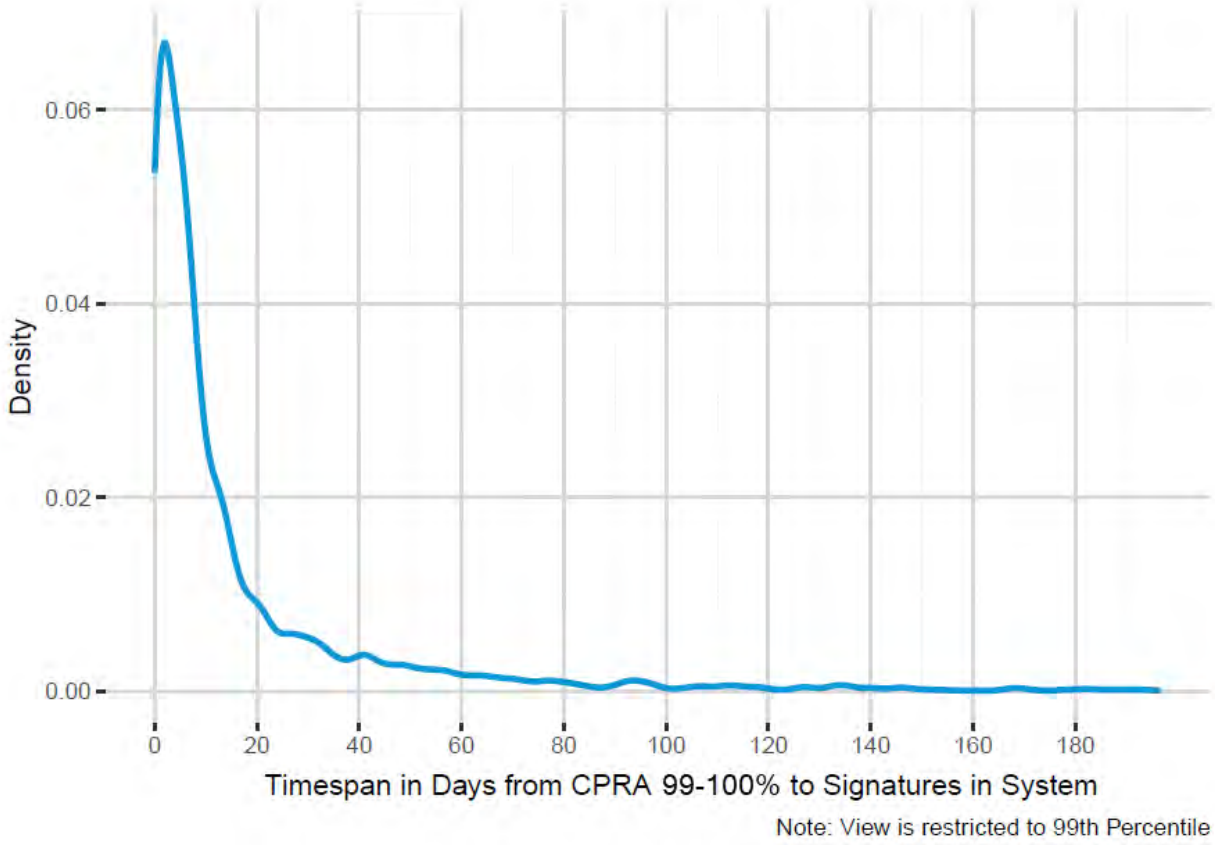
Figure 1: Time in Days between CPRA 99-100% and Signatures Entered in OPTN Waiting List between March 15, 2021 and February 28, 2023[5]

Number of Registrations	Min	25th %-tile	Median	Mean	75th %-tile	Max
4,070	0	2.07	6.83	20.09	18.92	608.18

[1] https://optn.transplant.hrsa.gov/professionals/by-organ/kidney-pancreas/kidney-allocation-system/.
[2] https://optn.transplant.hrsa.gov/media/l01plr0f/20230110_histo-committee_meeting-summary.pdf.
[3] OPTN Histocompatibility Committee, "CPRA Greater Than Ninety-Eight Signature Data Request". June 26, 2023.
[4] Id.
[5] Id.

The distribution of this time in days is available in **Figure 2**. This view in this graphic is restricted to the 99th percentile for ease of reading. This analysis does not take into account candidates who may have been listed for living donor transplant only, or time candidates may have been inactive. Single kidney registrations for kidney-pancreas candidates were excluded from this analysis.

Figure 2: Distribution of Days from CPRA 99-100% to Receipt of Higher Allocation Priority between March 15, 2021 and February 28, 2023[6]



In 2022, there were 1,325 kidney registrations added to the OPTN Waiting List with a CPRA of 99-100%.[7] As of February 2023, there were 5,184 kidney candidates on the OPTN Waiting List with a CPRA of 99-100%.[8] The number of highly sensitized candidates added to the OPTN Waiting List in 2023 and later may be higher than previous years for certain candidate groups due to changes in the CPRA calculation implemented in January 2023.[9] These changes added unacceptable antigens previously not captured and the subsequent increase in highly sensitized candidates receiving the CPRA 99-100% priority helped draw attention to the need for the proposed change to eliminate the approval signature documentation requirements.[10]

[6] Id.
[7] Based on OPTN data as of June 23, 2023.
[8] Based on OPTN Data as of June 23, 2023 for candidates on the OPTN Waiting List as of February 28, 2023.
[9] https://optn.transplant.hrsa.gov/policies-bylaws/public-comment/change-calculated-panel-reactive-antibody-cpra-calculation/.
[10] Id.

Proposal for Board Consideration

The Committee proposes removing *OPTN Policy 8.4.F: Highly Sensitized Candidates* and any references to the policy. Additionally, this proposal will remove two data collection fields from the OPTN Waiting List. These fields capture the signature of the transplant surgeon or physician and the signature of the approving HLA Lab director.

By removing these signature requirements, programs will also no longer need to obtain signatures for each highly sensitized candidate or maintain signatures within their electronic medical record (EMR) software.

Candidates with a CPRA of 100% currently receive the highest priority in kidney allocation on the OPTN Waiting List across all Kidney Donor Profile Index (KDPI) categories (<20%, 20-35%, 35-85%, and >85%), appearing in the top four allocation classifications, see **Figure 3**.

Figure 3: Allocation of Kidneys to CPRA 100% Candidates from Deceased Donors with KDPI <20%, 20-35%, 35-85%, and >85%

Classification	Candidates that are	And registered at a transplant hospital that is at or within this distance from the hospital that distribution will be based upon	With this donor blood type:
1	0-ABDR mismatch, CPRA equal to 100%, blood type identical or permissible	250NM	Any
2	CPRA equal to 100%, blood type identical or permissible	250NM	Any
3	0-ABDR mismatch, CPRA equal 100%, blood type identical or permissible	Nation	Any
4	CPRA equal to 100%, blood type identical or permissible	Nation	Any

Candidates with a CPRA of 99% appear at classifications eight and nine for KDPI <20% and KDPI 20-35% deceased donors, classifications seven and eight for KDPI 35-85% deceased donors, and classifications six and seven for KDPI >85% deceased donors. See **Figure 4** for prioritization of CPRA 99-100% candidates as compared to other candidate allocation groups. The Committee is not recommending any changes to the proposal following public comment.

Figure 4: Kidney Allocation Categories

KDPI 0-20% (and en bloc)	KDPI 20-34%	KDPI 35-85%	KDPI 86-100%
100% Highly Sensitized	100% Highly Sensitized	100% Highly Sensitized	100% Highly Sensitized
Inside Circle Prior Living Donor	Inside Circle Prior Living Donor	Inside Circle Prior Living Donor	Inside Circle Medically Urgent
Inside Circle Pediatrics	Inside Circle Pediatrics	Inside Circle Medically Urgent	99% Highly Sensitized
Inside Circle Medically Urgent	Inside Circle Medically Urgent	99% Highly Sensitized	0-ABDRmm
99% Highly Sensitized	99% Highly Sensitized	0-ABDRmm	Inside Circle Safety Net
0-ABDRmm	0-ABDRmm	Inside Circle Safety Net	Inside Circle
Inside Circle Top 20% EPTS	Inside Circle Safety Net	Inside Circle (All)	Inside Circle (dual)
0-ABDRmm (ALL)	Inside Circle (All)	National (All)	National
Inside Circle (All)	National (All)	Inside Circle (dual)	National (dual)
National Pediatrics	Inside Circle (dual)	National (dual)	
National (Top 20%)	National (dual)		
National (All)			

Data Collection Changes

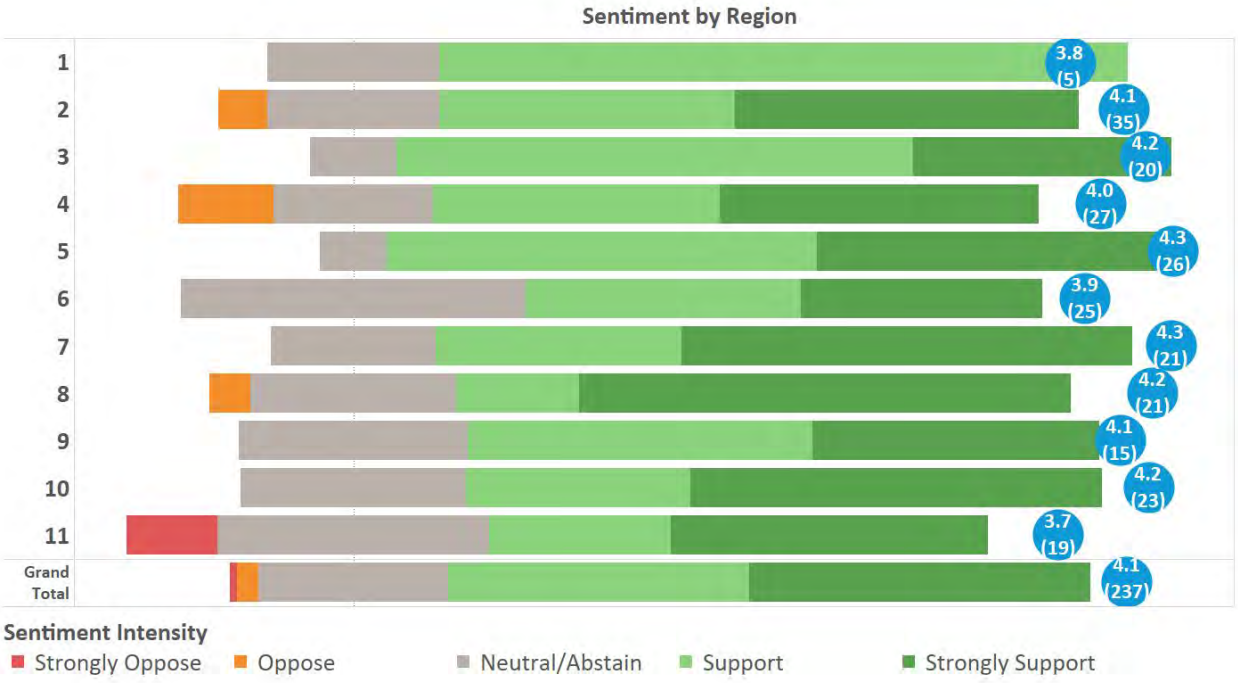
The data collection fields for “Signature of HLA Lab Directors” and “Signature of Transplant Surgeon or Physician” will be removed from the OPTN Waiting List. The Committee is not recommending changes in response to public comment.

Overall Sentiment from Public Comment

This proposal was released for public comment from July 27, 2023 to September 19, 2023. This proposal received a total of 252 comments, 35 of which included a written comment in addition to sentiment. Sentiment by region is shown in **Figure 5**, and the majority of sentiment was submitted through regional meetings. This proposal was on the consent agenda in all 11 meetings, but participants did have the option of submitting additional comments via a polling application to be included in the regional summary. Overall, this proposal was supported in public comment, with an average Likert score[11] of 4.1/5.

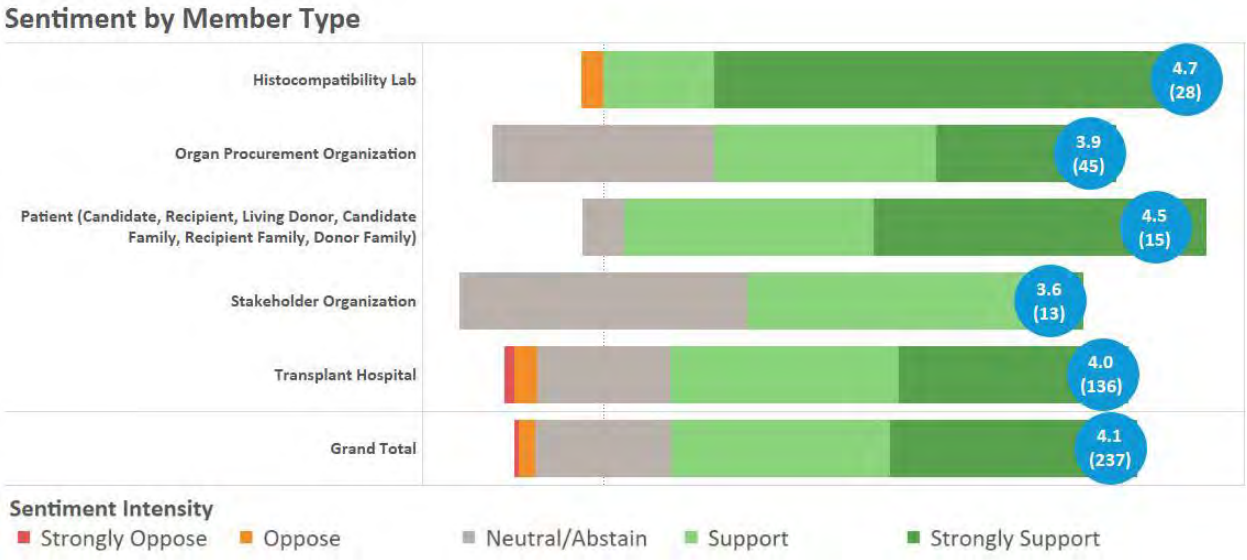
[11] Sentiment is collected along a 5-point Likert scale from strongly oppose to strongly support (1-5).

Figure 5: Sentiment by Region



This proposal was broadly supported by all member types, with the most support coming from histocompatibility laboratory members, with an average Likert score[12] of 4.7/5, and patients, with a Likert score of 4.5/5. Sentiment by member type is available in **Figure 6**.

Figure 6: Sentiment by Member Type



[12] Sentiment is collected along a 5-point Likert scale from strongly oppose to strongly support (1-5).

Public Comment Themes and Considerations

While there were a small number of sentiments submitted in opposition to the proposal at regional meetings, this proposal was a non-discussion item and there were no written comments as to why those members opposed the proposal. All written comments for the proposal supported the removal of the documentation in order for highly sensitized kidney candidates to gain allocation priority immediately upon unacceptable antigen entry. Commenters covered a few different topics, along the following themes:

- Highly sensitized candidate access
- Administrative burden
- Monitoring unacceptable antigen assignment
- Expedited implementation
- Additional suggestions

Highly Sensitized Candidate Access

Many written commenters agreed that this proposal was necessary to ensure highly sensitized kidney candidates obtain equitable access to transplantation. One commenter was concerned that the candidates also are likely not aware of this delay in their allocation priority, or the potential loss of eligible donors, and that there is no recourse for them to recapture time as a priority candidate. The Committee had previously discussed and unanimously agreed that this proposal is intended to ensure highly sensitized kidney candidate equitable access to transplantation.

Administrative Burden

While multiple commenters say that this may have made sense to implement early on when this allocation priority was new, they also acknowledge that it no longer serves a meaningful purpose. Multiple commenters stated that this documentation is now an administrative burden. One commenter stated that there are a small number of laboratory directors and physicians with a large number of stakeholders, and their time would be better spent carrying out organ transplants.

Monitoring Unacceptable Antigen Assignment

Multiple commenters stated that the existing OPTN Policy requirements for accurate data submission, OPTN Bylaw requirements to have a process for reporting and determining unacceptable antigen submission, and site survey audits are sufficient to ensure appropriate assignment of unacceptable antigens. A few commenters recommended that the Committee develop an alternative monitoring mechanism, possibly to be completed during site surveys. When the Committee discussed these comments, they felt that no additional alternative safeguard was necessary due to current requirements and a lack of evidence that any physicians or laboratory directors have assigned unacceptable antigens inappropriately.

Expedited Implementation

Multiple commenters stated that the implementation of this proposal should follow an expedited timeframe, due to the current state disadvantaging candidates. The Committee has already worked with OPTN Contractor staff since July to provide active notice and follow-up for candidates whose forms are

later than expected as a partial interim solution, [13] and if approved by the OPTN Board the implementation date will be published on the OPTN website.

Additional Suggestions

Multiple commenters made additional suggestions on what work the Committee could pursue or what forms could be removed due to administrative burdens, outside of what was in scope for this proposal. One commenter suggested that the Committee create educational resources for patients regarding the impact of CPRA on waiting time. The same commenter suggested that the requirement for lung-kidney, heart-kidney, and liver-kidney eligibility forms be removed, and that instead the OPTN monitor compliance at triannual site surveys. The Committee discussed these additional suggestions, but determined that they were out of scope of the current proposal.

Compliance Analysis

NOTA and OPTN Final Rule

The Committee submits the following proposal under the authority of the National Organ Transplant Act (NOTA), which states the OPTN shall "establish… a national system, through the use of computers and in accordance with established medical criteria, to match organs and individuals included in the list, especially individuals whose immune system makes it difficult for them to receive organs,"[14] as well as the OPTN Final Rule, which states that the OPTN shall "be responsible for developing…policies for the equitable allocation of cadaveric organs in accordance with 121.8, "[15] and "shall be designed to achieve equitable allocation of organs through…[s]tandardizing the criteria for determining suitable transplant candidates through the use of minimum criteria… for adding individuals to, and removing candidates from, organ transplant waiting lists."[16] This change affects allocation by revising the required minimum criteria for adding highly sensitized candidates to the kidney transplant waiting list in order for them to gain higher allocation priority.

NOTA also authorizes the OPTN to "collect, analyze, and publish data concerning organ donation and transplants"[17] and the OPTN Final Rule states that the OPTN shall "[m]aintain records of all transplant candidates, all organ donors and all transplant recipients."[18] This proposal is a revision of current data collection in that it removes the collection and submission of signatures to the OPTN for highly sensitized kidney candidates.

The Final Rule requires that when developing policies for the equitable allocation of cadaveric organs, such policies must be developed "in accordance with §121.8," which requires that allocation policies "(1) Shall be based on sound medical judgment; (2) Shall seek to achieve the best use of donated organs; (3) Shall preserve the ability of a transplant program to decline an offer of an organ or not to use the organ for the potential recipient in accordance with §121.7(b)(4)(d) and (e); (4) Shall be specific for each organ type or combination of organ types to be transplanted into a transplant candidate; (5) Shall be designed to avoid wasting organs, to avoid futile transplants, to promote patient access to

[13] https://optn.transplant.hrsa.gov/media/pywl00xm/07112023_histo-committee-meeting.pdf.
[14] 42 USC § 274(b)(2)(A)(ii).
[15] 42 CFR § 121.4(a)(1).
[16] 42 CRF 121.8(b)(1).
[17] 42 USC § 274(b)(2)(I).
[18] 42 CFR § 121.11(a)(1)(ii)

transplantation, and to promote the efficient management of organ placement;…(8) Shall not be based on the candidate's place of residence or place of listing, except to the extent required by paragraphs (a)(1)-(5) of this section."[19] This proposal:

- **Is based on sound medical judgment[20]** because it is an evidenced-based change relying on the following evidence:
    - Data showing that highly sensitized candidates are delayed in receiving allocation priority[21]
    - Medical judgment that due to a limited pool of potentially compatible donor organs, the time delay could impact the candidates' likelihood of receiving a compatible organ offer
- **Is designed to…promote patient access to transplantation[22] by** giving similarly situated candidates equitable opportunities to receive an organ offer. All candidates with a CPRA of 99-100% will receive higher allocation priority at the same time, and no candidates will be delayed by the amount of time it takes their transplant programs and histocompatibility laboratories to complete documentation requirements.
- **Is not based on the candidate's place of residence or place of listing.**[23]

This proposal also preserves the ability of a transplant program to decline an offer or not use the organ for a potential recipient,[24] and it is specific to an organ type, in this case kidneys.[25]

Although the proposal outlined in this briefing paper addresses certain aspects of the Final Rule listed above, the Committee does not expect impacts on the following aspects of the Final Rule:

- Seek to achieve the best use of donated organs[26]
- Is designed to avoid wasting organs[27]
- Is designed to avoid futile transplants[28]
- Promote the efficient management of organ placement[29]

OPTN Strategic Plan

Improve equity in access to transplants:
This proposal is intended to increase equity in access to transplantation for highly sensitized kidney and kidney-pancreas candidates. If a candidate gains allocation priority more quickly, they may be more likely to receive a compatible offer they may otherwise have missed in the time the transplant program and histocompatibility laboratory were completing documentation, which currently takes a median of 7 days. While it is not expected to be a common event that these candidates would miss an offer while awaiting documentation, as they have so few compatible donors, highly sensitized candidates still have

[19] 42 CFR §121.8(a).
[20] 42 CFR §121.8(a)(1).
[21] OPTN Histocompatibility Committee, "CPRA Greater Than Ninety-Eight Signature Data Request". June 26, 2023.
[22] Id.
[23] 42 CFR §121.8(a)(8).
[24] 42 CFR §121.8(a)(3).
[25] 42 CFR §121.8(a)(4).
[26] 42 CFR §121.8(a)(2).
[27] 42 CFR §121.8(a)(5).
[28] Id.
[29] Id.

a higher variability in access to transplant than every other specific factor except Donation Service Area (DSA).[30]

Implementation Considerations

Histocompatibility Laboratories

Operational Considerations

This proposal will impact histocompatibility laboratories who work with kidney and kidney-pancreas transplant programs. Histocompatibility laboratories will no longer be required to sign approval forms for highly sensitized kidney candidates. Laboratories would still be required to review and verify OPTN Waiting List HLA data, including the unacceptable antigens listed for a transplant candidate. Labs would also still be required to have an agreement with their transplant hospitals which outlines the criteria for determining unacceptable antigens used for allocation.

Fiscal Impact

This proposal reduces required documentation for histocompatibility laboratories. Laboratories may need to revise their agreements with transplant hospitals related to required documentation.

Transplant Programs

Operational Considerations

This proposal will impact transplant hospitals with kidney and kidney-pancreas transplant programs. Transplant hospitals will no longer be required to document the approving histocompatibility lab director and approving transplant physician or surgeon on the OPTN Waiting List for highly sensitized kidney and kidney-pancreas candidates. The approving director and physician or surgeon will also no longer be required to sign off on the approval of unacceptable antigens for these candidates or maintain this documentation in the candidate's medical record. Transplant hospitals would still be required to have an agreement with their histocompatibility lab which outlines the criteria for determining unacceptable antigens used for allocation.

Fiscal Impact

This proposal reduces required documentation for transplant hospitals. Transplant hospitals may need to revise their agreements with histocompatibility laboratories related to required documentation.

Organ Procurement Organizations

Operational Considerations

There is no anticipated impact on organ procurement organizations.

[30] OPTN "Equity in Access to Transplant" dashboard. Accessed October 17, 2023. Based on waitlisted kidney candidates from January 1, 2023 to March 31, 2023. https://insights.unos.org/equity-in-access/.

Fiscal Impact

There is no anticipated impact on organ procurement organizations.

OPTN

Operational Considerations

This proposal will impact the OPTN. The OPTN will no longer collect data on the signatures of the approving laboratory director and transplant surgeon or physician for highly sensitized kidney candidates. The OPTN will still collect the unacceptable antigens listed for highly sensitized kidney candidates.

Resource Estimates

This proposal has a medium fiscal impact on the OPTN. The OPTN Waiting List will have two data fields, a monitoring report, a component in Critical Data, two fields in Custom reports, and two printable documentation forms for signatures removed as part of the implementation of this proposal, which is estimated to require 740 technical hours to implement from IT software engineering. This involves business rule changes, as well as comprehensive regression testing for the Match. Vendor impact will be minimal with removal of two fields in File Layouts.

The OPTN contractor estimates 1455 hours for implementation. This will include removing the logic to require the signature to place these candidates in the appropriate allocation, affecting both the OPTN Waitlist and the match. Additionally, policy language development, monitoring process updates and training, creation of targeted member emails, news articles, training and education, and web design.

The OPTN contractor estimates 30 hours for ongoing support for this project for continued monitoring.

Potential Impact on Select Patient Populations

This proposal will impact candidates within the CPRA group 99-100% who will immediately become eligible for higher allocation priority without the requirement for additional data collection (signatures).

Post-implementation Monitoring

Member Compliance

The Final Rule requires that allocation policies “include appropriate procedures to promote and review compliance including, to the extent appropriate, prospective and retrospective reviews of each transplant program's application of the policies to patients listed or proposed to be listed at the program.”

While members will no longer be required to obtain signatures for these candidates, any data entered in the OPTN Computer System may be reviewed by the OPTN, and members are required to provide documentation as requested.

Policy Evaluation

The Final Rule requires that allocation policies "be reviewed periodically and revised as appropriate."[31] The intention of this policy is that candidates with a 99-100% CPRA will now gain allocation priority at the same time unacceptable antigens are entered, where they previously required both signatures from the lab director and transplant surgeon or physician before eligible for a higher allocation priority. The Committee will be provided with the overall volume of new registrations with a CPRA 99-100 % after policy implementation as compared to an appropriate pre-policy cohort to assess performance before and after implementation of this policy. The Committee may also request any subsequent metrics.

Conclusion

In conclusion, removing the requirement for this form will provide allocation priority immediately to highly sensitized candidates, thereby improving equity in allocation. It will also reduce the administrative and data burden on transplant programs listing candidates with a 99-100% CPRA. The changes will reduce the chance that a highly sensitized candidate will miss being matched and receiving an offer from a suitable donor due to administrative data collection requirements. The Committee is not recommending any changes following public comment.

[31] 12 42 CFR §121.8(a)(7).

Policy Language

Proposed new language is underlined (example) and language that is proposed for removal is struck through (~~example~~). Heading numbers, table and figure captions, and cross-references affected by the numbering of these policies will be updated as necessary.

5.1.A: Kidney Minimum Acceptance Criteria

Kidney transplant programs must report to the OPTN annually minimum kidney acceptance criteria for offers for deceased donor kidneys more than 250 nautical miles away from the transplant program. The kidney minimum acceptance criteria will not apply to imported 0-ABDR offers or offers to ~~highly sensitized~~ candidates ~~according to *Policy 8.5.F: Highly Sensitized Candidates*.~~ with a CPRA of 99% or above.

~~**8.4.F: Highly Sensitized Kidney Candidates**~~

~~Before a candidate with a CPRA score of 99% or 100% can receive offers in classifications 1 through 4, 8 or 9 according to *Table 8-7* and *8-8*; classifications 1 through 4, 7 or 8 according to *Table 8-9*; and classifications 1 through 4, 6 or 7 in *Table 8-10*, the transplant program's HLA laboratory director and the candidate's transplant physician or surgeon must review and sign a written approval of the unacceptable antigens listed for the candidate. The transplant hospital must document this approval in the candidate's medical record.~~

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Proposed Changes to Data Elements

Proposed new language is underlined (example) and language that is proposed for removal is struck through (~~example~~). Heading numbers, table and figure captions, and cross-references affected by the numbering of these policies will be updated as necessary.

Kidney OPTN Waiting List

Data Removals:

Clinical Criteria	Values	Recommended Changes & Comments
Signature of Transplant Surgeon or Physician	Free Text Field	Remove from OPTN Waiting List
Signature of HLA Laboratory Director	Free Text Field	Remove from OPTN Waiting List

Kidney/Pancreas OPTN Waiting List

Data Removals:

Clinical Criteria	Values	Recommended Changes & Comments
Signature of Transplant Surgeon or Physician	Free Text Field	Remove from OPTN Waiting List
Signature of HLA Laboratory Director	Free Text Field	Remove from OPTN Waiting List

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