OPTN

Public Comment Proposal

Update Histocompatibility Bylaws

OPTN Histocompatibility Committee

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Contents

Update Histocompatibility Bylaws

Affected Bylaws:	*C.1: Histocompatibility Laboratory Compliance* *C.2: Facilities and Resources* *C.3: Histocompatibility Laboratory Key Personnel* *C.4: Laboratory Coverage Plan* *C.5: Changes in Key Laboratory Personnel* *C.6: Histocompatibility Laboratory Policies and Procedures* *C.7: Histocompatibility Laboratory Testing Requirements* *C.8: Inactivation and Withdrawal of OPTN Membership*
Sponsoring Committee:	*Histocompatibility*
Public Comment Period:	*July 31, 2024—September 24, 2024*

Executive Summary

The OPTN Histocompatibility Committee is seeking to update and clarify the histocompatibility laboratory bylaws, as well as align them with Clinical Laboratory Improvements Act (CLIA) regulatory updates for histocompatibility labs being implemented in December 2024.[1] The Committee is proposing the following areas of change:

- Allow multiple OPTN-approved laboratory directors at a histocompatibility lab, with one primary laboratory director responsible for OPTN operations
- Update laboratory director education and training requirements to align with CLIA regulations
- Clarify and expand requirements for laboratory agreements with transplant hospitals and organ procurement organizations (OPOs)
- Modify required personnel and add a primary data coordinator to act as the point of contact for the OPTN
- Update laboratory subcontracting requirements and remove requirement for the laboratory director to review and approve all subcontracting results before release
- Expand inactivation and withdrawal notification requirements
- Remove requirements that are redundant to other existing regulatory requirements for labs and clarify language

The Committee is seeking the following feedback from the community:

- Should OPTN laboratory director education and training requirements be more stringent than CLIA, or align with CLIA regulations as proposed?
- Is the patient community comfortable with these proposed changes?
- Are the components required within the transplant program and OPO laboratory agreements sufficient and clear?
- Should the Committee consider proposing a minimum number of cases a laboratory director must review per year for a future proposal?
- Should the Committee consider expanding required General Supervisor qualifications for a future proposal?

[1] Centers for Medicare and Medicaid Services, *Clinical Laboratory Improvement Amendments of 1988 (CLIA) Fees; Histocompatibility, Personnel, and Alternative Sanctions for Certificate of Waiver Laboratories*. Federal Register, 12/28/2023. https://www.federalregister.gov/documents/2023/12/28/2023-28170/clinical-laboratory-improvement-amendments-of-1988-clia-fees-histocompatibility-personnel-and.

Purpose

The goal of this proposal is to clarify and update histocompatibility bylaws as well as align with upcoming CLIA regulatory changes. The Committee is proposing the following areas of change:

- Allow multiple OPTN-approved laboratory directors at a histocompatibility lab, with one primary laboratory director responsible for OPTN operations
- Update laboratory director education and training requirements to align with CLIA regulations
- Clarify and expand requirements for laboratory agreements with transplant hospitals and organ procurement organizations (OPOs)
- Modify required personnel and add a primary data coordinator to act as the point of contact for the OPTN
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- Remove requirements that are redundant to other existing regulatory requirements for labs and clarify language

Background

The Membership and Professional Standards (MPSC) Histocompatibility Subcommittee began work on this proposal in January 2020, and met five times to develop proposed changes. Draft language was presented to the Histocompatibility Committee in March 2020, who provided feedback and were supportive of the project. The full MPSC Committee reviewed the proposed changes in May 2020 and endorsed the initial draft language. The project was put on temporary hold while awaiting other regulatory changes that impact proposed changes. In December 2023, the Centers for Medicare and Medicaid Services (CMS) published a final rule updating CLIA regulations, with an effective date of December 28, 2024.[2] In order to update and align the histocompatibility bylaws with CLIA regulations, the OPTN Histocompatibility Committee began work again on the project, with the approval of the MPSC, and revised the developed language for release for public comment. The proposed changes were reviewed again with the MPSC and endorsed by both the MPSC and Histocompatibility Committee in May 2024.

Overview of Proposal

Multiple OPTN-Approved Laboratory Directors

The Committee is proposing allowing multiple laboratory directors per laboratory to become OPTN-approved, while still requiring one director to serve in the primary role. Currently, the OPTN only approves a primary laboratory director, and all others must be approved as technical supervisors or clinical consultants. Accrediting bodies currently approve multiple laboratory directors per laboratory. This causes confusion when a non-primary director transitions to a new lab and fulfills the role of primary with the OPTN for this first time, as they are now required to complete the full application

[2] Centers for Medicare and Medicaid Services, *Clinical Laboratory Improvement Amendments of 1988 (CLIA) Fees; Histocompatibility, Personnel, and Alternative Sanctions for Certificate of Waiver Laboratories*. Federal Register, 12/28/2023. https://www.federalregister.gov/documents/2023/12/28/2023-28170/clinical-laboratory-improvement-amendments-of-1988-clia-fees-histocompatibility-personnel-and.

process, which includes submitting a portfolio of 50 cases covered during the five years prior to the date of application. This proposal will allow any individual who fulfills the requirements of a director to submit an application to the OPTN and become approved as an OPTN laboratory director. While the individual will still need to submit a key personnel application when transitioning labs, they will not need to submit a full portfolio of cases after their first application is completed.

Laboratory Director Education and Training

The Final Rule updating CLIA increased the stringency and complexity of histocompatibility laboratory director training requirements. Due to existing external regulatory requirements, all laboratory directors must already follow the CLIA requirements for qualifications. Part of the qualifications require that laboratory directors must be certified by a board approved by the US Department of Health and Human Services (HHS) in order to direct a high complexity laboratory, and all histocompatibility laboratories are by definition high complexity laboratories.[3] When discussing the need for alternate pathways or increased stringency beyond CLIA's existing requirements, the Committee felt that CLIA's requirements for laboratory directors were sufficient. In addition, this will reduce the need to have future proposals to align with future CLIA updates.

Laboratory Agreements with Transplant Hospitals

Laboratories are required to have written agreements with every transplant program they serve, unless clinical urgency prevents such an agreement. These agreements outline expectations of the laboratory and transplant programs, including expected procedures. Current OPTN *Bylaw C.2.C: Transplant Program Affiliation* contains a list of required items that must be included in an agreement. Proposed changes organize the requirements into four named categories: HLA typing requirements, crossmatching requirements, antibody screening, and blood type verification. Most proposed changes reflect re-organized and clarified requirements. Any new or amended requirements are described in the appropriate category.

HLA Typing Requirements

The majority of HLA Typing Requirements to include in the transplant program agreement were simply re-organized and clarified. However, the Committee did add notification to the transplant program if expected turnaround time will be exceeded. A crosswalk of the existing and proposed requirements is in **Table 1**.

Table 1: HLA Typing Requirements, Transplant Program Agreements

Existing Requirement	Proposed Requirement
1. The sample requirements for typing and crossmatching.	Sample requirements

[3] 42 CFR §493.1443.

Existing Requirement	Proposed Requirement
2. The loci and level of resolution typed.	Loci and level of resolution typed
3. A process for reporting and verifying HLA and unacceptable antigen data at the time of registration on the waiting list and any time there are changes. 4. A process for reporting HLA typing results to the OPTN Contractor.	Process for reporting of HLA results to the OPTN and verification of results, including verification if changes occur
5. The maximum turnaround time from receipt of sample to reporting of results to the transplant program.	Expected turnaround time from receipt of sample to reporting results to the transplant program and process of notification if turnaround time is going to be exceeded
6. A process for resolving HLA typing discrepancies and errors.	Process for resolving discrepancies and errors

Crossmatching Requirements

The majority of Crossmatching Requirements to include in the transplant program agreement were simply re-organized and clarified. However, the Committee proposes distinguishing between physical and virtual crossmatching, adding a process for reporting of crossmatching results, and adding a notification to the transplant program if the expected turnaround time will be exceeded. A crosswalk of the existing and proposed requirements is in **Table 2**.

Table 2: Crossmatching Requirements, Transplant Program Agreements

Existing Requirement	Proposed Requirement
1. The sample requirements for typing and crossmatching.	Sample requirements for both donors and recipients
11. The criteria for crossmatching. 12. The assay format that will be used for antibody screening and for crossmatching.	Methodology and criteria for physical crossmatching
11. The criteria for crossmatching.	Criteria for virtual crossmatching, if performed
8. A process to obtain sensitization history for each patient.	Process to obtain sensitization history for each patient
N/A	Process for reporting of physical or virtual crossmatching results to the transplant hospital and verification of results, including verification if changes occur
7. The maximum turnaround time from receipt of sample to reporting of results to the transplant program.	Expected turnaround time from receipt of sample to reporting results to the transplant program and process of notification if turnaround time is going to be exceeded

Antibody Screening

The majority of Crossmatching Requirements to include in the transplant program agreement were simply re-organized and clarified. However, the Committee proposes adding sample requirements and a notification to the transplant program if expected turnaround time will be exceeded. A crosswalk of the existing and proposed requirements is in **Table 3**.

Table 3: Antibody Screening Requirements, Transplant Program Agreements

Existing Requirement	Proposed Requirement
N/A	Sample requirements
12. The assay format that will be used for antibody screening and for crossmatching.	Methodology
9. The frequency of periodic sample collection.	Frequency of sample collection
10. The frequency of antibody screenings.	Frequency of antibody screenings
13. The criteria for determining unacceptable antigens used during organ allocation.	Criteria for determining unacceptable antigens used during organ allocation
4. A process for reporting and verifying HLA and unacceptable antigen data at the time of registration on the waiting list and any time there are changes.	Process for reporting unacceptable antigens to the OPTN and verifying unacceptable antigen data at time of registration and if changes occur
7. The maximum turnaround time from receipt of sample to reporting of results to the transplant program.	Expected turnaround time from receipt of sample to reporting results to the transplant program and process of notification if turnaround time is going to be exceeded
17. If post-transplant monitoring is performed, then a protocol for monitoring antibody levels.	If post-transplant monitoring is performed, include protocol for monitoring donor-specific antibodies.
15. If desensitization will be performed, then a protocol for monitoring antibody levels.	If desensitization is performed, include protocol for monitoring antibody testing and reporting

Blood Type Verification

If a laboratory registers candidates for the transplant program, the agreement is also required to include a process for blood type verification according to OPTN *Policy 3.3: Candidate Blood Type Determination and Reporting before Waiting List Registration*. This requirement is unchanged, but moved into its own section.

Removed Requirements

The Committee is proposing to remove the requirement for the process of requesting extended HLA typing. HLA typing requirements already contain the loci and level of resolution typed, and transplant programs may already request additional testing outside of the lab's standard protocols.

The Committee is also proposing to remove the requirement for the duration for which specimens need to be stored for repeat or future testing. Histocompatibility labs are not required to store candidate or recipient specimens for repeat or future histocompatibility testing.

Laboratory Agreements with OPOs

Laboratories are required to have written agreements with every OPO they serve, unless clinical urgency prevents such an agreement. These agreements outline expectations of the laboratory and OPO, including expected procedures. OPTN *Bylaw: C.2.D OPO Affiliation* lists the requirements that must be included in agreements with OPOs. Proposed changes organize the requirements into three named categories: HLA typing requirements, crossmatching requirements, and donor specimen storage requirements. Most of the proposed changes required for inclusion in an OPO agreement reflect re-organized and clarified requirements. Any new or amended requirements are described in the appropriate category.

HLA Typing Requirements

The majority of HLA typing requirements that must be included in the OPO program agreement were simply re-organized and clarified. However, the Committee proposes adding a notification to the OPO if expected turnaround time will be exceeded. A crosswalk of the existing and proposed requirements is in **Table 4**.

Table 4: HLA Typing Requirements, OPO Agreements

Existing Requirement	Proposed Requirement
1. The sample requirements for typing and crossmatching.	Sample requirements
2. The loci and level of resolution typed.	Loci and level of resolution typed
4. A process for verifying and reporting HLA typing results to the OPTN Contractor.	Process for verifying and reporting results to the OPO and the OPTN
6. The maximum turnaround time from receipt of donor sample to reporting of results to the OPO.	Expected turnaround time from receipt of donor sample to reporting results to the OPO and process of notification if turnaround time is going to be exceeded
5. A process for resolving HLA typing discrepancies and errors.	Process for resolving discrepancies and errors

Crossmatching Requirements

The majority of crossmatching requirements to include in the OPO program agreement were simply re-organized and clarified. However, the Committee proposes adding a notification to the OPO if expected turnaround time will be exceeded, as well as verification of crossmatching results including verification if changes occur. A crosswalk of the existing and proposed requirements is in **Table 5**.

Table 5: Crossmatching Requirements, OPO Agreements

Existing Requirement	Proposed Requirement
1. The sample requirements for typing and crossmatching.	Sample requirements for both donors and recipients
9. If the OPO performs crossmatching, then all methods used for crossmatching and the interpretation and reporting of the results.	If OPO-contracted laboratory performs crossmatching, methodology and criteria for physical crossmatching as well as interpretation and reporting of results.
9. If the OPO performs crossmatching, then all methods used for crossmatching and the interpretation and reporting of the results.	Process for reporting of crossmatching results to the OPO or transplant hospital and verification of results, including verification if changes occur
6. The maximum turnaround time from receipt of donor sample to reporting of results to the OPO.	Expected turnaround time from receipt of donor sample to reporting results to the OPO and process of notification if turnaround time is going to be exceeded

Donor Specimen Storage Requirements

OPTN *Policy 4.9: Preservation of Excess Specimens* requires that "If a laboratory performs testing to determine histocompatibility between a donor and recipient, then the laboratory must preserve enough specimen from the deceased donor to perform subsequent testing for at least five years after the transplant." Current bylaws require that an OPO agreement with a laboratory include the length of time for which donor specimens are required to be stored for repeat or future testing. The Committee is proposing no change to this requirement, simply organizing it in its own section for clarity.

Removed Requirements

The Committee is proposing to remove the requirement for the process of requesting extended HLA typing. HLA typing requirements already contain the loci and level of resolution typed, and OPOs may already request additional testing outside of the lab's standard protocols.

The Committee is also proposing to remove the requirement for a process for prioritizing donors for histocompatibility testing. The agreement is already required to contain the expected turnaround time for both HLA typing and crossmatching, as well as notification if that turnaround time is going to be exceeded.

Required Personnel and Primary Data Coordinator Role

Current OPTN Bylaws for histocompatibility laboratory key personnel outline qualifications for histocompatibility technologists. The existing requirements are that the technologist must meet the qualifications within CLIA, for testing personnel qualifications for a laboratory performing high complexity testing, as well as have had one year of supervised experience in human histocompatibility or transplant immunology testing, regardless of academic degree or other training and experience.[4] The Committee is proposing to remove histocompatibility technologist qualifications from the OPTN Bylaws.

[4] 42 CFR §493.1489.

Laboratories would still need to comply with the qualifications required under CLIA for testing personnel qualifications for a laboratory performing high complexity testing [5], but technologists would no longer be required to have one year of supervised testing experience. When discussing removing this requirement, the MPSC subcommittee had felt that competency testing and education already required by CLIA and accrediting bodies was sufficient for patient safety. The Histocompatibility Committee concurred with this assessment.[6]

The Committee is proposing the addition of a primary data coordinator role under personnel requirements, at the request of the MPSC, as they are proposing this role for OPOs and transplant hospitals in a separate proposal. This also reflects existing practice at OPOs and transplant hospitals. The primary data coordinator will serve as the point of contact for questions and communications from the OPTN on data submission. This role may be filled by an existing staff member, who may have another primary role. The primary data coordinator will be required to be reported to the OPTN, and there will be a transition period while the names of the individuals filling this role are gathered.

The Committee discussed the potential for additional qualifications for general supervisors. Current OPTN Bylaws require that a general supervisor meets the qualifications within CLIA, for general supervisor qualifications for a laboratory performing high complexity testing[7]. In addition, the general supervisor must have at least three years of experience in human histocompatibility or transplant immunology testing under the supervision of a qualified histocompatibility laboratory director or technical supervisor. The Committee was considering whether there needed to be additional specifics or requirements around required experience for a general supervisor included in a future proposal and welcomes community feedback on that topic.

Laboratory Subcontracting Requirements

Current OPTN Bylaws require that if a laboratory refers testing to another laboratory, the subcontracting laboratory must be CLIA-certified, unless exempt, and OPTN-approved. As all OPTN-approved laboratories are already required to be CLIA-certified, unless exempt, this requirement was duplicative and the Committee is proposing to remove it. In addition, the Committee is proposing to remove the requirement for the primary laboratory director to review and approve all test results returned from the subcontracting laboratory before release, as the results already must be reviewed by the OPTN-approved subcontracting laboratory director and the additional approval confers no additional patient safety. In addition, current bylaws require that the identity of the subcontracting laboratory and the portion of that testing for which it bears responsibility must be noted in the report of the histocompatibility laboratory. All laboratory reports are already required by CLIA to contain the name and address of the laboratory location where the test was performed.[8] In addition, current bylaws require that a copy of the testing laboratory's report be kept on file by the laboratory receiving the results. CLIA already requires that all test information maintained as part of the patient's chart or medical record must be readily available to the laboratory.[9] As both of these bylaws requirements are duplicative of existing CLIA requirements, the Committee is proposing to remove them.

[5] 42 CFR §493.
[6] See OPTN Histocompatibility Committee meeting summary, May 28, 2024, available at https://optn.transplant.hrsa.gov/about/committees/histocompatibility-committee/.
[7] 42 CFR §493.1461.
[8] 42 CFR §493.1291(c)(2).
[9] 42 CFR §493.1291(b).

Laboratory Inactivation and Withdrawal Notification Requirements

Current OPTN Bylaws for laboratory inactivation only require that if a laboratory is voluntarily inactive, declared inactive, or withdraws from OPTN membership, they will be ineligible and may not provide histocompatibility testing to any OPTN members. There is currently no notification requirement to the OPTN or OPTN members that a laboratory serves upon inactivation or withdrawal. The Committee is proposing that labs that are unable to provide testing for 15 or more days voluntarily inactivate, for a period of up to 12 months, which could be extended upon request. The Committee is also proposing a requirement for inactive laboratories to notify all members they are contracted with within 7 days after inactivation, and provide an example of the notice sent and a list of all members to whom the notice was sent to the OPTN. The Committee is proposing that laboratories that withdraw membership notify contracted members and the OPTN at least 30 days prior to the anticipated date of withdrawal, as well as provide an example of the notice sent and a list of all members to whom the notice was sent to the OPTN.

Remove Redundant Requirements and Clarify Language

The Committee is proposing removing requirements that are redundant to other regulatory requirements, as well as some clarifying language. For example, the requirements within the current OPTN *Bylaw C.2.A: Facilities* are duplicative of but less comprehensive than laboratory facility requirements within CLIA. Another proposed removal is the current OPTN *Bylaw C.2.B: Records Access*, which requires laboratories to be able to immediately access candidate, recipient, and donor records onsite. This requirement is already contained within both CLIA and the Health Information Technology for Economic and Clinical Health (HITECH) Act.[10] However, the largest proposed removal is the removal of criteria for a mandatory performance review and information required from laboratories with unsatisfactory performance. Member Reviews and Actions are already covered by OPTN *Bylaws Appendix L*, which provides the MPSC with more review and information request abilities than are contained within the histocompatibility laboratory bylaw.

NOTA and Final Rule Analysis

The Committee submits this proposal under the authority of the National Organ Transplant Act (NOTA) which requires the OPTN to "establish membership criteria…and provide to members of the public an opportunity to comment with respect to such criteria."[11] This proposal reviews membership criteria for histocompatibility laboratory members.

Implementation Considerations

Member and OPTN Operations

Operations affecting Histocompatibility Laboratories

Histocompatibility laboratories will need to be aware of the new requirements, and personnel may require training. Laboratories will need to evaluate their transplant hospital and OPO agreements to

[10] 42 U.S.C. §201.
[11] 42 USC §274(b)(2)(B).

ensure they meet the new requirements. Histocompatibility laboratories may also choose to submit additional laboratory director applications, but are not required to do so.

Operations affecting Organ Procurement Organizations

OPOs may need to alter their agreements with laboratories if they do not meet the new requirements.

Operations affecting Transplant Hospitals

Transplant hospitals may need to alter their agreements with laboratories if they do not meet the new requirements.

Operations affecting the OPTN

The OPTN may need to alter laboratory key personnel forms, as well as the processing of reviewing new laboratory directors. There may be an increase in the number of laboratory director applications to review, should laboratories choose to submit additional directors.

This proposal requires the submission of official OPTN data that are not presently collected by the OPTN. The OPTN has agreed that data collected pursuant to the OPTN's regulatory requirements in §121.11 of the OPTN Final Rule will be collected through OMB approved data collection forms. Therefore, after OPTN Board approval, the forms will be submitted for OMB approval under the Paperwork Reduction Act of 1995. This will require a revision of the OMB-approved data collection instruments, which may impact the implementation timeline.

Projected Fiscal Impact

Projected Impact on OPTN Members

There is no anticipated fiscal impact for organ procurement organizations or transplant hospitals. There is no anticipated fiscal impact for histocompatibility laboratories. Impacts related to the overall implementation of CLIA regulations are estimated in the Federal Register Final Rule notice.[12]

Projected Impact on the OPTN

It is estimated that 248 hours ($14,723) would be needed to implement this proposal. Implementation would involve reviewing and preparing implementation communications and educational materials, updating external facing member forms and templates, and updating the Evaluation Plan. Additionally, an increase in member engagement leading up to implementation is expected. It is estimated that 280 hours ($13,775) will be needed for ongoing support. Ongoing support includes the review of additional histocompatibility laboratory directors key personnel applications with the new ability to have multiple lab directors. In addition, ongoing support includes consulting on member questions, evaluation and monitoring of data, and follow-up.

[12] Centers for Medicare and Medicaid Services, *Clinical Laboratory Improvement Amendments of 1988 (CLIA) Fees; Histocompatibility, Personnel, and Alternative Sanctions for Certificate of Waiver Laboratories*. Federal Register, 12/28/2023. https://www.federalregister.gov/documents/2023/12/28/2023-28170/clinical-laboratory-improvement-amendments-of-1988-clia-fees-histocompatibility-personnel-and.

Post-implementation Monitoring

Member Compliance

Although the requirements of histocompatibility labs for membership to the OPTN have changed, the process for OPTN review of applications for membership remains the same and the responsibilities for applicants to submit a complete application will not change. The detailed application process will be made available on the OPTN website on the compliance and evaluation page.

The OPTN Contractor will collaborate with accrediting bodies to ensure standards are maintained. If a histocompatibility laboratory is found to be out of compliance, the MPSC will work with the member to help it come into compliance with the bylaw requirements. Members who are currently in compliance with OPTN Bylaw requirements will not need to reaffirm compliance to the new Bylaws. Members who submit new applications will be required to meet the new Bylaws, once implemented.

Policy Evaluation

Changes to bylaws will be monitored as requested by the Histocompatibility Committee.

Conclusion

The goal of this proposal is to clarify and update histocompatibility bylaws as well as align with upcoming CLIA changes.

The Committee is proposing the following areas of change:

- Allow multiple OPTN-approved laboratory directors at a histocompatibility lab, with one primary laboratory director responsible for OPTN operations
- Update laboratory director education and training requirements to align with CLIA regulations
- Clarify and expand requirements for laboratory agreements with transplant hospitals and organ procurement organizations (OPOs)
- Modify required personnel and add a primary data coordinator to act as the point of contact for the OPTN
- Update laboratory subcontracting requirements and remove requirement for the laboratory director to review and approve all subcontracting results before release
- Expand inactivation and withdrawal notification requirements
- Remove requirements that are redundant to other existing regulatory requirements for labs and clarify language

Considerations for the Community

- Should OPTN laboratory director education and training requirements be more stringent than CLIA, or align with CLIA regulations as proposed?
- Is the patient community comfortable with these proposed changes?
- Are the components required within the transplant program and OPO laboratory agreements sufficient and clear?
- Should the Committee consider proposing a minimum number of cases a laboratory director must review per year for a future proposal?
- Should the Committee consider expanding required General Supervisor qualifications for a future proposal?

Bylaws 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.

Appendix C: Membership Requirements for Histocompatibility Laboratories

C.1 Histocompatibility Laboratory Compliance

~~Each~~ By accepting membership in the OPTN, histocompatibility laboratory members must comply with all OPTN Obligations according to *Article 1.1.E: Member Compliance* and must meet ~~*both* of the following:~~

~~1.~~ The requirements in the Clinical Laboratory Improvement Amendments (CLIA) at 42 CFR § 493.1278 Standard: Histocompatibility, unless exempt. Laboratories that are exempt due to being in state that is exempt from CLIA must meet the requirements for state licensure including standards for histocompatibility.

~~2. The requirements as they apply to solid organ and islet transplantation, of the American Society for Histocompatibility and Immunogenetics (ASHI) 2013 Revised Standards for Accredited Laboratories, or the College of American Pathologists (CAP) Histocompatibility Checklist, Laboratory General Checklist, Flow Cytometry Checklist, and Team Leader Assessment of Director and Quality Checklist as of April 21, 2014. This requirement does not mandate membership in either ASHI or CAP.~~

If any regulatory agency takes a final adverse action against a histocompatibility laboratory, the laboratory must notify the OPTN ~~Contractor~~ in writing within 10 business days. The histocompatibility laboratory must also provide all documents relating to the final adverse action to the OPTN ~~Contractor~~.

The histocompatibility laboratory must notify the OPTN of any change in location or address of its primary location at least 30 days prior to the change.

C.2 Facilities, Personnel and Resources

Histocompatibility laboratories must have ~~considerable~~ facilities, equipment, personnel and resources to ensure accurate, reliable and efficient testing.

~~**A. Facilities**~~

~~The laboratory must have:~~

~~1. Enough space and equipment so that procedures and tests can be performed accurately and efficiently.~~

~~2. Adequate facilities to store medical and test records for candidates, recipients, and donors.~~

~~**B. Records Access**~~

~~Records for active candidates must be immediately accessible onsite. Records for recipients and donors must be accessible as necessary to meet the clinical practice needs of any associated transplant hospital or OPO.~~

~~C~~A. Transplant Program Affiliation

Histocompatibility laboratories must have written agreements with every transplant program the laboratory serves, unless clinical urgency prevents such an agreement. Written agreements between histocompatibility laboratories and transplant programs must include *all* of the following:

1. HLA Typing Requirements:
   - Sample requirements
   - Loci and level of resolution typed
   - Process for reporting of HLA results to the OPTN and verification of results, including verification if changes occur
   - Expected turnaround time from receipt of sample to reporting results to the transplant program and process of notification if turnaround time is going to be exceeded
   - Process for resolving discrepancies and errors

2. Crossmatching Requirements:
   - Sample requirements for both donors and recipients
   - Methodology and criteria for physical crossmatching
   - Criteria for virtual crossmatching, if performed
   - Process to obtain sensitization history for each patient
   - Process for reporting of physical or virtual crossmatching results to the transplant hospital and verification of results, including verification if changes occur
   - Expected turnaround time from receipt of sample to reporting results to the transplant program and process of notification if turnaround time is going to be exceeded

3. Antibody Screening:
   - Sample requirements
   - Methodology
   - Frequency of sample collection
   - Frequency of antibody screenings
   - Criteria for determining unacceptable antigens used during organ allocation
   - Process for reporting unacceptable antigens to the OPTN and verifying unacceptable antigen data at time of registration and if changes occur
   - Expected turnaround time from receipt of sample to reporting results to the transplant program and process of notification if turnaround time is going to be exceeded

- If post-transplant monitoring is performed, include protocol for monitoring donor-specific antibodies
- If desensitization is performed, include protocol for monitoring antibody testing and reporting

4. If the laboratory registers candidates for the transplant program, include a process for blood type verification according to *Policy 3.3: Candidate Blood Type Determination and Reporting before Waiting List Registration*.

~~1. The sample requirements for typing and crossmatching.~~
~~2. The loci and level of resolution typed.~~
~~3. A process for requesting extended HLA typing.~~
~~4. A process for reporting and verifying HLA and unacceptable antigen data at the time of registration on the waiting list and any time there are changes.~~
~~5. A process for reporting HLA typing results to the OPTN Contractor.~~
~~6. A process for resolving HLA typing discrepancies and errors.~~
~~7. The maximum turnaround time from receipt of sample to reporting of results to the transplant program.~~
~~8. A process to obtain sensitization history for each patient.~~
~~9. The frequency of periodic sample collection.~~
~~10. The frequency of antibody screenings.~~
~~11. The criteria for crossmatching.~~
~~12. The assay format that will be used for antibody screening and for crossmatching.~~
~~13. The criteria for determining unacceptable antigens used during organ allocation.~~
~~14. The duration for which specimens need to be stored for repeat or future testing.~~
~~15. If desensitization will be performed, then a protocol for monitoring antibody levels.~~
~~16. If the laboratory registers candidates for the transplant program, then a process for blood type verification according to *Policy 3.3: Candidate Blood Type Determination before Waiting List Registration*.~~
~~17. If post-transplant monitoring is performed, then a protocol for monitoring antibody levels.~~

~~D~~B. OPO Affiliation

Histocompatibility laboratories must have written agreements with every OPO member the laboratory serves, unless clinical urgency prevents such an agreement. Written agreements between histocompatibility laboratories and OPOs must include *all* of the following:

1. HLA Typing Requirements:
   - Sample requirements
   - Loci and level of resolution typed
   - Process for verifying and reporting results to the OPO and the OPTN
   - Expected turnaround time from receipt of donor sample to reporting results to the OPO and process of notification if turnaround time is going to be exceeded
   - Process for resolving discrepancies and errors

2. Crossmatching Requirements:
   - Sample requirements for both donors and recipients
   - If OPO-contracted laboratory performs crossmatching, methodology and criteria for physical crossmatching as well as interpretation and reporting of results.
   - Process for reporting of crossmatching results to the OPO or transplant hospital and verification of results, including verification if changes occur
   - Expected turnaround time from receipt of donor sample to reporting results to the OPO and process of notification if turnaround time is going to be exceeded

3. The length of time for which donor specimens are to be stored for repeat or future testing

~~1. The sample requirements for typing and crossmatching.~~
~~2. The loci and level of resolution typed.~~
~~3. A process for requesting extended HLA typing.~~
~~4. A process for verifying and reporting HLA typing results to the OPTN Contractor.~~
~~5. A process for resolving HLA typing discrepancies and errors.~~
~~6. The maximum turnaround time from receipt of donor sample to reporting of results to the OPO.~~
~~7. A process for prioritizing donors for histocompatibility testing.~~
~~8. The length of time for which donor specimens are required to be stored for repeat or future testing.~~
~~9. If the OPO performs crossmatching, then all methods used for crossmatching and the interpretation and reporting of the results.~~

C. Personnel Requirements

1. All personnel must be licensed or meet the standards required by federal, state and local regulations.

   The histocompatibility laboratory must require that all laboratory staff complete all continuing education and testing required to maintain accreditation by federal, state, and local regulatory agencies.

2. Each histocompatibility laboratory must identify a Primary Data Coordinator and provide the name of the individual to the OPTN. The primary data coordinator serves as the point of contact for questions and communications from the OPTN on data submission.

C.3 Histocompatibility Laboratory Key Personnel

The laboratory must employ a Primary histocompatibility laboratory director, a technical supervisor, a clinical consultant, and a general supervisor~~, and a clinical consultant~~. One ~~person~~ individual may fill one or more positions. The laboratory may employ additional histocompatibility laboratory directors, but only one may serve as the Primary histocompatibility laboratory director of record with the OPTN. If an individual serves as histocompatibility laboratory director for more than one laboratory, that individual cannot serve in the general supervisor position.

~~The size and training of the histocompatibility laboratory staff must be enough to carry out the volume and variety of tests required to ensure accuracy and prompt completion of tests. All personnel must be licensed or meet the standards required by federal, state and local regulations.~~

~~If the laboratory provides histocompatibility testing for deceased kidney, kidney-pancreas, or pancreas transplants, then the laboratory must have personnel for the required histocompatibility testing available 24 hours a day, seven days a week.~~

A. Histocompatibility Laboratory Director Qualifications

The histocompatibility laboratory director ensures that the laboratory provides high quality and comprehensive histocompatibility and immunogenetics testing.

The histocompatibility laboratory director must meet all the qualifications and fulfill the responsibilities for high complexity laboratory director according to CLIA, 42 CFR § 493.1443.

~~The histocompatibility laboratory director must meet the requirements for at least *one* of the following pathways:~~

- ~~Pathway 1:~~
  1. ~~Have an M.D. or D.O. from an accredited institution, or equivalent degree from another country~~
  2. ~~Have a license to practice medicine in the state where the laboratory is located~~
  3. ~~Be certified in anatomic and clinical or clinical pathology by the American Board of Pathology or the American Osteopathic Board of Pathology, or possess qualifications of those equivalent to those required for such certification~~
  4. ~~Have at least two years full-time experience directing or supervising clinical histocompatibility testing for solid organ transplantation~~

- ~~Pathway 2:~~
  1. ~~Have a doctoral degree in a medical, chemical, physical, biological, or clinical laboratory science from an accredited institution, or equivalent degree from another country~~
  2. ~~Have at least two years full-time, post-doctoral experience or four years pre-doctoral experience in immunology, histocompatibility, or immunogenetics, and two years post-doctoral training in directing or supervising clinical histocompatibility testing for solid organ transplantation~~
  3. ~~Have one of the following certifications~~
     - ~~Diplomate by the American Board of Histocompatibility and Immunogenetics~~
     - ~~Associate by the American College of Histocompatibility and Immunogenetics~~
     - ~~Fellow by the American College of Histocompatibility and Immunogenetics~~
     - ~~High complexity laboratory director by the American Board of Bioanalysis~~
     - ~~Diplomate by the American Board of Medical Laboratory Immunology~~

     ~~A professional who holds an earned doctoral degree but who does not hold one of these certifications may qualify if they were serving as director of an accredited~~

~~laboratory performing human histocompatibility and immunogenetics testing before February 24, 2003.~~

The MPSC will review, in consultation with the histocompatibility accrediting agencies, the credentials of professionals with foreign education or training and determine whether the foreign education or training is equivalent to that obtained in the United States, according to CLIA.

Any professional being considered for the position of histocompatibility laboratory director who has not served in the role of laboratory director at an OPTN-approved histocompatibility laboratory prior to the date of application must also provide *all* of the following:

- A portfolio of 50 cases, covered during the five years prior to the date of application that demonstrates the professional's analytical skills, ability to recognize and resolve testing and interpretation issues, and instances when the applicant made recommendations for additional testing or clinical care.
- Proof of active interaction with transplant professionals.
- A letter from the applicant that describes all experience in immunology and clinical histocompatibility testing, including a summary of time spent in the laboratory, technologies used, level of responsibility, and specific tasks performed.
- A current curriculum vitae or resume.
- Demonstrated participation in transplant or clinical laboratory professional conferences or publications in peer-reviewed journals.

~~All documentation that verifies training and experience must be sent directly to the OPTN Contractor from all directors of histocompatibility laboratories where the training was obtained.~~ A laboratory may appoint additional histocompatibility laboratory directors, but only one histocompatibility laboratory director may serve in the role as Primary. The Primary histocompatibility laboratory director is the person responsible for ensuring the operation and compliance of the laboratory according to the requirements set forth in these Bylaws. Additional histocompatibility laboratory directors must meet the qualifications to fulfill the responsibilities for histocompatibility laboratory director according to this section.

B. Technical Supervisor Qualifications

The technical supervisor must meet all the qualifications and fulfill the responsibilities for laboratory director according to *C.3.A. Histocompatibility Laboratory Director Qualifications* above and for histocompatibility technical supervisor according to *42 CFR 493*.

~~E~~C. Clinical Consultant Qualifications

The clinical consultant must meet all the qualifications for laboratory director as outlined in *C.3.A. Histocompatibility Laboratory Director Qualifications* above and for histocompatibility clinical consultant according to *42 CFR 493.*

~~C~~D. General Supervisor Qualifications

A general supervisor must meet the qualifications for a general supervisor according to *42 CFR 493* and have at least three years of experience in human histocompatibility or transplant immunology testing under the supervision of a qualified histocompatibility laboratory director or technical supervisor.

~~D. Histocompatibility Technologist Qualifications~~

~~A histocompatibility technologist must meet the qualifications for a histocompatibility technologist according to *42 CFR 493* and must have had one year of supervised experience in human histocompatibility or transplantation immunology testing, regardless of academic degree or other training and experience.~~

~~E. Clinical Consultant Qualifications~~

~~The clinical consultant must meet all the qualifications for laboratory director as outlined in *C.3.A. Histocompatibility Laboratory Director Qualifications* above and for clinical consultant according to *42 CFR 493.*~~

~~F. Competency Testing and Continuing Education of Staff~~

~~The laboratory must test its staff for competency in performing test procedures. The testing must be done annually, and must be completed for each type of test the staff performs.~~

~~The director, technical supervisor, and all technical staff must participate in continuing education in histocompatibility, immunogenetics or clinical transplantation as required for accreditation by national, state, and local regulatory agencies.~~

C.4. Laboratory Coverage Plan

The histocompatibility laboratory director, in conjunction with the technical supervisor, clinical consultant, and general supervisor, ~~and clinical consultant,~~ must submit a detailed Laboratory Coverage Plan to the OPTN ~~Contractor~~. The Laboratory Coverage Plan must describe how continuous coverage is provided by laboratory personnel.

The laboratory must submit an updated Laboratory Coverage Plan when any key personnel accepts additional responsibilities for more than 30 days at another laboratory. The updated coverage plan must be submitted to the OPTN within 30 days of the key personnel accepting the additional responsibilities.

The Laboratory Coverage Plan must address *all* of the following:

1. The laboratory must document that qualified key personnel are providing coverage at all times, including during the entire application process for changes in key personnel, regardless of the status of the application.

2. The laboratory must document that the laboratory director, technical supervisor, clinical consultant, and general supervisor~~, and clinical consultant~~ are available to provide onsite, telephone, or electronic consultation to facilitate organ acceptance and transplantation.
3. The laboratory must document if any of the responsibilities designated to the laboratory director, technical supervisor, or clinical consultant will be performed by other laboratory staff. This documentation must include a list of the duties delegated, the times when the duties will be delegated, the qualifications of the staff that will perform the delegated duties, and the quality systems in place to ensure the duties are correctly performed.
4. If the laboratory is engaged in histocompatibility testing for deceased kidney, kidney-pancreas, or pancreas donor transplants, then the laboratory must document that key personnel and qualified testing personnel are available 24 hours a day, 7 days a week to provide laboratory coverage, unless a written explanation is provided that justifies the current level of coverage to the satisfaction of the MPSC.
5. If any key personnel serves more than one histocompatibility laboratory, then the Laboratory Coverage Plan must specify how continuous coverage will be provided at each histocompatibility laboratory served.

C.5 Changes in Key Laboratory Personnel

A. Change in Laboratory Director, Technical Supervisor, Clinical Consultant, or General Supervisor~~, or Clinical Consultant~~

When the histocompatibility laboratory is informed that the laboratory director, technical supervisor, clinical consultant, or general supervisor~~, or clinical consultant~~ plans to leave or otherwise ends active participation in the laboratory, the laboratory must:

1. Notify the OPTN ~~Contractor~~ in writing within seven business days of when the laboratory becomes aware of the change in key personnel.
2. Submit a completed Personnel Change Application to the OPTN ~~Contractor~~ no less than 30 days before the end of the individual's active employment or change in status. The Personnel Change Application must document that the new or acting laboratory director, technical supervisor, clinical consultant and general supervisor~~, and clinical consultant~~ meet the requirements of these Bylaws.
3. Submit an updated Laboratory Coverage Plan no less than 30 days before the date of departure that specifies how continuous coverage will be provided at the laboratory by all key personnel during and after the transition period to a new or acting laboratory director, technical supervisor, ~~or~~ clinical consultant, or general supervisor.
4. If the histocompatibility laboratory receives less than 60 days notice of the key personnel change, then the laboratory must submit a completed Personnel Change Application and updated Laboratory Coverage Plan to the OPTN ~~Contractor~~ within 30 days ~~of the date of departure~~ from the date the OPTN was notified.

A change in key personnel can be any of the following:

1. Departure of the director, technical supervisor, clinical consultant, or general supervisor~~, or clinical consultant~~.
2. Any key personnel unavailable to perform responsibilities for more than 30 days.
3. Reinstatement of the previously designated laboratory director, technical supervisor, clinical consultant, or general supervisor~~, or clinical consultant~~.
4. ~~Any key personnel that accepts additional responsibilities for more than 30 days at another histocompatibility laboratory.~~

B. Failure to Notify the OPTN ~~Contractor~~ of Key Personnel Changes

A histocompatibility laboratory's failure to inform the OPTN ~~Contractor~~ of a change in the laboratory director, technical supervisor, clinical consultant, or general supervisor~~, or clinical consultant~~ or to submit the required Personnel Change Application within the periods specified will be considered a noncompliance with OPTN Obligations that may result in an OPTN action according to *Appendix L: Reviews and Actions*.

C. Rejected Key Personnel Change Applications

The MPSC must offer the applicant an interview if the MPSC rejects a Key Personnel Change application. The applicant may also be entitled to a hearing with the MPSC and an appearance before the Board of Directors. Any interviews, hearings, or Board of Directors appearances that occur as part of the Key Personnel Change application process will be conducted according to *Appendix L: Reviews and Actions*.

~~C.6 Histocompatibility Laboratory Policies and Procedures~~

~~A. Criteria for Mandatory Performance Review a Histocompatibility Laboratory~~

~~The OPTN Contractor may review a histocompatibility laboratory if at any time it has *any* of the following performance indicators:~~

- ~~Failure to comply with the requirements and regulations according to *Section C.1: Histocompatibility Laboratory Compliance* of these Bylaws.~~
- ~~Any of the following performance indicators on external proficiency testing:~~
  1. ~~Less than 100% satisfactory performance in an ABO external proficiency testing program.~~
  2. ~~For programs other than ABO, a less than 80% satisfactory performance on more than one external histocompatibility proficiency testing program within the previous twelve months.~~
- ~~Accreditation revoked by any OPTN approved histocompatibility regulatory agency.~~
- ~~A focused re-inspection by any OPTN approved histocompatibility regulatory agency.~~
- ~~Restrictions imposed on the laboratory by any OPTN approved histocompatibility regulatory agency.~~

- ~~One or more HLA typing or reporting errors on a deceased or living donor that results or could result in an incompatible transplant or the re-allocation of an organ to someone other than the intended recipient.~~
- ~~Unresolved or repeat deficiencies identified during inspections conducted by OPTN approved regulatory agencies that are in violation of OPTN Contractor standards. When deficiencies are cited, laboratories must document that the deficiencies have been corrected.~~
- ~~Complaints from transplant programs, OPOs, or other clients that have not been documented, investigated and resolved.~~
- ~~Incomplete submission of all OPTN Contractor forms or forms not submitted within the 180 day time limit.~~

~~B. Information Required from Laboratories with Unsatisfactory Performance~~

~~The OPTN Contractor may request at any time from a histocompatibility laboratory with unsatisfactory performance *any* of the following:~~

- ~~Letters from the affiliated transplant program or OPO staff describing the level of interaction and involvement of the director, technical supervisor and clinical consultant.~~
- ~~Interviews with transplant program or OPO staff.~~
- ~~Laboratory complaint log and documentation of resolutions from other healthcare professionals.~~
- ~~Samples of laboratory reports that demonstrate the review of patient history, notation of unusual results, and recommendations for additional testing.~~
- ~~Documentation of any professional extracurricular commitments, including estimates of time required, for laboratory director, technical supervisor, general supervisor, and clinical consultant outside of the histocompatibility laboratory.~~
- ~~Quality Assessment and Performance Improvement records.~~
- ~~Other material as requested.~~

~~C.~~ ~~Inactive Status~~

~~A histocompatibility laboratory that is voluntarily inactive, declared inactive or withdraws from membership will be ineligible and may not provide histocompatibility testing to any OPTN members.~~

C.~~7~~6 Histocompatibility Laboratory Testing Requirements

A. Subcontracting

If a histocompatibility laboratory refers testing to another laboratory, the subcontracting laboratory must be ~~*both*~~:

~~1. CLIA certified, or unless exempt under federal law.~~

~~2.~~ OPTN-approved.

~~The laboratory director must review and approve all test results returned from the subcontracting laboratory before release. The identity of the subcontracting laboratory and that portion of the testing for which it bears responsibility must be noted in the report of the histocompatibility laboratory. A copy of the testing laboratory's report must be kept on file by the laboratory receiving the results.~~

B. Submission Requirements for New Laboratories

If a laboratory seeking OPTN membership has not previously been approved as an OPTN histocompatibility laboratory member, then the laboratory must submit procedures and test validation data for all categories and methods of testing performed to the OPTN ~~Contractor~~ upon request.

C.7. Inactivation and Withdrawal of OPTN Membership

A histocompatibility laboratory that is voluntarily inactive or withdraws from OPTN membership may not provide histocompatibility testing to OPTN members.

A. Inactivation

A histocompatibility laboratory that is unable to provide histocompatibility testing for 15 or more consecutive days should voluntarily inactivate its OPTN membership. Voluntary inactivation may extend for a period of up to 12 months. The histocompatibility laboratory may request an extension beyond 12 months by making a request to the MPSC. The request must include a comprehensive plan with a timeline for resuming histocompatibility testing.

The histocompatibility laboratory must provide written notice to the OPTN of its inactivation, including the reasons for the inactivation.

A histocompatibility laboratory that voluntarily inactivates its membership in the OPTN must provide written notice to all OPTN members with which it has a contractual agreement no later than 7 days after inactivation. The histocompatibility laboratory must provide the OPTN a list of all organizations to whom it sent notice, along with information regarding the mode of notice and an example of the notice sent.

B. Withdrawal ~~of OPTN Membership~~

A histocompatibility laboratory that intends to withdraw its OPTN membership status must provide written notice to the OPTN, including the effective date and reasons for withdrawal, at least 30 days prior to the anticipated date of the withdrawal.

A histocompatibility laboratory that withdraws its membership in the OPTN must provide written notice to all OPTN members with which it has a contractual agreement at least 30 days prior to the anticipated date of withdrawal. The histocompatibility laboratory must provide the

OPTN a list of all organizations to whom it sent notice, along with information regarding the mode of notice and an example of the notice sent.

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