OPTN/UNOS Ad Hoc Disease Transmission Advisory Committee
Report to the Board of Directors
June 23-24, 2014
Richmond, Virginia

Michael Green, MD, MPH, Chair
Daniel Kaul, MD, Vice Chair

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This report reflects the work of the OPTN/UNOS Ad Hoc Disease Transmission Advisory Committee December 2013 through April 2014.

Action Items

1. Review of Minimum Screening Requirements for Deceased Donor Evaluation

Public Comment: September 6 – December 6, 2013

Current deceased donor screening test requirements reflect changing test kit availability and a widely publicized transmission event in late 2008. UNOS site survey staff receives a number of questions regarding the application of current language, and a number of OPOs have contacted staff with requests to use tests outside of the current policy requirements. Additionally the release of the 2013 PHS Guideline also plays a role in determining minimum donor screening requirements. The Committee worked to develop language that will allow OPOs some latitude in selecting appropriate tests for donors without adversely impacting patient safety.

The Committee considered and addressed public comment feedback received on its proposed language. Additional modifications were made in response to some comments to provide further clarification. After careful review, the Committee voted to recommend the following new and modified policies, as outlined in **Exhibit A**, for consideration by the Board of Directors (9 yes, 0 no, 1 abstention):

> **RESOLVED, that additions and modifications to Policies 2.3 (Evaluating and Screening Potential Deceased Donors), 2.4 (Deceased Donor Medical and Behavioral History), 2.5 (Hemodiluton Assessment), 2.7 (HIV Screening of Potential Deceased Donors), 2.7.A (Exceptions to HIV Screening Requirement), 2.8 (Required Deceased Donor Information), 2.9 (Requested Deceased Donor Information) and its subsections, 2.10 (Post Recovery Follow Up and Reporting) and its subsections16.4.D (Internal Labeling of Vessels, 2.11 (Deceased Donor Management), 2.12 (Organ Procurement) and its subsections, 2.13 (Requirements for Controlled Donation after Circulatory Death (DCD) Protocols) and its subsections, Table 14-2: Requirements for Living Kidney Donor Medical Evaluations, 14.5.A (Living Kidney Donor Psychosocial Evaluation Requirements), and 16.4.D (Internal Labeling of Vessels) as set forth in Exhibit A, are hereby approved, effective September 1, 2014.**

Committee Projects

2. 2013 PHS Guideline Review

Public Comment: March 14 – June 12, 2014
Board Consideration: November 2014 (estimated)

The Final Rule §121.4 (OPTN policies: Secretarial review and appeals.) notes that the OPTN Board of Directors is responsible for developing policies that are consistent with recommendations of the Centers for Disease Control and Prevention (CDC) to test potential organ donors and following transplant recipients to prevent the spread of infectious disease. The June 19, 2013, release of the *PHS Guideline for Reducing Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV), and Hepatitis C Virus (HCV) Through Organ Transplantation* led to a systematic review of related OPTN policies.

After release of the new Guideline, the Committee formed a Joint Subcommittee with representation from the OPO, Operations & Safety, and Living Donor Committees, as well as representation from the four major transplantation societies. These societies include: Association of Organ Procurement Organizations (AOPO), North American Transplant Coordinators Organization (NATCO), American Society of Transplantation (AST) and American Society of Transplant Surgeons (ASTS). This Joint Subcommittee completed a page-by-page review of all of the 2013 PHS Guideline recommendations to determine if there are new policies or additional policy modifications related to testing recommendations for donors and organ transplant candidates, as well as post-transplant recipient care, which may be warranted based upon these new areas of inclusion in the Guideline.

The Joint Subcommittee was divided into four working groups to review the various recommendations in detail:

- Donor and Recipient Testing
- Donor and Recipient Specimen Collection and Storage and Tracking and Reporting of HIV, HBV, and HCV Subgroup
- Informed Consent
- Risk Assessment and Screening

The four working groups were assigned corresponding lists of recommendations for discussion and asked to consider the following points for each:

- Is the PHS recommendation covered by the Final Rule?
- Is there policy already in place to address this? If so, does it need to be changed?
- Should there be policy in place to address this, or should it remain as a PHS recommendation only?

The Committee members reviewed all feedback from the Joint Subcommittee. With one exception, the Committee supported recommendations as proposed by the Joint Subcommittee. However, interpretation of Final Rule led to the inclusion of HCV NAT for all donors, both living and deceased, to follow the PHS Guideline recommendation. The Committee seeks careful consideration and feedback regarding this proposed new requirement, recognizing its potential impact on donors being classified as at increased risk for potential transmission of HCV if false positive NAT results arise during testing.

Members discussed the use of triplex NAT tests, which will include results for HBV (not a PHS recommendation), HCV, and NAT. Current triplex tests approved by the FDA provide only one result (positive or negative) without further information on which of the three caused the positive result. Upon receipt of an initial positive, an OPO must complete further testing to determine which virus is causing the positive result. OPOs may be faced with a situation where they use the triplex test to complete the proposed HCV NAT requirement, but end up with a positive result on this test that will require resolution with additional testing for each of the diseases. Additionally, a concern was raised as to whether a NAT to

determine viral load can be used in place of a screening NAT. Members agreed that this viral load test would not be appropriate, and agreed that the language currently proposed requires use of a screening test. Additionally the receipt of a positive NAT result would require either aborting a potential donor case or additional testing to indicate that the result was confidently noted as a false positive. Until OPTN policy modifications related to the HOPE Act are approved by the Board and the OPTN Final Rule is revised by the Secretary of HHS, the use of HIV positive organs is still prohibited.

The Committee reviewed a frequently asked questions list developed as questions from OPOs and living donor organ recovery hospitals began applying the criteria for determining a deceased or living donor's increased risk of HIV, HBV and HCV transmission. The document is available publicly on the OPTN website and other websites. Based upon the number of questions related to applying criteria related to sexually transmitted diseases and dialysis, a suggestion was made to request partnership with the CDC/Public Health Service in developing an educational tool to help members become more comfortable with applying the updated increased risk criteria when completing the medical-social evaluation.

Committee members are presenting the proposal at various committee and regional meetings and collecting all feedback for consideration before taking this proposal to the Board for consideration in November 2014. As of May 3, 2014, 17 individual reponses had been submitted for this proposal. Of these, 15 supported the proposal and two had no opinion. None of the commenters included specific comments. Feedback from the regions and committees has also been positive. The Committee has received very few specific responses to the questions it posed for consideration related to HCV NAT and its impact on organ placement and acceptance. Committee members continue to urge careful consideration regarding these questions as they present this proposal to other committees and at regional meetings. The OPO Committee will be forming a subcommittee to consider these questions and provide specific feedback.

3. **Modifications to How New Donor Information Received Post-Transplant is Reported to Recipient Centers**

Public Comment: *Spring 2015 (estimated)*
Board Consideration: *November 2015 (estimated)*

Committee and Department of Evaluation and Quality reviews have highlighted a number of instances where communication delays or failures for new donor information learned post-transplant led to potential transplant recipient morbidity or mortality. The Committee seeks to improve communication regarding new information that is critical to recipient care, enhance recipient safety, and help to prevent or quickly react to potential donor-derived disease transmission. As part of this effort, the Committee will also look closely at the current patient safety contact requirement, as it is not functioning as efficiently in some institutions as others, and has presented challenges in communicating important information in some cases.

After partnering with OPO Committee representatives to form a Joint Subcommittee, little progress was made in agreeing on a path forward on this effort. The arrival of the PHS Guideline further slowed progress.

In January 2014, staff determined a Failure Mode and Effects Analysis (FMEA) would be useful to analyze the process used to communicate this information and all of the potential failure points that could lead to potential recipient harm. The FMEA will provide information

needed to develop evidence based policy to improve upon this important area of communication.

A consultant will facilitate the FMEA process, which will include representation from the OPO, Transplant Coordinators, and Transplant Administrators Committees. This group will convene for the first time in early May, and the FMEA is slated for completion in September. The Committee plans to take a policy proposal to public comment in spring 2015.

4. <u>What to do when Infectious Disease Screening Results affecting Match Runs are Updated</u>

Public Comment: *Fall 2014 (estimated)*
Board Consideration: *June 2015 (estimated)*

There is currently no requirement in policy to re-generate a match run if there is a change in donor infectious disease screening results that would impact a candidate's appearance on a match run. Currently, four serology results are used to screen potential recipients on or off of an organ match run. They include:

- HBV
- HCV
- Human T-Lymphotrophic Virus (HTLV) (if donor screening was completed)
- Cytomegalovirus (CMV) (pertinent only for the intestine match run, though several joint subcommittee members agreed that this is no longer clinically relevant)

As a result, a joint subcommittee was formed in late 2012, with representation from the OPO and Operations & Safety Committees to consider this issue in. This group was made aware of centers that have received organ offers from positive donors when their listed recipients should have been screened from the match run. This appears to be the result of organ offers being made when one or more of these screening tests is reported as pending. While no harm has come to recipients to date, this group supports the development of policy to prevent potential harm and enhance patient safety in this area.

Progress was halted upon the June 2013 release of the PHS Guideline, in order for the Committee to focus its attention on this time sensitive project. Draft language and data was prepared for this group to review in May-June 2013, but the joint subcommittee could not reconvene due to scheduling difficulties. The data was updated and will be shared on a future call. This draft language will be rewritten into plain language format and reviewed alongside related data with the standing joint subcommittee. Once consensus is reached within this group, the draft language will come back to the full Committee for final review. A fall 2014 public comment proposal is anticipated.

5. <u>Living Donor Screening Guidance for Seasonal and Geographically Endemic Infectious Diseases</u>

Public Comment: *n/a*
Board Consideration: *November 2014 (estimated)*

Current living donor screening requirements for West Nile Virus, Strongyloides, and Chagas have proved challenging for living donor recovery hospitals. Assistance was requested in developing a protocol for this required screening. Specifically, living donor recovery hospitals have asked for assistance in defining "endemic areas" as referenced in Policy Table 14-2: Requirements for Living Kidney Donor Medical Evaluations (Endemic Transmissible Diseases).

Subsequent living donor policy recommendations out for public comment at this time would eliminate the requirement for these three specific diseases in favor of more general requirements for living donor recovery hospitals to develop their own protocols for identifying potential living donors at risk for seasonal or geographically endemic diseases. The Living Donor Committee requested this Committee's assistance in developing a guidance document to provide assistance to these programs as they develop these protocols.

The Committee's Geographic and Seasonally Endemic Disease Guidance Subcommittee met for the first time via Citrix GoTo Meeting on March 4, 2014, to discuss the creation of this guidance document. The Subcommittee considered potential donor-derived disease transmission reporting data involving geographically associated infections reported between January 2008 and October 2013. This data was used to develop a 2014 World Transplant Congress abstract. Subcommittee members noted that it will be important to realize that the focus of this document is to provide guidance on what will be helpful to include in the written protocol for evaluation of these diseases. The additional information regarding the DTAC experience is meant to enhance, but should not be the focal point of the document. A Subcommittee member noted that it is also important to realize that some living donor programs have very little expertise to guide this type of evaluation. For this reason, it is important to craft a practical document that will be helpful at the physician and living donor coordinator level. Raising awareness is critical. The policy, if passed, will not require everyone to be tested, but rather will require transplant centers to have a protocol in place to recognize when testing is appropriate and important to enhance patient safety.

The subcommittee brainstormed on specific areas for inclusion within the document. Care will be taken to develop a format that is easy to digest for both the physician and the coordinator regarding the following areas:

- Geographic perspectives (and time spent in a location)
  - Where was the potential living donor born (outside versus inside U.S.)?
  - Home country/region? Prolonged residence outside home region, recent of distant?
  - Living Donor Recovery Hospital region?
  - Occupational or recreational travel to other countries and/or regions?
- Occupational risks
  - Healthcare workers/ Vets/Animal care workers
  - Landscapers and other outdoor workers
  - Medical mission trips (consider a three month washout period prior to donation to avoid disease like malaria incubating?)
- Seasonal risks
- Family members and close contacts within potential risk factors?
  - This is something that could be easily missed. If two family members have had Coccidioidomycosis (Valley Fever) and the potential donor you are evaluating spends a month each year visiting them, this is important.

The Subcommittee reconvened on April 1, 2014 to continue discussion and develop format for the document and begin drafting text. A final guidance document is anticipated for November 2014 Board of Directors review.

Committee Projects Pending Implementation

6. Improvements to Potential Donor-Derived Disease Event Reporting in the Improving Patient Safety Portal

Public Comment: *n/a*
Board Approval: *June 2013*
Projected Implementation: *March 2015 (anticipated)*

The Board approved enhancements to the portal used to report potential donor-derived disease transmission events in June 2013. The Policy Oversight Committee provided feedback to the Executive Committee for consideration on how to prioritize this project on the IT schedule of work on March 19, 2014. The Executive Committee prioritized and scheduled the implementation of this project during its April 9, 2014 teleconference.

7. Reporting Whether Donor Screening Tests are Completed using Qualified Specimens

Public Comment: *n/a*
Board Approval: *June 2013*
Projected Implementation: *February 2015 (anticipated)*

The Committee's proposal to require reporting of whether individual deceased donor screening tests were completed using a (non-hemodiluted) qualified specimen was approved by the Board in November 2010. Policy was implemented without fields to collect this information in DonorNet℠. The Executive Committee prioritized and scheduled the implementation of this project during its April 9, 2014 teleconference.

Implemented Committee Projects

8. Toxoplasma E-Learning Module

Public Comment: *n/a*
Board Approval: *n/a*
Implementation Date: *February 2014*

The Committee's Toxoplasma e-learning module was released in early 2014. It is available on the OPTN website, and a link to it is also included on Transplant Pro. A Committee member is working with the International Society for Heart and Lung Transplantation (ISHLT) to incorporate this module into their educational materials. Committee support staff will work with the UNOS Communications Department to track hits on both Transplant Pro and YouTube to determine if partnership with ISHLT increases visits to the module over the coming months. In April 2014, the websites received a combined 47 pageviews.

9. HTLV I/II Data Entry Requirements

Public Comment: *Fall 2009*
Board Approval: *November 2009*
Implementation Date: *March 2014*

Previous policy required Organ Procurement Organizations to screen all potential deceased donors for anti-HTLV I/II antibodies. Although a policy change in November 2009 no longer required OPOs to screen for this antibody, until UNOS could complete the programming, DonorNet® users still had to indicate an HTLV- I/II result as positive, negative, unknown, not done, indeterminate, or pending. The related programming effort to eliminate this

requirement for OPOs to enter this information was implemented on March 5, 2014. OPOs are no longer required to enter data in anti-HTIV I/II data collection fields in order to generate a match run. If a positive result is entered for a donor, the value will still be used for screening potential recipients from a match run. A non-response will be treated as a not done result during screening. No reported potential donor-derived transmission events have been classified as proven or probable since this screening requirement was removed form policy.

Review of Public Comment Proposals

The Committee reviewed 2 of the 17 proposals released for public comment from March – June, 2014.

10. Proposal to Modify Existing or Establish New Requirements for the Psychosocial and Medical Evaluation of all Living Donors (Living Donor Committee)

After receiving a presentation from the Chair of the Living Donor Committee, members discussed this proposal. A member asked if a psychosocial evaluation was included in this proposal. It was noted that the psychosocial evaluation for livers is identical to that of kidneys. A member recognized that new literature regarding the function of the independent living donor advocate (IDA) raised some concerns. There was concern regarding the current policy requirements related to the IDA, and specifically, language that the notes the IDA as responsible for making sure that the psychosocial evaluation has taken place and that the donor understands the process. The Living Donor Committee Chair noted that much of the IDA language falls within the next proposal, on informed consent.

After this brief discussion, the Committee supported it as written (13 yes, 0 no, 2 abstained).

11. Proposal to Modify Existing or Establish New Requirements for the Informed Consent of all Living Donors (Living Donor Committee)

The Committee considered this proposal after presentation by the Living Donor Committee Chair during its meeting. It was noted that this proposal extends the same informed consent requirements currently in place for living kidney donors to all living donor organ donors, with a few minor organ specific exceptions. A Committee member recognized that new literature regarding the function of the independent living donor advocate (IDA) is not altogether favorable. There was concern regarding the current policy requirements related to the IDA, and specifically, language that the notes the IDA as responsible for making sure that the psychosocial evaluation has taken place and that the donor understands the process. The question of informed consent is one to struggle with and must be structured on a case-by-case basis to some degree. A member suggested that expert advice can be offered, but one must have something specific to each organ to share (e.g. what is the consequence of losing a portion of your lung, your liver, and your islets?). This affects a very small number of living donors who are giving organs outside of kidney or liver, which is more common. The Chair noted that was already common for liver and kidney was also applied for other organs. Items that were specific to liver or kidney were not included for other organs. There simply was not data to demonstrate how to approach this for these less frequently used living donor organs.

Another member noted that telling living donors that these other organs are rarely done is exactly the kind of information that needs to be shared with these potential living donors due to the rarity of these procedures and the additional risks related to it being a rare procedure. Three recent large publications have come out regarding increased risk for living kidney

donors. This information is currently being reviewed to determine if modifications to living kidney donor informed consent should be modified. A reminder was issued that policy mandates minimum requirements, not best practices.

After brief discussion, supported it as written (14 yes, 0 no, 1 abstained).

Other Committee Work

12. Case Review

The Committee completed review of 284 potential donor-derived disease transmission events reported to the OPTN in 2013. This total was a marked increased from the 198 cases reported in 2012. Analysis of aggregate 2013 data to determine whether the number and percentage of probable or proven transmissions has increased alongside the total number of cases reported. This information will be presented at the World Transplant Congress in July 2014.

The Committee received an update on the total number of reports to the Improving Patient Safety portal, including duplicate reports, and brainstormed regarding ways to reduce the number of unnecessary reporting. The increase in case numbers is attributed to a number of OPOs proactively reporting all positive donor cultures, even those that would be addressed by standard post-transplant antibiotic prophylaxis. Committee leadership will consider education and policy modification to reduce potentially unnecessary reporting and committee member burden while continuing to enhance patient safety.

As part of this analysis, the Committee also reviewed updated data on variation among donor service areas in the number of cases reported to the Improving Patient Safety Portal **(Exhibit B)**. A member suggested that it may be time to share this data with the regions again, either as an FYI in meeting packets or in a Transplant Pro article. Members agreed that it is important to share this data in order to learn more about how reporting is managed or determined in various parts of the country. This was done several years ago through regional presentations that were not always well received.

13. Review of Current Committee Abstracts and Manuscripts in Development

The Committee heard updates from the authors of ongoing abstracts and manuscripts that are planned as tools to continue educating the transplant community regarding potential donor-derived disease transmission and enhancing patient safety.

Meeting Summaries

The committee held meetings on the following dates:

- December 19, 2013
- January 7, 2014
- March 26, 2014
- Case review calls on the second Thursday of each month

Meetings summaries for this Committee are available on the OPTN website at: http://optn.transplant.hrsa.gov/members/committeesDetail.asp?ID=95.

BRIEFING PAPER **OPTN/UNOS**

Proposal to Modify Deceased Donor Testing Requirements

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BRIEFING PAPER **OPTN/UNOS**

Proposal to Modify Deceased Donor Testing Requirements

Sponsoring Committee: Ad Hoc Disease Transmission Advisory Committee (DTAC)

Summary and Goals of the Proposal:

This proposal seeks to modify current deceased donor testing requirements in policy based upon updated testing kit availability and laboratory practice, and also clarify any points of confusion for the OPO community. Current test requirements stemmed from changing test kit availability and a widely publicized transmission event in 2007. Over the years, there have been a number of questions regarding the application of this language from OPOs that do not understand the terminology or wish to use tests outside of the current requirements.

Background and Significance of the Proposal:

Current deceased donor screening policy requirements stemmed from changing test kit availability and a widely publicized donor-derived transmission event in 2007. Modifications to policy in place at that time were recommended by the OPTN/UNOS Executive Committee. Despite a rewrite of Policy 2.0 (Minimum Procurement Standards for an Organ Procurement Organziation (OPO)) in 2010, testing advancements and availability continue to change laboratory practice. OPTN site surveyors have encounted a number of questions regarding application of current testing requirements from the OPO community. New tests are now availble that did not exist when the DTAC last proposed changes to this policy. OPOs have requested to use tests outside of the current policy to meet donor screening requirements. Additionally, the recently released *PHS Guideline for Reducing Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV), and Hepatitis C Virus (HCV) Through Organ Transplantation* also recommends specific tests for potential living and deceased donors.

The OPTN Ad Hoc Disease Transmission Advisory Committee (DTAC) was charged with reviewing minimum screening requirements for deceased donor evaluation by the OPTN Board of Directors in July 2012. In response, the DTAC formed a Policy Subcommittee to review current testing requirements and begin discussing alternatives. Several specific areas of concern within Policy 2.0 (Minimum Procurement Standards for an Organ Procurement Organization (OPO)) were discussed at length:

Policy 2.2.4 (Donor Evaluation)

What does “Commercially Available” actually mean?

Current Policy 2.2.4 allows an exception to certain testing requirements if the test is not “commercially available.” This phrase has caused confusion in the community. The OPTN Board of Director’s Executive Committee drafted and approved this language in an effort to enhance patient safety by requiring the use of a licensed serological screening test for <u>all</u> HIV screening and any time one is available for other required testing. Diagnostic tests were noted as permissible if a screening test was not “commercially available” for tests other than HIV; however, this term was never clearly defined. The UNOS Department of Evaluation and Quality looks for OPOs’ use of screening kits when completing OPO site surveys, and requested that the DTAC provide guidance on defining this term. OPOs consistently question whether diagnostic testing is acceptable if a screening test is not available locally. OPOs are concerned about the expense and time constraints related to shipping samples for expedited testing when local screening tests are not available in a time frame appropriate for organ donor evaluation, organ placement, and recovery.

The DTAC recognized that it may be difficult to clarify this language depending on the type of test it refers to. Creating a blanket statement about required testing in general may be too broad here because the availability and approval of new tests on the market is constantly changing. Requirements for using U.S. Food and Drug Administration (FDA) licensed, approved, or cleared serological screening tests were put in place to also avoid programs using "homemade" research use only (RUO) tests that had not undergone FDA evaluation and approval. The intent of this language was to require that an approved or licensed test be completed by an appropriately accredited laboratory using an appropriate sample as indicated by the testing package insert.

Screening tests have been specifically evaluated by the FDA for their performance in donor screening. The performance of diagnostic tests for donor screening are less clear because the FDA has not evaluated tests for this purpose

The DTAC believes that OPOs should be using appropriate samples for FDA licensed, approved, or cleared testing in an appropriately accredited laboratory according to package insert directions as a way to enhance patient safety. The OPTN requirement is meant to require use of a lab that is recognized as providing appropriate information for clinical decision making, but the Committee recognized that changing test kit availability and the arrival of new kits on the market means this blanket approach for donor screening is no longer critical and, therefore, the commercially available phrase is no longer necessary.

Policy 2.2.4.1

The Subcommittee next discussed specific tests required for all potential deceased donors:

HIV Testing. While a handful of OPOs note difficulty in obtaining FDA approved HIV screening locally, it was noted by infectious disease physicians and laboratorians on the Committee that HIV nucleic acid testing (NAT) alone is not an acceptable alternative. A potential donor with HIV (unknown to the next of kin or historian completing the medical-social history) that is receiving anti-retroviral treatment could have non-detectable viral loads (that are recognized by NAT testing) but still have positive antibodies. In addition, some HIV infected individuals may have an undetectable viral load even in the absence of anti-viral treatment.

Some OPOs report that many labs (often blood banks) are running larger platform antibody tests once a day or every other day that cannot meet the time constraints needed for donor testing. For this reason, antibody screening may not be available locally on a STAT basis, so donor testing samples must be sent out to other laboratories at added expense in order to minimize the time delay. Additionally, the availability of donor testing is limited in certain areas of the country. Sometimes half of the tests can be completed locally and others must be sent out to contract laboratories. Testing practices also vary beyond what is currently required by OPTN policy. Many OPOs complete NAT on every donor, while some complete testing only on potential donors suspected to be at increased risk for transmitting blood born infections such as HIV or Hepatitis[1]. This would still require shipping a sample for many OPOs. It was noted that NAT is not currently required by OPTN Policy.

[1] Theodoropoulos, N., Jaramillo, A., Ladner, D. P. and Ison, M. G. (2013), Deceased Organ Donor Screening for HIV, Hepatitis B, and Hepatitis C Viruses: A Survey of Organ Procurement Organization Practices. *American Journal of Transplantation*. doi: 10.1111/ajt.12260

A number of OPOs have requested to use the new 4th generation HIV and HCV antigen/antibody combination tests for potential deceased donors. These tests were not available when the policy was last updated, are currently classified as *diagnostic* by the FDA, do not meet requirements for deceased donor *screening* tests in current Policy, but have advantages over the donor screening tests required by Policy. They are a "better" test than the antibody screening currently required because they shorten the window period for detection as compared to antibody testing alone[2]. They are also more easily accessible and cost effective than antibody testing in some cases. The HIV antigen/antibody combination test was also recommended for potential organ donors in the *PHS Guideline for Reducing Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV), and Hepatitis C Virus (HCV) Through Organ Transplantation* that was released on June 19, 2013.

Subcommittee members agreed that these new tests are readily accessible, useable, and informative. It was noted that the combination tests include antigen testing in addition to antibody testing, so this is helpful in recognizing HIV window period infection significantly sooner than antibody testing alone. A positive antigen/antibody combination test result does not distinguish between whether antigen, antibody, or both results are positive. From an organ donor screening standpoint, however, this is irrelevant. Universal availability makes this especially appealing for OPOs that do not have access in comparison to NAT for potential donors. Members suggested that it is an easier test to perform than NAT, meaning that OPOs might use this test kit more often with a lower risk of error than performing occasional NAT after hours. However, if NAT is being used, this test is really unnecessary because NAT remains slightly more sensitive than the antigen/antibody combination test.

The DTAC believes that this proposed modification for HIV testing will provide an alternate to antibody testing alone that does decrease the window period while perhaps being easier to obtain in a timely fashion. The Committee hopes that those who have adopted NAT testing (combined with antibody screening) will not abandon this practice in favor of the HIV antigen/antibody combination test as a cost savings measure, but do recognize that this new diagnostic testing option will provide better results than testing for antibody alone.

The Committee also discussed the relevance of Policy 2.2.3.2. It currently requires that a donor with a negative HIV test on a qualified (non-hemodiluted) specimen be re-tested if a blood transfusion that had not been tested for HIV is administered after this first negative test. Committee members could not conceive of a situation and had no historical examples of when this situation might occur. For this reason, the Committee is considering striking this language altogether, as HIV testing requirements are also clearly outlined in earlier policy sections, and requests specific feedback from the transplant community regarding this issue.

<u>HCV Testing.</u> While the Committee was supportive of allowing HIV antigen/antibody combination testing as an alternative to antibody alone testing due to reduction in window period infection, the Committee was not prepared to propose modifications to HCV screening requirements at this time. Additionally, the 2013 PHS Guideline did not

[2] Humar, A., Morris, M., Blumberg, E., Freeman, R., Preiksaitis, J., Kiberd, B., Schweitzer, E., Ganz, S., Caliendo, A., Orlowski, J. P., Wilson, B., Kotton, C., Michaels, M., Kleinman, S., Geier, S., Murphy, B., Green, M., Levi, M., Knoll, G., Segev, D., Brubaker, S., Hasz, R., Lebovitz, D. J., Mulligan, D., O'Connor, K., Pruett, T., Mozes, M., Lee, I., Delmonico, F. and Fischer, S. (2010), Nucleic Acid Testing (NAT) of Organ Donors: Is the 'Best' Test the Right Test? A Consensus Conference Report. *American Journal of Transplantation*, 10: 889–899. doi: 10.1111/j.1600-6143.2009.02992.x

recommend the combination test for HCV. Finally, a combined antigen/antibody test is not available in the U.S. at this time.

Syphilis Testing. Current policy language regarding syphilis screening continues to create confusion with both OPOs and OPTN site surveyors regarding what specific tests meet policy requirements. While language allows for diagnostic testing, the Venereal Disease Research Laboratory test (VDRL) and rapid plasma reagin (RPR) are specifically listed as testing options permissible under this policy. Members often question whether other diagnostic testing options are acceptable since they are not specifically listed within the policy language. The DTAC hopes to provide clarification in this area.

Syphilis testing is divided into two types:

- Non-trepomenal tests detect infection indirectly by markers of infection released during cellular damage that occurs when syphilis infection is present. These are widely used as screening tests, but have decreased sensitivity in early primary syphilis and during late syphilis infections. False-positive reactions can occur for a large number of reasons. VDRL and RPR both fall into this category.

- Treponemal testing detects antibodies to *Treponema pallidum* (syphilis). Newer enzyme immunoassay (EIA) tests are now commonly used and are recommended for syphilis screening. Older examples of treponemal tests include FTA (Fluorescent Treponemal Antibody) - Abs (absorption) and Treponema pallidium Particle Agglutination (TP-PA).

The Subcommittee agreed that either type of testing would be appropriate because organ offers are rarely declined due to a positive result. The Committee agreed that either test type would be appropriate because both test type provides accurate results. A recipient who received an organ from a donor with syphilis would receive antibacterial prophylaxis that would provide appropriate treatment. A suggestion was made to strike current language in policy and simply note “Syphilis testing.”

The Subcommittee sought feedback from the other OPO and laboratory representatives on the DTAC regarding this issue before finalizing modifications to policy language. It was noted that, to date, there have been no proven syphilis transmissions reported to the OPTN. The Committee determined that allowing the use of any FDA recognized test is expected to allow OPOs flexibility in choosing effective tests while potentially saving time and money.

Urine Culture Requirement. The Committee discussed a concern brought to the OPO Committee and DTAC regarding the current urine culture requirement. An OPO noted that some donor hospital laboratories are refusing to complete a urine culture if the urinalysis is normal. This OPO questioned whether a urine culture should still be required if urinalysis results are normal, noting that the clinical value of this test may be limited with a normal urinalysis. It was recognized that two separate labs (Chemistry and Micro labs in most hospitals) generally handle these samples and complete these tests. Cost accounting leads to urine being discarded when the urinalysis is negative at a growing number of labs.

DTAC members agreed that a urine culture when urinalysis results are negative is often of no impact or interest to non-kidney physicians and surgeons. However, the Committee felt that performance of a urine culture in the absence of pyuria could be important in certain circumstances. One important reason to perform a culture would be if infectious

complications occur in the renal allograft. While the absence of pyuria might confirm the absence of urinary tract infection, it would not confirm the absence of asymptomatic bacteruria which could potentially cause infection once the kidney allograft is transplanted in to the recipient. Accordingly, the ability to compare pathogens recovered from an infected allograft with microbes recovered from the donor urine would be critical in further understanding the pathogenesis of donor-derived kidney infection. Eventually, this knowledge could inform changes in antimicrobial preventative strategies that could enhance patient outcomes.

Another example where performing a culture independent of the results of the urinalysis relates to the fact that some potential donors experience diabetes insipidus due to neurologic injury. These patients' subsequent high volume and diluted quality of urine make results of a urinalysis potentially unreliable. Given these concerns, the Committee felt it was important to maintain the requirement for both urinalysis and culture at this time.

The DTAC recognizes the importance of communicating its recommendation (and its basis) to maintain the current policy requirements with the OPO Committee. If the OPO Committee wishes to continue this conversation, the two Committees will create a joint subcommittee to discuss the issue.

Toxoplasma Screening. *Toxoplasma gondii* is a parasite that can be transmitted via organ transplant, most frequently affecting the heart recipient. Transmission is a concern when a donor who is positive for Toxoplasma provides a heart to a recipient who has never been exposed to the parasite and does not receive prophylactic treatment. The DTAC has reviewed several cases of potential Toxoplasma transmission where donor status was unclear and recipients were adversely affected before receiving appropriate prophylactic treatment. Currently, there are no requirements regarding testing potential heart donors for Toxoplasma.

The DTAC recommended that OPOs be required to complete Toxoplasma screening as part of standard deceased donor testing during its 2010 rewrite of Policy 2, but the OPO Committee raised concerns. Currently, Toxoplasma screening usually takes place at the heart recipient center. The OPO sends a tube of blood for testing along with the heart. At that time, the OPO Committee held the unanimous opinion that that Toxoplasma screening should take place at the heart recipient center. OPO Committee members noted that OPOs may ultimately have to test all donors if it is unknown whether a heart will be placed. Many OPOs may not have STAT access to Toxoplasma screening results, which could result in a time lag in organ offers and placement and unnecessary expense. The OPO Committee shared ongoing concerns regarding the proposed modification to require all potential heart donors be screened for Toxoplasmosis, and voted unanimously against this proposed requirement.

DTAC members agreed that STAT testing for toxoplasmosis is unnecessary. While the Committee agreed that the current community practice of sending a tube of blood along with the heart for Toxoplasma screening completion at the recipient center is effective in most circumstances, it was still concerned regarding the fact that this piece of donor data was not included in the donor record. The Committee also noted that it had reviewed two potential donor-derived disease transmission reports to the OPTN where the blood was not sent or was lost and testing was not completed, resulting in disease transmission. While the Committee still believed that Toxoplasma should be a required donor test, it agreed to remove the requirement from the 2010 proposal.

As the Committee considered current donor screening practices for this proposal, it again recognized that there are several tests to facilitate recipient selection and management, including CMV and EBV serologies, required for all potential deceased donors. There are clear community standards for post-transplant management based on donor and recipient serostatus for these conditions.

Current guidelines recommend that heart transplant recipients receive anti-Toxoplasmosis prophylaxis unless both the donor and recipient are seronegative.[3] Fifty to seventy percent of seronegative heart recipients of seropositive donors will develop symptomatic infection without prophylaxis. About 13% of organ donors are seropositive for Toxoplasmosis.[4] Since the parasite typically infects muscular tissue (e.g. heart and vascularized tissue transplants), screening was recommended specifically for donors with hearts procured and accepted for transplant at this time. Currently, this testing is done variably by OPOs and transplant centers and there are reported instances in which no samples are collected or samples are lost in transit. Since Toxoplasma serology allows key decisions about recipient management and recipient selection, similar to CMV and EBV, the DTAC continues to support modifications that Toxoplasma screening should be added as a requirement for all potential heart donors. In an attempt to bridge concerns raised by the OPO Committee, the Committee wishes to require the practice of sending a tube along with the heart for Toxoplasma screening if the OPO does not complete the test itself. The DTAC feels that this is not burdensome to the OPO and should not affect or slow down the organ offer or placement process, but rather officially recognize a practice already in place at most OPOs.

The DTAC's Policy Subcommittee met on March 19, 2013, to review and discuss the modifications described above. The Subcommittee voted unanimously (8 for, 0 against, 0 abstentions) in support of these changes. An April 2, 2013, memo requesting preliminary feedback from the OPO Committee on this proposal did not elicit any feedback. The DTAC believes that the OPO community will be supportive of these modifications, as several OPOs have specifically requested clarification regarding testing policy language and the ability to specifically use HIV antigen/antibody combination testing in lieu of antibody testing. The DTAC unanimously approved proposed policy language recommended by its Policy Subcommittee during its face-to-face meeting in Chicago on March 20, 2013 (19 for, 0 against, 0 abstentions).

A number of stylistic and restructuring changes were recommended by Policy and Department of Evaluation and Quality staff during the evaluation of this proposal. These modifications included writing out terms that were abbreviated in current language (e.g. CBC is now also written out as "complete blood count.) Final language modifications were reviewed and unanimously approved (12 for, 0 against, 0 abstentions) for public comment by the full committee during a July 11, 2013, teleconference.

The updated *PHS Guideline for Reducing HIV, HBV and HCV Transmission through Organ Transplantation*[5] was released on June 19, 2013. The DTAC's Policy Subcommittee, including representation from the OPO and Operations & Safety Committees, will complete a review of this document to consider how each of the recommendations made may impact current OPTN policy.

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[3] Kotton CN, Lattes R, and the AST Infectious Diseases Community of Practice. Parasitic infections in solid organ transplantation. *American Journal of Transplantation*. 2009;9(Suppl4):S234–S251.

[4] Gourishankar S, Doucette K, Fenton J, Pur ych D, Kowalewska- Grochowska K, Preiksaitis J. The use of donor and recipient screening for toxoplasma in the era of universal trimethoprim sulfamethoxazole prophylaxis. *Transplantation*. 2008; 85: 980–985.

[5] Seem, Debbie L., RN, MPH. "PHS Guideline for Reducing HIV, HBV and HCV Transmission through Organ Transplantation." *Public Health Reports* 128.July-Aug (2013): 247-343. 19 June 2013. Web. 08 July 2013. <http://www.publichealthreports.org/issueopen.cfm?articleID=2975>.

Additional policy modifications may be desired upon review of the final updated document, but the recommendation for using HIV antigen/antibody combination testing supports the Committee's proposed testing requirement.

Supporting Evidence and/or Modeling:

The Committee carefully discussed the pros and cons of modifying each of the current deceased donor testing requirements, reviewing the literature specifically regarding perceived benefits of allowing the HIV antigen/antibody combination test in lieu of antibody testing alone. The Committee began by comparing window period length for various testing methods for HIV, Hepatitis C, and Hepatitis B. Combination testing was noted as significantly shortening the window period for HIV as compared to standard serology antibody screening, as noted in **Table 1**, below. While a positive result for HIV would not distinguish between antigen or antibody, this would be irrelevant for the purposes of organ transplant.

Table 1: Estimates of window period length for different testing methods[6]

	Standard Serology	Enhanced Serology (4th generation or combination tests)	NAT
HIV	17-22 days	~7-16 days	5-6 days
HCV	~70 days	~40-50 days	3-5 days
HBV	35-44 days	Not Applicable	20-22 days

While NAT still provides the earliest indication of detection for HIV, newer third and fourth generation combined tests are closing the gap while remaining easier to complete and less cost prohibitive for OPOs. **Figure 1**, below, demonstrates improvements in the various generations of enzyme immunoassays over time. The Committee does not wish for OPOs that already employ NAT to replace it with combination testing, but sees this as a viable alternative to those OPOs that are having difficulty securing antibody screening in a timely fashion. The DTAC recognizes that some OPOs are having to ship samples out for testing when their needs cannot be met locally in the time frame available to evaluate a donor and place organs efficiently.

[6] Humar, A., Morris, M., Blumberg, E., Freeman, R., Preiksaitis, J., Kiberd, B., Schweitzer, E., Ganz, S., Caliendo, A., Orlowski, J. P., Wilson, B., Kotton, C., Michaels, M., Kleinman, S., Geier, S., Murphy, B., Green, M., Levi, M., Knoll, G., Segev, D., Brubaker, S., Hasz, R., Lebovitz, D. J., Mulligan, D., O'Connor, K., Pruett, T., Mozes, M., Lee, I., Delmonico, F. and Fischer, S. (2010), Nucleic Acid Testing (NAT) of Organ Donors: Is the 'Best' Test the Right Test? A Consensus Conference Report. *American Journal of Transplantation*, 10: 889–899. doi: 10.1111/j.1600-6143.2009.02992.x

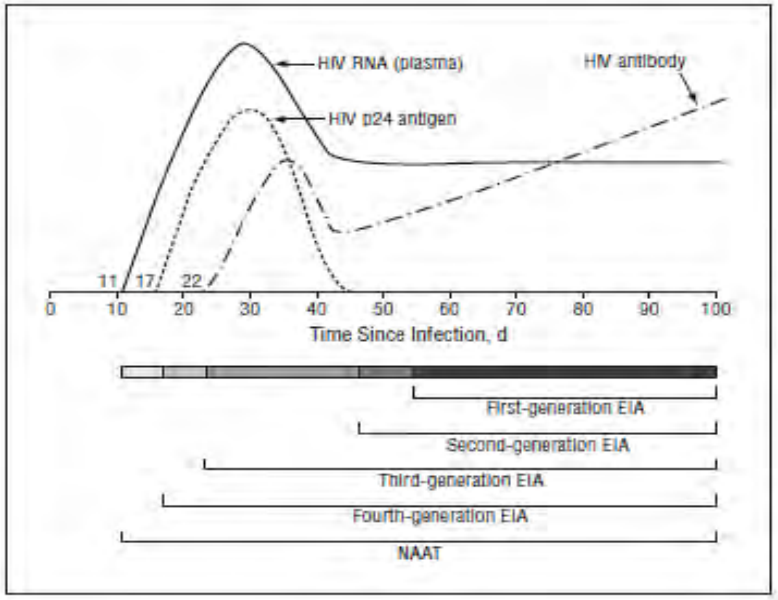

Figure 1: Window of detection of HIV markers early in HIV infection and window period of different EIAs compared with nucleic acid amplification testing (NAAT) for HIV RNA. Data from Fiebig et al; the figure was adapted from a graphic courtesy of Steven Kleinman, MD.[7]

The DTAC sought consideration and feedback from the FDA regarding its proposal to allow antigen/antibody combination diagnostic testing for HIV testing completed for potential deceased organ donors as an acceptable alternative to the current serologic screening test for HIV only. The Committee believes that testing advances since implementation of the screening requirement in policy make this a safe and practical alternative, but requested expert opinion before proceeding with this public comment proposal. The FDA indicated that the scientific information provided as background with respect to testing, window periods, and the performance of the anti-HIV-1/2 and HIV-1 antigen combination assays appeared accurate, and deferred any policy considerations for organ donor testing to the OPTN.

Expected Impact on Living Donors or Living Donation

This proposal is specific to deceased donor testing and is not applicable to potential living donors, though the Committee may recommend expanding these modifications to cover potential living donor testing in the future as a patient safety enhacement.

Expected Impact on Specific Patient Populations

This proposal is expected to enhance patient safety for all potential deceased donor organ recipients by clarifying potential deceased donor testing requirements and updating these requirements to bring them in line with current test kit availability and laboratory practice.

Expected Impact on Program Goals, Strategic Plan, and Adherence to OPTN Final Rule

It is anticipated that by modifying and clarifying the policies, OPOs and transplant centers will have a more straightforward and consistent interpretation of the policy language. This is expected to result in improved patient safety and a more consistent approach to OPO

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[7] Patel, P., D. Mackellar, P. Simmons, A. Uniyal, K. Gallagher, B. Bennett, T. J. Sullivan, A. Kowalski, M. M. Parker, M. LaLota, P. Kerndt, and P. S. Sullivan. "Detecting Acute Human Immunodeficiency Virus Infection Using 3 Different Screening Immunoassays and Nucleic Acid Amplification Testing for Human Immunodeficiency Virus RNA, 2006-2008." *Archives of Internal Medicine* 170.1 (2010): 66-74. Print.

responsibilities for potential deceased donor testing while reducing the possibility of non-compliance.

The DTAC's proposal addresses the following HHS Program Goals:

- Patient Safety
- Best Use
- Maximum Capacity
- Operational Effectiveness

The DTAC's proposal will address four of the OPTN/UNOS Strategic Plan Goals:

- Promote safe, high quality care for transplant candidates and recipients by improved identification of potential infection in deceased donors.
- Achieve the best use of donated organ by clearly identifying donor testing requirements to help transplant centers better identify donor risk/quality versus benefit to their recipient(s).
- Maximize the number of transplants through careful screening of potential donors and clear requirements for communicating these results and any additional information the OPO may obtain post-transplant (i.e. culture results, autopsy findings, etc.).
- Improve upon the timely operational effectiveness of the OPTN Patient Safety System, by more clearly defining expectations for both OPOs and transplant centers in sharing information with each other and reporting findings to the OPTN.

The Committee's goals for these policy modifications meet provisions of the Final Rule as outlined in §121.6(a)[8].

Plan for Evaluating the Proposal

The DTAC will consider the following information:

- **What questions or hypotheses are guiding the evaluation of the proposal?**
  - How many OPOs are using HIV antigen/antibody combination diagnostic testing versus HIV antibody screening?
  - How many OPOs are using HIV antigen/antibody combination diagnostic testing instead of NAT?
  - How many OPOs are completing Toxoplasma screening on donors and submitting results to the heart transplant hospital?
  - How many OPOs are sending a tube of blood with the heart for the transplant hospital to complete Toxoplasma screening?
- **Policy Performance Measures:**
  - Number of overall potential disease transmission events versus the total number of donors per year;
  - Number of potential disease transmission events involving diseases for which potential donors are screened; and
  - Number of confirmed donor derived disease transmissions versus the total number of potential cases reported and the total number of transplants per year.
- **Time Line for Evaluation:**
  - The DTAC will continue its yearly review of numbers and trends in cases of potential disease transmission reported to the Patient Safety System and reviewed

[8] To view the full text of the Final Rule, please visit the following link: http://optn.transplant.hrsa.gov/policiesAndBylaws/final_rule.asp

by the committee to determine if additional policy modifications regarding donor screening requirements and/or reporting should be considered.

Additional Data Collection

If approved by the Board of Directors, implementation of the full proposal will require the collection of two new data elements and label changes for two existing fields:

2) A new serology field will be added to the "Serologies" tab in DonorNet®. This field will be used to capture results for HIV antigen/antibody combination testing. It will be an optional field, as some OPOs may continue to complete HIV antibody testing. The new field will be labeled, "HIV Ag/Ab Combo Assay." Responses for this field will include: positive, negative, unknown, not done, indeterminate, or pending (the same as existing fields for serology results). Help documentation will be updated to reflect this new field. Similar changes will be made to update the DonorNet® mobile application.

   Data Collection Principle = Ensure patient safety when no alternative sources of data exist

3) In Tiedi, a new serology field will be added under the header "Serologies" in the "Clinical Information" section of the Deceased Donor Registration (DDR) form. The new field will be labeled, "HIV Ag/Ab Combo Assay." This field will be used to capture results for HIV antigen/antibody combination testing. It will be a required field. Responses for this field will include: positive, negative, unknown, not done, or indeterminate. Online help documentation in Tiedi will need to be updated to reflect this change. *(Please note: Adding a new field to the DDR requires Office of Management and Budget (OMB) approval. This new field cannot be added until approval is obtained, usually when current forms expire. Current forms expire in March 2015)*

   Data Collection Principle = Ensure patient safety when no alternative sources of data exist

4) The label of the existing "RPR-VDRL" field on the "Serologies" tab in DonorNet® will be changed to read "Syphilis." Responses for this field will remain the same, and include: positive, negative, unknown, not done, indeterminate, or pending. Help documentation will be updated to reflect this label change. Similar changes will be made to update the DonorNet® mobile application.

   Data Collection Principle = Ensure patient safety when no alternative sources of data exist

5) In Tiedi, the label of the existing "RPR-VDRL" field under the "serologies" tab in the "Clinical Information" of the DDR form will be updated to read "Syphilis." This label change will not affect historical values entered for previous donors and will not require any data converstion associated with this field. Responses for this field will remain the same, and include: positive, negative, unknown, not done, indeterminate. A response will be required for this question. Online help documentation in Tiedi will need to be updated to reflect this change.

   Data Collection Principle = Ensure patient safety when no alternative sources of data exist

Expected Implementation Plan

If approved by the Board of Directors, additional programming of DonorNet® and Tiedi to: (1) add new fields to collect response on whether an antigen/antibody combination test was completed to meet donor HIV testing requirements; and (2) updated labels to collect Syphilis testing results in both DonorNet® and Tiedi. The DTAC will work together with UNOS IT Staff to develop and review specification documents as well as to determine priority among other committee policy changes awaiting implementation. Actual implementation dates will be determined based on overall project priorities.

OPOs should familiarize themselves with the new policy requirements and coordinate with laboratories used for donor testing to determine whether they choose to utilize the new diagnostic testing option for HIV, confirm appropriateness of other required tests based upon the updated, more user friendly policy language, and develop internal policy on meeting requirement to either test heart donors for Toxoplasma or send a tube of blood for testing at the heart recipient transplant hospital. OPOs should update internal policies and procedures to address any changes made based upon these policy modifications and update any internal documents or processes accordingly. OPO staff impacted by these testing requirement changes (e.g. medical directors, laboratory directors, procurement coordinators, data entry coordinators, etc.) should be educated regarding these changes.

DEQ staff will make appropriate changes to OPO site survey protocols to monitor changes related to these policy changes.

Communication and Education Plan

If approved by the Board of Directors, the transplant community will receive information regarding new policy language via the Policy Notice that follows each Board meeting. Additional details regarding the final implementation date will be sent to members through a UNet℠ Systems Notice.

The DTAC will provide additional review of the changes and give an avenue for questions that may arise after Board consideration in its electronic newsletter. This newsletter is part of the monthly e-newsletter sent to members on the third Monday of each month.

Communication Activities			
Type of Communication	**Audience(s)**	**Deliver Method(s)**	**Timeframe**
Policy Notice [This notice informs community that policy modifications were approved by the OPTN/UNOS Board of Directors.]	Directors of Organ Procurement; Lab Directors or Supervisors; OPO Executive Directors; OPO Medical Directors; OPO Coordinators; Transplant Administrators; Transplant Physicians and Surgeons; Organ Candidates; Donor Family Members; General Public	Electronic – Included in the monthly e-newsletter sent on the 3rd Monday of each month	30 days after the Board approves the change.
UNet℠ System Notice	UNet℠ users	Through UNet℠	8 weeks, 4 weeks, and 2 weeks before implementation, and upon implementation

Education/Training Activities			
Education/Training Description	**Audience(s)**	**Deliver Method(s)**	**Timeframe and Frequency**
DTAC Newsletter - Notice to OPOs and Transplant Programs explaining the changes and providing an avenue for questions	OPTN members	Electronic – Included in TransplantPro, the monthly e-newsletter sent on the 3rd Monday of each month	Within 3 months of Board approval
UNOS Update-magazine article outlining changes to testing requirements	OPTN members and general public	Postal service mailing	Within 3 months of Board approval

Compliance Monitoring

OPO site surveyors will continue to review a sample of deceased donor medical records for documentation:

1. Of the following required test results:
   - Blood type
   - Blood subtype (for type A donors)
   - CBC
   - Electrolytes
   - Blood and urine cultures
   - Urinalysis, within 24 hours before cross clamp
   - Arterial blood gases
   - Chest x-ray
   - Serum glucose

2. Of the following required tests results (documentation must include conformation that FDA licensed, approved, or cleared tests were utilized):
   - Anti-HIV donor screening test *or* HIV Ag/Ab combination test
   - HBsAg screening or diagnostic test
   - Anti-HBc screening or diagnostic test
   - Anti-HCV screening or diagnostic test
   - Syphilis screening or diagnostic test
   - Anti-EBV screening or diagnostic test
   - Anti-CMV screening or diagnostic test

3. Of the following test results for each potential kidney donor:
   - Creatinine
   - BUN

4. Of the following test results for each potential liver donor:
   - AST
   - ALT
   - Alkaline phosphatase
   - Direct
   - Total bilirubin
   - INR or PT
   - PTT

5. Of the following test results for each potential heart donor:
   - 12 Lead ECG
   - Cardiology consult or echocardiogram

6. Of the following test results for each potential pancreas donor:
   - Serum amylase

7. Of the following test results for each potential donor:
   - Sputum gram stain

OPO site surveyors will begin to review a sample of deceased donor medical records for documentation:

1. Of the following test results for each potential heart donor:
   - Toxoplasma antibody (Ab) test results (unless a donor sample was sent with the heart for testing at the transplant hospital)

Policy or Bylaw Proposal:

Proposed new language is underlined (example) and language that is proposed for removal is struck through (~~example~~). This proposal was released prior to the November 2013 approval of the plain language rewrite of all policies.

2.2.4 DONOR EVALUATION AND ASSESSMENT FOR RISK OF INFECTIOUS DISEASE. ~~Donor evaluation must be performed or coordinated by the Host OPO. All donor laboratory testing must be performed in an appropriately accredited laboratory utilizing FDA licensed, approved, or cleared serological screening tests. In the event that a required screening test is not commercially available prior to transplant, then a FDA-licensed, approved or cleared diagnostic test is permissible, and the Host OPO must document in the donor record which assay was utilized to assess the potential donor and must also provide this information to the transplant program(s).~~ In addition to the medical evaluation and collection of medical and behavioral history as outlined in Policy 2.2.1, all potential deceased organ donors must be tested for general and infectious diseases.

~~Exceptions: Diagnostic testing is NOT acceptable for Anti-HIV. FDA-approved diagnostic testing IS acceptable for VDRL/RPR.~~

2.2.4.1 All of the following general laboratory tests are required ~~F~~for all potential deceased organ donors:

- ~~ABO typing (and confirmation as outlined~~ Blood type determination and verification according to~~in~~ Policy 3.2.4)
- Blood sub-type determination ~~with sub-typing~~ for blood type ~~ABO-~~A donors according to Policy 3.2.4~~;~~
- ~~FDA licensed Anti-HIV I, II (diagnostic testing not acceptable);~~
- Complete blood count (CBC)~~;~~
- Electrolytes~~;~~
- ~~Hepatitis screen serological testing; including HBsAg, HBcAb, and Anti-HCV;~~
- ~~VDRL or RPR (FDA-approved diagnostic tests are acceptable);~~
- ~~Anti-CMV;~~
- ~~EBV serological testing;~~
- Blood and urine cultures~~;~~
- Urinalysis, within 24 hours ~~prior to~~ before cross clamp~~;~~
- Arterial blood gases;

- Chest x-ray~~; and~~
- Serum ~~G~~glucose~~;~~.

2.2.4.2 The Host OPO is responsible for ensuring that infectious disease testing is completed as follows:

a) In CLIA-certified laboratories, or in laboratories meeting equivalent requirements as determined by the Centers for Medicare and Medicaid Services (CMS).

b) Using an FDA licensed, approved, or cleared donor screening test when listed below in Policy 2.2.4.2(c).

If a donor screening test cannot be performed or is not available, the use of an FDA licensed, approved, or cleared diagnostic test is acceptable; however, minimum testing for HIV must include only the listed testing methods in Policy 2.2.4.2 (c).

The Host OPO must document in the donor record which test was used to assess the potential donor and must also provide this information to transplant hospitals before transplant.

c) Including FDA licensed, approved, or cleared infectious disease testing for all potential deceased organ donors, as listed below:

- HIV antibody (anti-HIV) donor screening test *or* HIV antigen/antibody (Ag/Ab) combination test
- Hepatitis B surface antigen (HBsAg) *and* Hepatitis B core antibody (anti-HBc) screening tests
- Hepatitis C antibody screening test (anti-HCV)
- Syphilis screening *or* diagnostic test
- Epstein-Barr Virus (EBV) antibody (anti-EBV) screening *or* diagnostic test
- Cytomegalovirus (CMV) antibody (anti-CMV) screening *or* diagnostic test

If a Host OPO completes ~~additional~~ any testing in addition to what is required in policy for a potential donor, the results of these tests must be reported ~~communicated~~ ~~immediately~~ to all ~~recipient institutions~~ recipient transplant hospitals as soon as possible, but no later than 24 hours after receiving a test result.

The following ~~A~~additional ~~O~~organ ~~S~~specific information is required ~~as follows~~:

2.2.4.~~2~~3 For potential ~~renal~~ kidney donors:
- Creatinine~~; and~~
- Blood urea nitrogen (B~~.~~U~~.~~N~~.~~)

2.2.4.~~3~~4 For potential liver donors:
- Aspartate Aminotransferase (AST)~~;~~
- Alanine transaminase (ALT)~~;~~
- Alkaline phosphatase~~;~~
- Direct and total bilirubin~~;~~
- International Normalized Ratio (INR) or (Prothrombin Time (PT) ~~if INR not available); and~~
- Partial thromboplastin time (PTT)~~.~~

2.2.4.~~4~~5 For potential heart donors:
- 12 Lead ECG~~; and~~
- Cardiology consult and/or echocardiogram~~.~~;
- Toxoplasma antibody (Ab) test results or an appropriate donor sample sent with the heart for testing at the transplant hospital

2.2.4.~~5~~6 For potential pancreas donors:
- Serum amylase~~.~~

2.2.4.~~6~~7 For potential lung donors:
- Sputum gram stain~~.~~

Additional sections of policy will also need to be modified that reference HIV testing requirements or the proposed changes to policies numbers above related to donor screening:

2.2.3.2 The Host OPO must document HIV test results for every ~~All~~ potential deceased donor. All deceased donors ~~are to be tested by use of a~~ must be tested with an FDA licensed, approved, or cleared HIV antibody (anti-HIV) donor screening test *or* FDA licensed HIV antigen/antibody (Ag/Ab) combination test ~~serological screening test licensed by the U.S. Food and Drug Administration (FDA) for Human Immune Deficiency Virus (Anti-HIV-1 and Anti-HIV-2~~).

~~If the sample is qualified, the screening test for HIV is negative, and blood for subsequent transfusions has been tested and found to be negative for HIV, re-testing the potential donor for HIV is not necessary.~~

If a potential deceased organ donor with a negative HIV test that was completed on a qualified (non-hemodiluted) blood sample receives subsequent transfusions of blood that have not been tested for HIV, the donor must be re-tested for HIV. The Host OPO must document the result of this re-testing.

3.5.9.1 Essential Information for Kidney Offers. The Host OPO must provide the following information to the potential recipient center with each kidney offer:

(i) Donor name and Donor I.D. number, age, sex, and race;
(ii) Date of admission for the current hospitalization;
(iii) Diagnosis;
(iv) Blood type;
(v) ABO subtype when used for allocation;
(vi) HLA A, B, Bw4, Bw6, C, DR and DQB antigens. When reporting DR antigens, DRBI, and DRB3/4/5 must be reported. The lab is encouraged to report splits for all loci as shown in Appendix 3A;
(vii) Current history of abdominal injuries and operations;
(viii) Pertinent past medical or social history;
(ix) Current history of average blood pressure, hypotensive episodes, average urine output, and oliguria;
(x) Final urinalysis;
(xi) Final BUN and creatinine;
(xii) Indications of sepsis;
(xiii) Assurance that final blood and urine cultures are pending;
(xiv) Serologies as indicated in 2.2.4.~~1~~2 (qualified specimens preferred as noted in Policy 2.2.3.1);

[…]

3.6.9.1 Essential Information Category. When the Host OPO or donor center provides the following donor information, with the exception of pending serologies, to a recipient center, the recipient center must respond to the offer within one hour pursuant to Policy 3.4.1 (Time Limit for Acceptance); however, this requirement does not preclude the Host OPO from notifying a recipient center prior to this information being available:

(i) Donor name and Donor I.D. number, age, sex, race, height and weight;
(ii) ABO type;
(iii) ABO subtype when used for allocation;
(iv) Cause of brain death/diagnosis;
(v) History of treatment in hospital including current medications, vasopressors and hydration;
(vi) Current history of hypotensive episodes, urine output and oliguria;
(vii) Indications of sepsis;
(viii) Social and drug activity histories;
(ix) Vital signs including blood pressure, heart rate and temperature;
(x) Other laboratory tests within the past 12 hours including:
  (1) Total Bilirubin
  (2) ALT
  (3) INR (PT if INR not available)
  (4) Alkaline phosphatase

(5) WBC
(6) HH
(7) Creatinine;

(xi) Arterial blood gas results;

(xii) Serologies as indicated in 2.2.4.~~1~~2 (qualified specimens preferred as noted in Policy 2.2.3.1).

[…]

3.7.12 Minimum Information for Thoracic Organ Offers.

3.7.12.1 Essential Information. The Host OPO or donor center must provide the following donor information to the recipient center with each thoracic organ offer:

(i) The cause of brain death;

(ii) The details of any documented cardiac arrest or hypotensive episodes;

(iii) Vital signs including blood pressure, heart rate and temperature;

(iv) Cardiopulmonary, social, and drug activity histories;

(v) Serologies as indicated in 2.2.4.~~1~~ 2(qualified specimens preferred as noted in Policy 2.2.3.1);

[…]

3.8.2.2 Essential Information for Pancreas Offers. The Host OPO or donor center must provide the following donor information, with the exception of pending serologies, to the recipient center with each pancreas offer:

1. Donor name and Donor I.D. number, age, sex, race and weight;
2. Date of admission for the current hospitalization;
3. Diagnosis;
4. Blood type;
5. ABO subtype when used for allocation;
6. Current history of abdominal injuries and operations including pancreatic trauma;
7. Pertinent past medical or social history including pancreatitis;
8. Current history of average blood pressure, hypotensive episodes, cardiac arrest, average urine output, and oliguria;
9. Indications of sepsis;
10. Serologies as indicated in Policies 2.2.4.~~1~~ 2 and (qualified specimens preferred as noted in Policy 2.2.3.1):

[…]

4.2.3 Transplant programs must also inform potential recipients of the general risks of potential infection and/or tumor acquisition outside of the standard donor screening requirements (as defined in Policies~~y~~ 2.2.2.1 and 2.2.4.~~1~~2), to include information that:

- there is no comprehensive way to screen potential donors for all transmissible diseases; and
- on occasion, infectious agents, donor-associated tumors or genetic diseases may be identified after transplantation.

[…]

Public Comment Responses:

1. **Public Comment Distribution**
   Date of distribution: *09/06/2013*
   Public comment end date: *12/06/2013*

Public Comment Response Tally					
Type of Response	**Response Total**	**In Favor**	**In Favor as Amended**	**Opposed**	**No Vote/ No Comment/ Did Not Consider**
Individual	46	35 (76%)	0 (0%)	5 (11%)	6
Regional	11	10 (91%)	1 (9%)	0 (0%)	0
Committee	19	9 (47%)	0 (0%)	0 (0%)	10

2. **Primary Public Comment Concerns/Questions**
   The option to use the combination antigen/antibody (Ag/Ab) test for HIV testing, a diagnostic test, rather than the antibody screening test in place for many years was a consistent area of question or concern throughout public comment feedback. Responders raised concerns that the diagnostic test option may replace nucleic acid testing (NAT) at some OPOs as a cost savings measure. Others questioned whether it was appropriate to allow diagnostic testing for HIV as an option for a screening test.

   During the development of this proposal, the US Public Health Service released its updated *PHS Guideline for Reducing Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV), and Hepatitis C Virus (HCV) Through Organ Transplantation*. The 2013 U.S. PHS Guideline recognizes the HIV Ag/Ab combination test as an appropriate alternative to antibody screening for potential organ donors. The PHS Guideline goes one step further to recommend that donors identified as being at increased risk for HIV infection should also be testing for HIV ribonucleic acid by nucleic acid testing (NAT) or using this combination assay. As such, the Committee remains supportive of its decision to allow for screening or the combination (diagnostic) test for evaluating potential deceased donors for HIV. The PHS panel that developed these recommendations included representation from the FDA, which oversees blood, tissue, and organ donor testing products. In its public comment, the Committee noted that NAT still allows for the smallest window period for unrecognized infection, and remains a best practice when available and practical.

   The PHS Guideline also recommends HIV NAT or the Ag/Ab combination assay for living and deceased donors identified as being at increased risk for HIV infection. Additionally, the PHS recommends HCV NAT for all donors, both living and deceased, regardless of whether they are noted as being at increased risk for infection based upon medical-social behavioral history. The Committee released a public comment in March 2014 that addresses alignment of OPTN

policy with PHS guidance, as outlined in the Final Rule. The Final Rule §121.4 (OPTN policies: Secretarial review and appeals.) notes that the OPTN Board of Directors is responsible for developing policies that are consistent with recommendations of the Centers for Disease Control and Prevention (CDC) to test potential organ donors and following transplant recipients to prevent the spread of infectious disease.

The Committee does recognize that many OPOs use triplex NAT testing, which tests fir HIV, HBV, and HCV. If this practice continues, required HCV NAT testing for all donors will ultimately lead to results for all three viruses, regardless of whether a donor meets criteria for increased risk of disease transmission.

Based on concerns raised regarding the modifications to replace the term "commercially available" in current policy, the Committee made additional changes to proposed policy 2.9 (Required Deceased Donor Infectious Disease Testing), as seen below. Commenters suggested that the modifications could potentially create confusion regarding the importance of completing required testing. To avoid the perception that a potential loophole or "opt out" as available to OPOs, the Committee approved a new requirement that any instance where HIV, HBV, or HCV was not completed as required in policy, the OPO should report this to the Improving Patient Safety portal in UNet℠ as a patient safety situation. This self reporting will alert OPTN staff to the violation to enhance patient safety.

3. Regional Public Comment Responses

Region	Meeting Date	Motion to Approve as Written	Approved as Amended (see below)	Meeting Format
1	9/30/2013	19 yes, 0 no, 0 abstentions		In person
2	10/25/2013		29 yes, 0 no, 0 abstentions	In person
3	12/6/2013	16 yes, 1 no, 0 abstentions		In person
4	12/6/2013	19 yes, 0 no, 0 abstentions		In person
5	12/12/2013	32 yes, 0 no, 0 abstentions		In person
6	10/04/2013	64 yes, 0 no, 0 abstentions		In person
7	11/22/2013	23 yes, 0 no, 0 abstentions		In person
8	12/6/2013	21 yes, 0 no, 0 abstentions		In person
9	10/23/2013	20 yes, 0 no, 0 abstentions		In person
10	10/18/2013	24 yes, 0 no, 0 abstentions		In person
11	12/6/2013	20 yes, 0 no, 0 abstentions		In person

Region 1:
The region voted to approve the proposal with the following comment:

- Policy 2.2.3.2 should be deleted. This policy requires an OPO to re-test a deceased donor for HIV if the donor receives subsequent transfusions that were not tested for HIV, even if the donor was tested for HIV previously with a qualified blood sample and the result was negative. The region couldn't imagine a scenario where a donor would be transfused with blood that wasn't tested for HIV. In addition, the OPO might not know that the blood wasn't tested for HIV and therefore wouldn't know to re-test the donor.

Committee Response:
The Committee appreciates the review, and agrees with feedback provided related to Policy 2.2.3.2.

Region 2:
The region voted to approve the proposal with the following amendment:

- *If a lab does not have access to a "STAT" screening test for HIV and opts to use the combination test prior to organ allocation, the lab is required to also have a subsequent screening test performed*

Some members were concerned that if the combination test was less expensive that labs would choose to use this instead of a doing the more expensive screening and NAT test.

Committee Response:
The Committee appreciates the careful review of this proposal and respects this concern; however, the 2013 U.S. PHS Guideline recognizes the combination test as an appropriate alternative to screening tests. The PHS Guideline goes one step further to recommend that donors identified as being at increased risk for HIV infection should also be testing for HIV ribonucleic acid by nucleic acid testing (NAT) or using this combination assay. As such, the Committee remains supportive of its decision to allow for screening or the combination test for evaluating potential deceased donors for HIV.

Region 3:
The region approved the proposal and had the following questions.

- Has there been a consideration to make NAT mandatory for Living Donors?
- Has there been a consideration to make NAT the only test requirement?

Committee Response:
The Committee appreciates this feedback. During the development of this proposal, the US Public Health Service released its updated *PHS Guideline for Reducing Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV), and Hepatitis C Virus (HCV) Through Organ Transplantation*. This document recommends HIV NAT or the Ag/Ab combination assay for living and deceased donors identified as being at increased risk for HIV infection. Additionally, the PHS recommends HCV NAT for all donors, both living and deceased, regardliess of whether they are noted as being at increased risk for infection based upon medical-social behavioral history. The Committee released a public comment in March 2014 that addresses alignment of OPTN policy with PHS guidance, as outlined in the Final Rule. The Final Rule §121.4 (OPTN policies: Secretarial review and appeals.) notes that the OPTN Board of Directors is responsible for developing policies that are consistent with recommendations of the Centers for Disease Control and Prevention (CDC) to test potential organ donors and following transplant recipients to prevent the spread of infectious disease.

Region 4:
No comments

Region 5:

No comments

Region 6:
No comments

Region 7:
No comments

Region 8:
No comments

Region 9:
No comments

Region 10:
No comments

Region 11:
No comments

4. Committee Public Comment Responses

Ad Hoc International Relations Committee:
The Committee did not review this proposal.

Ethics Committee:
Did not review this proposal.

Executive Committee:
The Committee did not review this proposal.

Finance Committee:
The Committee did not review this proposal.

Histocompatibility Committee:
The Committee did not review this proposal.

Kidney Transplantation Committee:
The Committee did not review this proposal.

Liver and Intestinal Organ Transplantation Committee:
The Committee did not review this proposal.

Living Donor Committee:
The Living Donor Committee considered and supports this proposal.

Committee Response:
The Committee thanks the Living Donor Committee for its review.

Membership and Professional Standards Committee:
The MPSC did not review this proposal.

Minority Affairs Committee:
Following a brief review of the proposal, the committee determined that there was no inherent minority impact requiring comment from the committee.

Committee Response:
The Committee thanks the Minority Affairs Committee for its review.

Operations and Safety Committee:
The Operations and Safety Committee discussed this proposal at their September 24, 2013, in-person meeting. The Committee discussion centered around general questions and issues related to assessing and communicating risk.

One member commented that in his practice the nucleic acid testing (NAT) can take up to 2-3 weeks to turn positive for HCV. It was stated that some of the data may be optimistic and come from other sources such as blood transfusion. One Committee member mentioned the need to consider all risks in relation to other significant risks such as dying while on the waitlist. Several members spoke of the challenges in communicating these concepts to patients as well as considerations regarding the optimal times for best patient comprehension. One member questioned how to handle identified risks with living donors who may be preparing to donate for their child. It was suggested to counsel them to abstain from known risks prior to transplantation.

Dr. Green shared the DTAC experiences with HCV and eight proven or probable transmissions. The group acknowledged that risk is inherent in transplantation and that not all risks are even addressed (e.g. donor with multiple mosquito bites). The Committee acknowledged the challenges in communicating risks as required yet balancing how these risks be weighed without turning down usable organs. It was asked whether specific risk behaviors need to be communicated and answered that policy does not mandate this but that the risk status be shared with the candidate.

The Committee unanimously voted for (17-in favor) the DTAC proposal to modify deceased donor testing requirements.

Committee Response:
The Committee thanks the Operations & Safety Committee for its review, and appreciates its thoughts on the importance of communicating risks in an understandable way to both the potential living donor and also the potential organ recipient. The Committee also appreciates this group's participation in the subsequent review of the 2013 PHS Guideline.

Organ Procurement Organization (OPO) Committee:
The OPO Committee noted that the term "commercially available" refers to many things. There has been confusion when tests are "FDA approved but not available" or "commercially available but not FDA approved." The DTAC liaison noted that there is a list of the minimum requirements in policy and there are local situations where an alternate test is available and can be used in addition to the tests outlined in policy.

The OPO Committee supported the removal of the requirement in Policy 2.2.3.2 to retest qualified blood samples when subsequent testing of transfused blood is also negative.

The OPO Committee supported the DTAC's recommendation to maintain the urine culture requirement for all potential donors. Although cultures are not always used, having them available in case a recipient is sick or immunosuppressed with an unknown etiology, could help diagnose the cause.

The OPO Committee supported the DTAC's interim policy changes approved by the Executive Committee on August 27, 2013 to allow members to use either the 1994 or 2013 PHS guideline to identify increased risk donors. Members will be required to note in the donor highlight field which guideline was used to access the donor.

The OPO Committee supported the DTAC recommendation to modify the internal vessel label to reflect the change from "high risk" to "increased risk."

The OPO Committee supported the DTAC recommendation to allow the option of using a antigen/antibody combination test. There was some concern about allowing for an improved test as well as the antibody screening test. It was acknowledged that the nucleac acid test (NAT) is the gold standard and the use of NAT is referenced in the 2013 PHS guideline. NAT is not required in policy because it is not currently available at all testing labs. There was a brief discussion about entering NAT results in DonorNet® and whether programming changes are scheduled to allow for this. UNOS staff agreed to check on the status of programming.

The OPO Committee supported the DTAC's proposed policy change to allow the host OPO the option of performing toxoplasma screening or sending an extra tube of blood with the heart. The Committee noted this change reinforces what most OPOs are currently doing.

The OPO Committee supported the proposal by a vote of 14 in favor, 0 opposed, and 0 abstentions.

Committee Response:
The Committee appreciates this feedback from the OPO Committee, as well as its consideration of the proposed changes that were shared prior to public comment.

Pancreas Transplantation Committee:
This proposal seeks to modify current deceased donor testing requirements in policy based upon updated testing kit availability and laboratory practice, and also clarify any points of confusion for the OPO community. Current test requirements stemmed from changing test kit availability and a widely publicized transmission event in 2007. Over the years, there have been a number of questions regarding the application of this language from OPOs that do not understand the terminology or wish to use tests outside of the current requirements.

There was discussion about the NAT testing requirements and how the requirements potentially interact with OPTN policy requirements. A DTAC representative explained this policy change adds another option for OPOs.

It was pointed out that the biggest concern with this proposal is the false negative versus the false positive test results. As such, the sensitivity and specificity of the test is very important. It was suggested that DTAC provide clarification on how to address the test's false positives and false negatives, the test's sensitivity compared to other similar tests, and the test's financial implications.

A DTAC representative gave a brief update on DTAC's PHS Guidelines Review. A DTAC representative pointed out DTAC's article on Transplant Pro, "Clarification of policies that reference the PHS Guideline," that also includes a chart that highlights the differences between the 1994 and 2013 Guidelines. (17-Support, 0-Oppose, 0- Abstain)

Committee Response:
The Committee appreciates the Pancreas Committee's review and feedback on this proposal. The Committee will consider the suggestion to develop clarification or guidance on how to address potential false positive or false negative results.

Patient Affairs Committee:
The Committee unanimously voted to support this proposal with minimal discussion [15-Support, 0-Oppose, 0-Abstentions]

Committee Response:
The Committee thanks the Patient Affairs Committee for its consideration.

Pediatric Transplantation Committee:
After minimal discussion, the Committee unanimously voted to support a motion to approve the proposal as written (10 support, 0 oppose, 0 abstentions).

Committee Response:
The Committee thanks the Pediatric Committee for its review.

Policy Oversight Committee (POC):
Did not discuss.

Thoracic Organ Transplantation Committee:
The Committee did not voice concerns or questions about the proposed policy, and voted in favor of it: 20-supported; 0-opposed; and, 0-abstained.

Committee Response:
The Committee thanks the Thoracic Organ Transplantation Cmmittee for its review.

Transplant Administrators Committee:
After some discussion, the Committee voted to support the proposal as written (14 support, 0 oppose, 1 abstention).

Committee Response:
The Committee thanks the Transplant Administrators Committee for its review.

Transplant Coordinators Committee:
The Committee voted to support the proposal as written (14 support, 0 oppose, 1 abstention). It was noted that using nucleic acid testing (NAT) for all donors vs. just high risk donors is a hot topic.

Committee Response:
The Committee thanks the Transplant Coordinators Committee for its review and appreciates its recognition of the gravity of proposed NAT testing requirements.

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5. Individual Public Comment Responses

Comment 1:
vote: Oppose
Date Posted: 12/03/2013

1. Specific Ad Hoc Disease Transmission Advisory Committee (DTAC) proposals related to HIV screening:

Policy 2.2.4 The OPTN/DTAC is proposing that OPOs should be using FDA licensed, approved, or cleared testing in an appropriately accredited laboratory. The DTAC Committee recognized also that changing test kit availability and the arrival of new kits on the market means that the "commercially available" phrase is no longer necessary. However, replacing the words "commercially available" with "FDA licensed,

approved, or cleared testing" complicates the issue because it opens the door to parallel use of screening and diagnostic tests for the same pathogen. We believe that the proposed language should be more precise. In particular 2.2.4.2 c should be changed to: "*If there are no FDA approved donor screening test, the use of an FDA licensed, approved, or cleared diagnostic test is acceptable; however, minimum testing for HIV must include only the listed testing methods in Policy 2.2.4.2 (c).*"

Policy 2.2.4.1 In their proposal the DTAC subcommittee is making the case to allow testing for HIV using 4th generation HIV EIAs. Their reasoning is somewhat difficult to follow and not in agreement with PHS Guidelines.

- The authors argue that "some OPOs" have a problem performing serological screening for HIV due to logistics and "many labs (often Blood Banks) testing schedules." If a "handful of the OPOs" have a problem with 3rd generation HIV serology using blood Banks' labs how are they going to persuade Blood Banks to run 4th generation assay? The number of OPOs is not mentioned in the proposal.
- 4th gen. EIA detected 36%-45% of NAT yield samples. NAT has been reported to close the window period of detection by 14.5 days earlier when compared to Abbot anti-HIV 1/2 assay, and 8.6 days earlier when compared to the HIV p24 EIA (Procleix Ultrio Plus Assay package insert 502432 Rev. A 2012).
- The authors state that many OPOs complete NAT on every donor. We believe that this is needlessly ambiguous. The authors should state that more than 90% of OPOs perform NAT (Am J Transplant. 2013).
- The authors say "a number of OPOs requested to use the new 4th Generation HIV and HCV antigen/antibody tests for potential deceased donors". How many are requesting this change?
- The authors say that the HIV 4th generation assays are "readily available, usaeable and informative". They don't provide any information about their fase positivity rate, confimatory algorithm etc. .
- The authors say that "NAT remains slightly more sensitive" than the 4th gen HIV EIA. We are surposed that the authors consider 4 log difference (~10 v. 10,000 c/ml) in sensitivity "a slight" difference (Karris et al, J. Clin. Micro., 2012).
- There is no single target (HIV only or HCV only), FDA approved NAT screening assays in the United States.

2. Is 4th generation combination antibody/antigen HIV 1/2 serology diagnostic test acceptable or can they even be legally used by screening laboratories for organ donor screening without violation of FDA, CLIA etc.?

The 4th gen diagnostic serology test for HIV 1/2 is <u>currently</u> <u>not</u> approved for donor acceptability (GS HIV Combo EIA, package insert) 07/ 2011). We believe that the proposed changes not only provide an unconvincing argument for allowing 4th Gen HIV testing, but they also gloss-over the fact that the proposed changes, if approved, will lead to testing with combination of diagnostic and screening tests according to each individual OPO's interpretation and convenience – resulting in

difficult and ambiguous communication between OPOs and transplant hospitals regarding donor testing results.

3. Re-testing if a blood transfusion had not been tested for HIV

We agree with the Committee members to remove the language that a donor with a negative HIV test on a qualified (non-hemodiluted) specimen be re-tested if a blood transfusion he or she received prior to organ donation had not been tested for HIV.

4. *What should be done to improve donated organs safety?*

In the consensus report there is significant discussion of the perceived false positive rate with NAT. The reality of false positives is extremely low in laboratories practicing GLP with established testing algorithms. Examples of algorithms are Grabarczyk P. et al. (2013) and Zhang R. et al. (2013). NIT reported on several occasions (American Transplant Congress) that using our testing algorithm the number of false positive NAT results can be reduce to less than 1/7000. We suggest that to improve donated organ safety for HIV a uniform testing algorithm with NAT should be implemented for all donors. OPTN should encourage manufacturers and regulatory agencies to provide "mix and match" target options (i.e. HCV+HIV or HIV only etc.) for existing NAT tests and increase the availability of suitable instrumentation. Unfortunately the current DTAC proposed changes allow testing options that further reduce organ donor screening uniformity across all US OPOs.

Committee Response:

The Committee appreciates the careful review of this proposal and respects the concerns raised. During the development of this proposal, the US Public Health Service released its updated *PHS Guideline for Reducing Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV), and Hepatitis C Virus (HCV) Through Organ Transplantation*. The 2013 U.S. PHS Guideline recognizes the HIV Ag/Ab combination test as an appropriate alternative to screening tests for potential organ donors. The PHS Guideline goes one step further to recommend that donors identified as being at increased risk for HIV infection should also be testing for HIV ribonucleic acid by nucleic acid testing (NAT) or using this combination assay. As such, the Committee remains supportive of its decision to allow for screening or the combination (diagnostic) test for evaluating potential deceased donors for HIV. The PHS panel that developed these recommendations included representation from the FDA, which oversees blood, tissue, and organ donor testing products.

The PHS Guideline also recommends HIV NAT or the Ag/Ab combination assay for living and deceased donors identified as being at increased risk for HIV infection. Additionally, the PHS recommends HCV NAT for all donors, both living and deceased, regardliess of whether they are noted as being at increased risk for infection based upon medical-social behavioral history. The Committee released a public comment in March 2014 that addresses alignment of OPTN policy with PHS guidance, as outlined in the Final Rule. The Final Rule §121.4 (OPTN policies: Secretarial review and appeals.) notes that the OPTN Board of Directors is responsible for developing policies that are consistent with recommendations of the Centers for Disease Control and Prevention (CDC) to test potential organ donors and following transplant recipients to prevent the spread of infectious disease.

Language regarding re-testing potential organ donors after a transfusion is given has been removed based upon feedback on this proposal.

Comment 5:
vote: Oppose
Date Posted: 12/06/2013

Novartis Diagnostics proposed proposed lengthy response to this proposal, which is included in its entirety as **Exhibit A**.

Committee Response:
The Committee thanks Novartis Diagnostics for its thorough feedback.

The Committee agrees there is room to improve upon the language included in 2.2.4.2, and has made post-public comment modifications that it believes will address this potential loophole in now policy section 2.9, #3. The Committee appreciates that there are a variety of options available to OPOs looking for laboratories that can complete these tests, and that some may require shipping or driving samples. The Committee does recognize, however, that there may be production or supply issues that could lead to a rare situation where testing may be not be completed as outlined in a timely manner to support organ donation. The Committee believes that requiring OPOs to report instances where they do not complete testing as required per policy to the patient safety system will allow OPTN staff to carefully track how often this is occurring and whether additional policy modifications should be considered. The Committee believes that the second option for HIV testing and this new language will prevent a potential loophole for testing related to HIV, HBV, and HCV.

During the development of this proposal, the US Public Health Service released its updated *PHS Guideline for Reducing Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV), and Hepatitis C Virus (HCV) Through Organ Transplantation*. The 2013 U.S. PHS Guideline recognizes the HIV Ag/Ab combination test (currently approved as a diagnostic test) as an appropriate alternative to screening tests for potential organ donors. The PHS Guideline goes one step further to recommend that donors identified as being at increased risk for HIV infection should also be testing for HIV ribonucleic acid by nucleic acid testing (NAT) or using this combination assay. As such, the Committee remains supportive of its decision to allow for screening or the combination (diagnostic) test for evaluating potential deceased donors for HIV. The PHS panel that developed these recommendations included representation from the FDA, which oversees blood, tissue, and organ donor testing products.

The PHS Guideline also recommends HIV NAT or the Ag/Ab combination assay for living and deceased donors identified as being at increased risk for HIV infection. Additionally, the PHS recommends HCV NAT for all donors, both living and deceased, regardliess of whether they are noted as being at increased risk for infection based upon medical-social behavioral history. The Committee released a public comment in March 2014 that addresses alignment of OPTN policy with PHS guidance, as outlined in the Final Rule. The Final Rule §121.4 (OPTN policies: Secretarial review and appeals.) notes that the OPTN Board of Directors is responsible for developing policies that are consistent with recommendations of the Centers for Disease Control and Prevention (CDC) to test potential organ donors and following transplant recipients to prevent the spread of infectious disease.

Comment 6:
vote: Oppose
Date Posted: 12/09/2013

This response is excerpted from an AST letter responding to all public comment proposals released in September 2013:

AST Comments:
Overall the policy proposal is very reasonable and well thought out. It also provides a clear and more detailed update for the OPOs. The recommendations for toxoplasma and syphilis testing are especially

appreciated. There were some questions and areas of concerns raised:

1. 2.2.4.1: With regards to urine culture, the AST wonders about the first reasoning for urine cultures. Asymptomatic bacteriuria should be isolated to the bladder and therefore would be less likely to be transmitted with the graft. If DTAC is concerned about this potential transmission, supporting data for this argument could be obtained from the DTAC cases. This is an opportunity for data to drive the response.
2. 2.2.4.2 (b): "If a donor screening test cannot be performed" deviates significantly from the intent of the original language. The AST believes the intention of the original language was that FDA-licensed, approved, or cleared screening tests must be used unless such a test system was not available in the United States (i.e. if all FDA-licensed, approved or cleared screening tests were no longer being manufactured and sold in the US). The current language is vague – if a lab says "we can't do it," it allows them to use a diagnostic test instead. The AST suggests revising to: "If a donor screening test is not available for use in the United States."
3. 2.2.4.2 (c): With regards to syphilis testing - is there a concern that using a treponemal test which remains positive after therapy is administered will increase the potential for unnecessary treatment of recipients?
4. 2.2.4.2 (c): The AST views the following addition "but no later than 24 hours after receiving a test result" as potentially risky. If an OPO receives a result of WNV PCR+ and doesn't report it to the centers until 23 hours later, the organs could be accepted and placed. The original language implies immediacy. If it is necessary to provide a time window, the AST would be more comfortable with one hour than 24 hours.
5. The last paragraph of 2.2.4.2 should be made its own bullet as its not required testing (i.e. new 2.2.4.3): "If a Host OPO completes any testing in addition to what is required in policy for a potential donor, the results of these tests must be communicated immediately to all recipient transplant hospitals as soon as possible, but no later than 24 hours after receiving a test result."

Committee Response:
The Committee appreciates the thoughtful feedback from the AST.

In response to comment #1, the Committee remains concerned regarding the potential for diabetes insipidus to create a scenario where dilute urine may mask growth of a potential pathogen in a urinalysis. The OPO Committee supported retaining this requirement, as did other commenters based upon potential to help diagnose infectious agents that might impact a recipient. For these reasons, the Committee remains supportive of its decision to leave this longstanding requirement in policy.

The Committee agrees there is room to improve upon the language included in 2.2.4.2, and has made post-public comment modifications that it believes will address this potential loophole in now policy section 2.9, #2. OPOs that do not complete testing requirements as outlined in policy must self-report to the Improving Patient Safety portal in UNet^{SM}. The

Committee appreciates that there are a variety of options available to OPOs looking for laboratories that can complete these tests, and that some may require shipping or driving samples. The Committee does recognize, however, that there may be production or supply issues that could lead to a rare situation where testing may be not be completed as outlined in a timely manner to support organ donation. The Committee hopes that this new language will prevent a potential loophole for testing related to HIV, HBV, and HCV.

Committee members did not specifically discuss potentially unnecessary prophylaxis related to a positive treponemal test on a donor, but does not see this as cost prohibitive or harmful to an organ recipient if it does occur. Review of donor history may precent unnecessary prophylaxis if a positive syphilis result was known prior to donor testing. The Committee agreed that the benefit of receiving the organ would override the negatives of potentially unnecessary prophylaxis. To date, the Committee's review of potential donor-derived syphilis reports received by the OPTN has not recorded any probable or proven transmission of this disease.

The Committee appreciates the AST's concerns related to the need for expedient reporting of any and all donor laboratory results. While "as soon as possible" and within one hour is certainly a best practice, within 24 hours was agreed upon in current policy as an appropriate and realistic overall end limit for sharing this information.

The Committee agrees with comment #5, and drafted a separate policy section to highlight this issue during its post-public comment review. Please see newly proposed "Policy 2.10 Additional Deceased Donor Testing", as outlined below at the end of this document.

Comment 7:
vote: Support
Date Posted: 10/16/2013

Except for the following revisions, I support DTACs proposed changes, including deleting policy 2.2.3.2, and thank the committee members for advancing deceased donor testing.

- It would be helpful in the proposal to list the current policy language with the proposed changes listed below, so the intended changes are clear, for instance: "FDA licensed Anti-HIV I, II (diagnostic testing not acceptable)" "Anti-HIV donor screening test or HIV Ag/Ab combination test"
- I believe that whenever possible for HIV, HCV & HBV, donors should be tested with a NAT and an antibody test FDA approved for screening, since this is recommended by both the FDA and CDC (PHS Guideline for Reducing Human Immunodeficiency Virus, Hepatitis B Virus, and Hepatitis C Virus Transmission Through Organ Transplantation).
- Unfortunately, your proposed changes will allow donor testing without NAT or Screening tests, even if they are available stat, which reduces transplant patient safety.
- Except for perhaps the HIV Ag/Ab combination test, Screening tests should be required, since they are generally more sensitive then diagnostic tests. Why is DTAC allowing diagnostic tests, if screening tests are available?
- I believe that a safer infectious disease donor testing algorithm for HIV, HCV and HBV is FDA approved tests: a. If available, stat NAT and antibody Screening tests are required, except that the HIV antibody Screening test can be replaced with the HIV Ag/Ab combination test. b. If a stat NAT Screening test is not available, then it should be performed retrospectively. c. If Stat Screening

tests are not available for HCV or HBV, then FDA approved diagnostic tests can be substituted, but these must be repeated retrospectively with Screening tests.

Committee Response:
The Committee appreciates this feedback. The plain language rewrite and this policy proposal have hopefully provided clarification regarding specific infectious disease testing requirements. Language in 2.7 (HIV Screening of Potential Deceased Donors) and new Policy 2.9 (Required Deceased Donor Infectious Disease Screening) should more clearly outline the specific expectations for each of the diseases for which these donors should be tested.

During the development of this proposal, the US Public Health Service released its updated *PHS Guideline for Reducing Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV), and Hepatitis C Virus (HCV) Through Organ Transplantation*. The 2013 U.S. PHS Guideline recognizes the HIV Ag/Ab combination test as an appropriate alternative to screening tests for potential organ donors. The PHS Guideline goes one step further to recommend that donors identified as being at increased risk for HIV infection should also be testing for HIV ribonucleic acid by nucleic acid testing (NAT) or using this combination assay. As such, the Committee remains supportive of its decision to allow for screening or the combination (diagnostic) test for evaluating potential deceased donors for HIV. The PHS panel that developed these recommendations included representation from the FDA, which oversees blood, tissue, and organ donor testing products.

The PHS Guideline also recommends HIV NAT or the Ag/Ab combination assay for living and deceased donors identified as being at increased risk for HIV infection. Additionally, the PHS recommends HCV NAT for all donors, both living and deceased, regardliess of whether they are noted as being at increased risk for infection based upon medical-social behavioral history. The Committee released a public comment in March 2014 that addresses alignment of OPTN policy with PHS guidance, as outlined in the Final Rule. The Final Rule §121.4 (OPTN policies: Secretarial review and appeals.) notes that the OPTN Board of Directors is responsible for developing policies that are consistent with recommendations of the Centers for Disease Control and Prevention (CDC) to test potential organ donors and following transplant recipients to prevent the spread of infectious disease.

Section #2 of Policy 2.9, as modified during the post-public comment period, specifically outlines what must be done if an OPO cannot complete HIV, HBV, or HCV testing as defined in policy.

Comment 8:
vote: Support
Date Posted: 09/09/2013

How are the OPO verifying that the HIV was done on donor blood versus assuming this?

Committee Response:
Thank you for your comment. When a potential organ donor is evaluated by an OPO, it must complete a variety of tests, including HIV, on the donor. It cannot accept previous testing done in the hospital, but must run its own tests. Policy also requires determining whether these tests are completed using a qualified sample or a hemodiluted sample. Hemodilution occurs when an increase in plasma volume (due to blood products, colloids and/or crystalloids administered

to bring a person's blood volume back up to a normal level after suffering trauma, etc.) may result in a reduced concentration of red blood cells (RBCs) in the blood. Hemodilution can result in false negative serology testing because not enough of the donor's own serum is present to test for viruses and other pathogens. If donor testing is completed with a hemodiluted specimen, the donor meets criteria for increased risk of disease transmission as set forth in the *U.S. Public Health Services (PHS) Guideline*. This information is made available to transplant centers considering organ offers from this donor.

Comment 9:
vote: Support
Date Posted: 12/06/2013

NATCO supports this proposal as written.

Committee Response:
The Committee thanks NATCO for their review and support.

Comment 10:
vote: Support
Date Posted: 11/30/2013

The American Nephrology Nurses Association supports this proposal without revisions.

Committee Response:
The Committee thanks the American Nephrology Nurses Association for their review and support.

Comment 11:
vote: Support
Date Posted: 12/06/2013

The National Kidney Foundation (NKF) supports this proposal, but has concerns that permitting use of the HIV antigen/antibody combination diagnostic test will create a shift in practice from using NAT testing, which is more sensitive than the combination diagnostic. Permitting use of the combination diagnostic should not create an incentive to move away from NAT testing in combination with antibody screening. Another component of this policy proposal, would continue the current requirement for donor urine culture in kidney transplants. This testing confirms the absence of asymptomatic bacteriuria which could potentially cause infection when the kidney is transplanted. NKF strongly supports maintaining this requirement.

Committee Response:
The Committee appreciates this feedback from the NKF. During the development of this proposal, the US Public Health Service released its updated *PHS Guideline for Reducing Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV), and Hepatitis C Virus (HCV) Through Organ Transplantation*. The 2013 U.S. PHS Guideline recognizes the HIV Ag/Ab combination test as an appropriate alternative to screening tests for potential organ donors. The PHS Guideline goes one step further to recommend that donors identified as being at

increased risk for HIV infection should also be testing for HIV ribonucleic acid by nucleic acid testing (NAT) or using this combination assay. As such, the Committee remains supportive of its decision to allow for screening or the combination (diagnostic) test for evaluating potential deceased donors for HIV. The PHS panel that developed these recommendations included representation from the FDA, which oversees blood, tissue, and organ donor testing products.

The PHS Guideline also recommends HIV NAT or the Ag/Ab combination assay for living and deceased donors identified as being at increased risk for HIV infection. Additionally, the PHS recommends HCV NAT for all donors, both living and deceased, regardliess of whether they are noted as being at increased risk for infection based upon medical-social behavioral history. The Committee released a public comment in March 2014 that addresses alignment of OPTN policy with PHS guidance, as outlined in the Final Rule. The Final Rule §121.4 (OPTN policies: Secretarial review and appeals.) notes that the OPTN Board of Directors is responsible for developing policies that are consistent with recommendations of the Centers for Disease Control and Prevention (CDC) to test potential organ donors and following transplant recipients to prevent the spread of infectious disease.

The Committee does recognize that many OPOs use triplex NAT testing. If this practice continues, required HCV NAT testing for all donors will ultimately lead to HIV and even HBV NAT results despite whether a donor is considered at increased risk for disease transmission.

The NKF's support regarding a continued requirement for both urinalysis and urine culture on all potential deceased donors is appreciated.

Post Public Comment Consideration:

The Committee reviewed public comment feedback on this proposal during its March 26, 2014, meeting in Chicago. It recognized concerns related to the inclusion of the HIV combination antigen/antibody test as an option for donor screening, but agreed that it should remain in the policy proposal due to the 2013 PHS Guideline's inclusion of it within testing recommendations, including its use as an option for extra testing requirements related to increased risk donors.

This proposal was released for public comment prior to the Board's approval of a plain language rewrite of all OPTN policy. As a result, the proposal was redrafted in the new policy format, and will go to the Board in this newly rewritten format, as reflected below. During the re-draft of this proposal, the following issues were noted and suggested as housekeeping edits that could be addressed as part of this proposal:

- As rewritten, Policy 2.3 (Evaluating and Screening Potential Deceased Donors) and Policy 2.4 (Deceased Donor Medical and Behavioral History) both include a requirement for OPOs to attempt to obtain the deceased donor's medical and behavioral history. The Committee was asked to consider striking this redundant reference in Policy 2.4, as Policy 2.3 included the specific requirement as well as a reference to the later policy, which includes specifics related to what should be included as part of this evalution.
- Policy 2.4 (Deceased Donor Medical and Behavioral History) included the term "should" in outlining elements necessary for inclusion on the medical and behavioral history. This term was suggested to be changed to a "must."
- References to the *U.S. Public Health Services (PHS) Guideline* varied throughout policy. The definitions section, included in Policy 1.0. defines the term *U.S. Public Health Services (PHS) Guideline.* As such, all references to PHS Guideline, US PHS Guideline, were modified to reflect the term defined in policy for clarity to the reader.

After considering public comment feedback, the Committee made post-public comment changes to the language it planned to propose to the Board for consideration. These changes include:

- Additional modifications to new Policy 2.9 (Required Deceased Donor Infectious Disease Testing), where the term "commercially available" was removed in the original proposal. Commenters noted that the originally proposed language still appeared to provide more flexibility than might be appropriate in using testing outside of the requirements specified. A requirement to report any instance where HIV, HBV, or HCV testing is not performed as described to the OPTN Improving Patient Safety portal will allow for real time monitoring and provide clear data to inform patient safety practice and future policy development.
- New Policy 2.10 (Additional Deceased Donor Testing) was created to more clearly highlight the requirement for any additional testing outside of minimum requirements be reported to all recipient transplant hospitals as soon as possible, but no later than 24 hours after results are received. This requirement was already in place, but feedback suggested that this be highlighted as its own policy section.

The Committee reconvened on April 30, 2014, for final consideration of proposed policy modifications. During this call, the Commmittee voted to Blood and urine cultures were moved from Policy 2.8 (Required Deceased Donor General Risk Assessment) into proposed Policy 2.9 (Required Deceased Donor Infectious Disease Testing) as the purpose of culturing these samples is to look for the growth of infectious agents. The Committee recognized that requiring this particular test in Policy 2.8 was not appropriate. After its review, the Committee voted in favor of taking the modified final language to the Board for consideration (9 yes, 0 no, 1 abstained).

As staff prepared this document for consideration by the Board, a need for additional stylistic changes was recognized in order to accommodate the relocation of blood and urine culture requirements to Policy 2.9 (Required Deceased Donor Infectious Disease Testing) made during the April 30, 2013, teleconference. These additional modifications were reviewed and unanimously approved by the Committee during a subsequent teleconference held on May 8, 2014 (14 yes, 0 no, 0 abstained).

Policy or Bylaw Proposal:

Proposed new language is underlined (example) and language that is proposed for removal is struck through (~~example~~). In November 2013, the Board approved a plain language rewrite of all OPTN policies. The language below reflects the proposal in this new format and includes post-public comment modifications as described above.

2.3 Evaluating and Screening Potential Deceased Donors

The host OPO must perform *all* of the following and report the resulting information to all receiving OPOs or transplant hospitals:

1. Attempt to obtain the deceased donor's medical and behavioral history from one or more individuals familiar with the donor according to *Policy 2.4: Deceased Donor Medical and Behavioral History*, to screen for medical conditions that may affect the decision to use the donated organ.
2. Review the deceased donor's medical record.
3. Complete a physical examination of the deceased donor, including the donor's vital signs.
4. Document in the deceased donor medical record if any of this information is not available and the reason it is not available.

2.4 Deceased Donor Medical and Behavioral History

~~The host OPO will attempt to obtain a history on each potential deceased donor to screen for medical conditions that may affect the decision to use the donated organ.~~

The medical and behavioral history for each potential deceased donor ~~should~~ must include *all* of the following:

1. Any testing and laboratory results used to identify the presence of transmissible diseases or malignancies, treated and untreated, or any other known condition that may be transmitted by the deceased donor organ and may reasonably impact the recipient.
2. Whether the potential deceased donor has factors associated with an increased risk for disease transmission, including blood-borne pathogens HIV, Hepatitis B, and Hepatitis C. If the deceased donor meets the criteria for increased risk for disease transmission set forth in the ~~current U.S. Public Health Service (PHS Guideline)~~*U.S. Public Health Services (PHS) Guideline*, the host OPO must communicate this information to all transplant programs receiving organs from the deceased donor.
3. Whether the potential deceased donor has a history of prior exposure or treatment with non recombinant Human Pituitary Derived Growth Hormone (HPDGH). If so, the potential deceased donor has an increased risk of prion disease and the host OPO must communicate this information to all transplant programs receiving organs from the donor.

2.5 Hemodilution Assessment

OPOs should use qualified (non-hemodiluted) blood samples for deceased donor serological screening tests if available. If a qualified sample is not available for testing, a hemodiluted sample should be used for deceased donor screening tests.

If serological testing occurs on a hemodiluted blood sample, the host OPO must treat the deceased donor as presenting an increased risk for disease transmission as specified in the ~~PHS Guideline~~*U.S. Public Health Services (PHS) Guideline*.

Prior to screening, the host OPO must assess all potential deceased donor blood samples that were obtained for serological screening tests for hemodilution using a U.S. Food and Drug Administration (FDA) approved hemodilution calculation. The host OPO must document in the deceased donor medical record a complete history of all blood products and intravenous fluid transfusions the deceased donor received since admission to the donor hospital.

Additionally, the host OPO must report *all* of the following to the accepting transplant programs when a hemodiluted specimen is used in deceased donor screening tests:

1. Any screening results from the hemodiluted specimens.
2. The tests completed on the hemodiluted specimens.
3. The hemodilution calculation used for the hemodiluted specimens, if requested.

2.7 HIV Screening of Potential Deceased Donors

~~The host OPO must screen all potential deceased donors for anti-HIV-1 and anti-HIV-2 using an FDA-licensed, serological screening test~~. Members may not participate in the recovery or transplantation of organs from deceased donors known to be infected with HIV. Members may only recover organs if the laboratory data, medical history, and behavioral history indicate that the donor is not HIV infected.

The host OPO must accurately document HIV test results for every deceased donor. All deceased donors must be tested for HIV according to Policy 2.9 (Required Deceased Donor Infectious Disease Testing).

~~Retesting the potential deceased donor for HIV is not necessary if *all* the following are true:~~

~~1. The sample is qualified.~~
~~2. The HIV screening test completed by the host OPO is negative.~~
~~3. Blood for subsequent transfusions has been tested and found to be HIV negative.~~

~~If the~~ The host OPO ~~performs multiple HIV tests, it~~ must report the results of all HIV tests it performs directly to all receiving OPOs and transplant programs.

2.7.A Exceptions to HIV Screening Requirement

Exceptions to the HIV screening requirement may be made for organs *other than* kidneys, when, in the medical judgment of the host OPO and recipient transplant hospital or OPO, an extreme medical emergency warrants the transplantation of an organ that has not been tested for HIV.

In this case the host OPO must do *both* of the following:

1. Provide all available deceased donor medical and social history to the transplant program.
2. Treat the deceased donor as having an increased risk for disease transmission based on current ~~U.S. PHS Guideline~~*U.S. Public Health Services (PHS) Guideline*.

In this case the receiving transplant hospital must:

- Obtain and document informed authorization from the potential transplant recipient or the recipient's authorized agent before transplantation.

2.7.B Informing Personnel

The host OPO should inform health care personnel caring for potential deceased donors or deceased donors who test positive for HIV only when it is necessary for making medical decisions.

2.8 Required Deceased Donor ~~Information~~ General Risk Assessment

~~The host OPO is responsible for evaluating all deceased donors.~~

~~Laboratory testing must occur in an appropriately accredited laboratory using FDA licensed, approved, or cleared serological screening tests. If a required screening test is not commercially available before transplant, then the host OPO may use an FDA-licensed, approved, or cleared diagnostic test for all tests except Anti-HIV.~~

~~The host OPO must document in the deceased donor record the tests that were used and must report the results of all tests performed to all receiving transplant programs and OPOs.~~

The host OPO is responsible for evaluating each potential donor in order to obtain ~~*All*~~ the following information: ~~is required for each potential deceased donor:~~

1. Arterial blood gas results
2. Blood type determination and reporting according to *Policy 2.6 (Deceased Donor Blood Type Determination and Reporting)*, including sub-typing for blood type A donors
3. Chest x-ray
4. Complete blood count (CBC)
5. Electrolytes
6. Serum glucose
7. Urinalysis, within 24 hours before cross clamp

~~1. Age~~
~~2. Sex~~
~~3. Diagnosis (or cause of brain death)~~
~~4. Blood type determination and reporting as outlined in *Policy 2.6 above*, including sub-typing for blood type A donors~~
~~5. FDA licensed anti-HIV-1 and anti-HIV-2 serological testing as outlined in *Policy 2.7* above~~
~~6. Hepatitis serological testing; including hepatitis B surface antigen, hepatitis B core antibody, and Anti-HCV~~
~~7. Venereal disease research laboratory (VDRL) or rapid plasma regain (RPR) testing. (FDA-approved diagnostic tests are acceptable.)~~
~~8. Anti-cytomegalovirus (CMV) assay~~
~~9. Epstein-barr virus (EBV) serological testing~~
~~10. Arterial blood gas results~~
~~11. Blood and urine cultures~~
~~12. Chest x-ray~~
~~13. Complete blood count (CBC)~~
~~14. Electrolytes~~
~~15. Serum glucose~~
~~16. Urinalysis within 24 hours prior to cross clamp~~

2.9 Required Deceased Donor Infectious Disease Testing

The host OPO is responsible for ensuring that all of the following infectious disease testing is completed in CLIA-certified laboratories, or in laboratories meeting equivalent requirements as determined by the Centers for Medicare and Medicaid Services (CMS):

1. Blood and urine cultures

2. Infectious disease testing for all potential deceased organ donors using FDA licensed, approved or cleared tests, as listed below:

   a. HIV antibody (anti-HIV) donor screening test *or* HIV antigen/antibody (Ag/Ab) combination test
   b. Hepatitis B surface antigen (HBsAg) *and* Hepatitis B core antibody (anti-HBc) donor screening tests
   c. Hepatitis C antibody donor screening test (anti-HCV)
   d. Cytomegalovirus (CMV) antibody (anti-CMV) donor screening *or* diagnostic test
   e. Epstein-Barr Virus (EBV) antibody (anti-EBV) donor screening *or* diagnostic test
   f. Syphilis donor screening *or* diagnostic test

   Additionally, if, for any reason, HIV, HBV, or HCV testing is not performed as described above in #2, the host OPO must:

   1. Document in the donor record which test was used to assess the potential donor
   2. Provide this information to the receiving transplant hospital before transplant
   3. Report the reason for using another test to the OPTN Improving Patient Safety portal as soon as possible, but no later than 24 hours after organ recovery.

2.10 Additional Deceased Donor Testing

If a host OPO completes any testing in addition to what is required for a potential donor, the results of these tests must be reported to all recipient transplant hospitals as soon as possible, but no later than 24 hours after receiving the test result.

2.~~8~~11 Required Deceased Donor Information

The host OPO must obtain *all* of the following information for each potential deceased donor:

1. Age
2. Diagnosis (or cause of brain death)
3. Sex

2.~~8~~11.A Required Information for Deceased Kidney Donors

The host OPO must provide *all* the following additional information for all deceased donor kidney offers:

1. Donor name
2. Donor ID
3. Date of admission for the current hospitalization
4. Ethnicity
5. Relevant past medical or social history
6. Current history of abdominal injuries and operations
7. Current history of average blood pressure, hypotensive episodes, average urine output, and oliguria
8. Current medication and transfusion history
9. Anatomical description, including number of blood vessels, ureters, and approximate length of each
10. Human leukocyte antigen (HLA) information as follows: A, B, Bw4, Bw6, C, DR51, DR52, DR53 and DQB antigens. The lab is encouraged to report splits for all loci as outlined in *Policy 4: Histocompatibility*.
11. Indications of sepsis
12. Injuries to or abnormalities of the blood
13. Assurance that final blood and urine cultures are pending
14. Final urinalysis
15. Final blood urea nitrogen (BUN) and creatinine
16. Recovery blood pressure and urine output information
17. Recovery medications
18. Type of recovery procedure, flush solution and method, and flush storage solution
19. Warm ischemia time and organ flush characteristics

2.~~8~~11.B Required Information for Deceased Liver Donors

The host OPO must provide *all* the following additional information for all deceased donor liver offers:

1. Donor name
2. Donor ID
3. Ethnicity
4. Height
5. Weight
6. Vital signs, including blood pressure, heart rate and temperature
7. Social history, including drug use
8. History of treatment in hospital including current medications, vasopressors, and hydration
9. Current history of hypotensive episodes, urine output, and oliguria
10. Indications of sepsis
11. Aspartate aminotransferase (AST)
12. Bilirubin (direct)
13. Other laboratory tests within the past 12 hours including:
    a. Alanine aminotransferase (ALT)
    b. Alkaline phosphatase
    c. Total bilirubin
    d. Creatinine
    e. Hemoglobin (hgb) and hemocrit (hct)
    f. International normalized ration (INR) or Prothrombin (PT) if INR is not available, and partial thromboplastin time (PTT)

g. White blood cell count (WBC)

2.~~8~~11.C Required Information for Deceased Heart Donors

The host OPO must provide *all* the following additional information for all deceased donor heart offers:

1. Height
2. Weight
3. Vital signs, including blood pressure, heart rate, and temperature
4. History of treatment in hospital including vasopressors and hydration
5. Cardiopulmonary, social, and drug activity histories
6. Details of any documented cardiac arrest or hypotensive episodes
7. 12-lead interpreted electrocardiogram
8. Arterial blood gas results and ventilator settings
9. Cardiology consult or echocardiogram, if the hospital has the facilities
10. Human leukocyte antigen (HLA) typing if requested by the transplant hospital, including A, B, Bw4, Bw6, C, DR, DR51, DR52, DR53, and DQB antigens

For heart deceased donors, if a transplant hospital requires donor HLA typing prior to submitting a final organ acceptance, it must communicate this request to the OPO and the transplant hospital must provide the HLA information required in the table above and document this request. The transplant hospital may request HLA-DPB typing, but the OPO need only provide it if its affiliated laboratory performs related testing. The OPO must document HLA typing provided to the requesting transplant hospital.

The heart recovery team must have the opportunity to speak directly with the responsible ICU personnel or the onsite donor coordinator in order to obtain current information about the deceased donor's physiology.

2.~~8~~11.D Required Information for Deceased Lung Donors

The host OPO must provide *all* the following additional information for all deceased lung donor offers:

1. Height
2. Weight
3. Vital signs, including blood pressure, heart rate, and temperature
4. History of medical treatment in hospital including vasopressors and hydration
5. Smoking history
6. Cardiopulmonary, social, and drug activity histories
7. Arterial blood gases and ventilator settings on 5 cm/$H_2$0/PEEP including PO_2/FiO_2 ratio and preferably 100% FiO_2, within 2 hours prior to the offer
8. Bronchoscopy results
9. Chest x-ray interpreted by a radiologist or qualified physician within 3 hours prior to the offer
10. Details of any documented cardiac arrest or hypotensive episodes
11. Sputum gram stain, with description of sputum
12. Electrocardiogram
13. Echocardiogram, if the OPO has the facilities
14. HLA typing if requested by the transplant hospital, including A, B, Bw4, Bw6, C, DR, DR51, DR52, DR53, and DQB antigens

If the host OPO cannot perform a bronchoscopy, it must document that it is unable to provide bronchoscopy results and the receiving transplant hospital may perform it. The lung recovery team may perform a confirmatory bronchoscopy provided unreasonable delays are avoided and deceased donor stability and the time limitations in *Policy 5.5.B: Time Limit for Acceptance* are maintained.

For lung deceased donors, if a transplant hospital requires donor HLA typing prior to submitting a final organ acceptance, it must communicate this request to the OPO and the transplant hospital must provide the HLA information required in the table above and document this request. The transplant hospital may request HLA-DPB typing, but the OPO need only provide it if its affiliated laboratory performs related testing. The OPO must document HLA typing provided to the requesting transplant hospital.

The lung recovery team must have the opportunity to speak directly with the responsible ICU personnel or the onsite OPO donor coordinator in order to obtain current information about the deceased donor's physiology.

2.~~8~~11.E Required Information for Deceased Pancreas Donors

The host OPO must provide *all* the following additional information for all deceased donor pancreas offers:

1. Donor name
2. Donor ID
3. Ethnicity
4. Weight
5. Date of admission for the current hospitalization
6. Alcohol use (if known)
7. Current history of abdominal injuries and operations including pancreatic trauma
8. Current history of average blood pressure, hypotensive episodes, cardiac arrest, average urine output, and oliguria
9. Current medication and transfusion history
10. Pertinent past medical or social history including pancreatitis
11. Familial history of diabetes
12. Insulin protocol
13. Indications of sepsis
14. Serum amylase
15. HLA information as follows: A, B, Bw4, Bw6, C, DR, DR51, DR52, DR53, and DQB antigens. The lab is encouraged to report splits for all loci as outlined in *Policy 4: Histocompatibility*.

2.~~9~~12 Requested Deceased Donor Information

2.~~9~~12.A Kidney

With each kidney offer, the host OPO should provide the recipient transplant hospital with the following biopsy information for all Expanded Criteria Donor (ECD) kidneys, and for all other kidneys at the request of the accepting surgeon:

1. Wedge biopsy with the sample measuring approximately 10 mm (length) by 5 mm (width) and 5 mm (depth)
2. A sample that captures a minimum of 25 glomeruli
3. A frozen or fixed section slide, or the biopsy material, may accompany the kidney.

2.~~9~~12.B Heart

With each heart offer, the host OPO should provide *all* of the following information to the receiving transplant hospital:

1. Coronary angiography (for male donors over 40 years old or female donors over 45 years old)
2. Central venous pressure (CVP) or Swan Ganz instrumentation
3. Cardiology consult
4. Cardiac enzymes, including creatinine phosphokinase (CPK) isoenzymes

A transplant hospital may request a heart catheterization of the deceased donor where the donor's medical or social history reveals at least *one* of the following past medical histories:

- Male over 40 years old or female over 45 years old
- Segmental wall motion abnormality on echo
- Troponin elevation
- History of chest pain
- Abnormal electrocardiogram (ECG) consistent with ischemia or myocardial infarction
- History of *two or more* of the following:
  - Cocaine or amphetamine use
  - Diabetes
  - Hyperlipidemia
  - Hypertension
  - Intra-cerebral bleeding
  - Significant smoking
  - Strong family history of coronary artery disease

2.~~9~~12.C Lung

The host OPO should provide *all* of the following information to the receiving transplant hospital:

1. Measurement of chest circumference at the level of nipples
2. Measurement by chest x-ray vertically from the apex of the chest to the apex of the diaphragm and transverse at the level of the diaphragm
3. Mycology sputum smear
4. Non-contrast computed tomography (CT) scan of the chest, if requested by the transplant hospital

2.~~10~~13 Post Recovery Follow Up and Reporting

The host OPO must establish and implement procedures to do *both* of the following:

1. Obtain post-recovery deceased donor test results.
2. Report all positive screening or diagnostic tests to the transplant hospital's patient safety contact, within 24 hours of receipt by the OPO.

2.~~10~~13.A Reporting Requirements

The host OPO is responsible for timely follow up and reporting of any new or changed deceased donor test results to the relevant transplant programs. The host OPO must report to the transplant programs *all* of the following:

1. Updates, such as the identification of any potential disease-causing organism and the sensitivity of the deceased donor to that organism, as the host OPO receives the information.
2. Medical-social history, testing, and laboratory assessments that identify malignant or infectious conditions that may adversely affect a potential transplant recipient.
3. Any known or suspected infectious or neoplastic conditions that may be transmitted to transplant recipients.

The host OPO must report to the OPTN ~~Contractor's~~ Improving Patient Safety Portal any new disease or malignancy in the deceased donor that may be transmitted to transplant recipients.

2.~~11~~14 Deceased Donor Management

The host OPO must make reasonable efforts to manage the deceased donor by addressing *all* of the following:

1. Maintaining adequate blood pressure for perfusion of vital organs

2. Monitoring vital signs
3. Administering IV therapy or drugs, as required
4. Administering antibiotic therapy, as required
5. Administering and monitoring fluid intake and output

The OPO must document that these efforts were made and report the results to the receiving OPOs or transplant hospitals.

2.~~12~~15 Organ Procurement

2.~~12~~15.A Conflicts of Interest

The organ recovery procedure and the transplantation of organs must *not* be performed by *either* of the following:

1. The potential deceased donor's attending physician at the time of death
2. The physician who declares the time of the potential deceased donor's death

2.~~12~~15.B Organ Procurement Procedures

To ensure organ procurement quality, the host OPO must do *all* of the following:

1. Ensure that the deceased donor receives medications at appropriate times
2. Document in the deceased donor record any medications administered
3. Begin tissue typing and crossmatching as soon as possible
4. Use standard surgical techniques in a sterile environment
5. Maintain flush solutions, additives, and preservation media at appropriate temperatures
6. Document in the deceased donor record, flush solutions and additives with lot numbers, along with organ anatomy, organ flush characteristics, flush solution amount, flush solution type
7. Document organ abnormalities, and surgical damage, if any

2.~~12~~15.B.i Required Tissue Typing and Blood Type Verification Materials

The host OPO must establish a written policy with an OPTN member histocompatibility laboratory that includes specific details of the minimum tissue typing material, type of specimen, medium, and shipping requirements for these items. *Table 2-1* shows the requirements for each organ of this type.

Table 2-1: Minimum Typing Materials

The host OPO must provide:	For this organ:
One 7 to 10 mL clot red top tube	Any organ
Two acid-citrate-dextrose (ACD) yellow top tubes	Kidney or pancreas
If available, one 2 by 4 cm wedge of spleen in culture medium	Kidney or pancreas
Three to five lymph node samples	Each kidney or pancreas Any organ, if the receiving transplant hospital requests and they are available.

The host OPO will provide specimens for tissue typing for all other organs as

requested.

2.~~12~~15.C Authorization Requirement

Organ recovery teams may only recover organs that they have received authorization to recover. An authorized organ should be recovered if it is transplantable or a transplant recipient is identified for the organ. If an authorized organ is not recovered, the host OPO must document the specific reason for non-recovery.

2.~~12~~15.D Non-renal Organ Procurement

Non-renal organ recovery teams have the option to remove the non-renal organ first unless extenuating circumstances dictate otherwise. All organ recovery teams must cooperate with each other.

2.~~12~~15.E Multiple Organ Procurement

After a member indicates its initial acceptance of an organ, the transplant hospitals and OPOs involved must agree on the time that multiple organ procurement will begin. If the members cannot agree on the procurement time, the host OPO may withdraw the offer from the transplant hospital or OPO unable to agree on the time for procurement to begin.

2.~~13~~16 Requirements for Controlled Donation after Circulatory Death (DCD) Protocols

Donation after Circulatory Death (DCD) describes the organ recovery process that may occur following death by irreversible cessation of circulatory and respiratory functions. Potential DCD donors are limited to patients who have died, or whose death is imminent, whose medical treatment no longer offers a medical benefit to the patient as determined by the patient, the patient's authorized surrogate, or the patient's advance directive if applicable, in consultation with the healthcare team. Any planned withdrawal of life sustaining medical treatment/support will be carried out in accordance with hospital policy. Prior to the OPO initiating any discussion with the legal next-of-kin about organ donation for a potential DCD donor, the OPO must confirm that the legal next-of-kin has elected to withdraw life sustaining medical treatment. The timing of a potential DCD donor evaluation and donation discussion will be coordinated with the OPO and the patient's healthcare team, in accordance with hospital policy. Death is declared by a healthcare team member in accordance with hospital policy and applicable state and local statues or regulation. A DCD donor may also be called a non-heartbeating, asystolic, or donation after cardiac death donor. These policies will help OPOs and transplant hospitals develop necessary DCD protocols. These set the minimum requirements for DCD recovery but do not address local practices, cultural and resource issues, and therefore should not be the only resource consulted when developing DCD protocols. DCD protocols should continue to be developed through collaboration between OPOs, transplants hospitals, and donor hospitals.

2.~~13~~16.A Agreement

The OPO must have a written agreement with all hospitals that participate in DCD recovery.

2.~~13~~16.B Protocols

OPOs and donor hospitals must establish protocols that define the roles and responsibilities for the evaluation and management of potential DCD donors, organ recovery, and organ placement in compliance with OPTN Policy.

2.~~13~~16.C Potential DCD Donor Evaluation

The primary healthcare team and the OPO must evaluate potential DCD donors to determine if the patient meets the OPO's criteria for DCD donation.

2.~~13~~16.D Consent for DCD

Conditions involving a potential DCD donor being medically treated/supported in a conscious mental state will require that the OPO confirms that the healthcare team has assessed the patient's competency and capacity to make withdrawal/support and other medical decisions.

The OPO must confirm that consent has been obtained for any DCD related procedures or drug administration that occur prior to patient death.

2.~~13~~16.E Authorization for DCD

For the purpose of obtaining authorization for a DCD recovery, "legal next of kin" can include *any* of the following:

1. The patient who authorizes deceased donation.
2. Persons defined by state/local laws to authorize organ donation.

2.~~13~~16.F Withdrawal of Life Sustaining Medical Treatment or Support

Prior to the donor hospital withdrawing life-sustaining medical treatment or ventilated support, the OPO is required to conduct a timeout to confirm:

1. The patient's identification.
2. The process for withdrawing life-sustaining treatment or ventilated support.
3. Roles and responsibilities of the primary patient care team, the OPO team, and the organ recovery team.
4. The hospital's plan for continued patient care if the patient does not become a donor, and appropriate communication with the next of kin.

No recovery personnel (surgeons and other recovery practitioners) may be present for the withdrawal of life-sustaining medical treatment or ventilated support. No member of the organ recovery team or OPO staff may guide or administer palliative care, or declare death.

2.~~13~~16.G Pronouncement of Death

The donor hospital healthcare team member who is authorized to declare death must not be a member of the OPO or the organ recovery team. Circulatory death is death defined as the irreversible cessation of circulatory and respiratory functions. Death is declared in accordance with hospital policy and applicable state and local statutes or regulation.

2.~~13~~16.H Organ Recovery

Organ recovery will only proceed after circulatory death is determined, inclusive of a predetermined waiting period of circulatory cessation to ensure no auto-resuscitation occurs.

2.~~13~~16.I DCD Potential Donor Who Converts to Brain Death after an Organ Offer Has Been Made

When a DCD donor converts to brain death, the host OPO must re-execute the match system and allocate the organs according to the organ allocation policies. *Policy 5.4: Organ Offers* does not apply when a DCD donor converts to brain death. Additionally, OPOs should initiate allocation of organs that may have been ruled out due to the donor's initial DCD status.

However, the host OPO may choose not to reallocate organs from a DCD donor who converts to brain death for any *one* of the following reasons:

1. Donor instability
2. Lack of donor family approval and authorization
3. Other extraordinary circumstances

The host OPO must document the reason for not reallocating organs when a DCD donor converts to brain death and make this documentation available to the OPTN Contractor on request.

14.4.B Living Kidney Donor Medical Evaluation Requirements

A medical evaluation of the potential living kidney donor must be performed by the recovery hospital and by a physician or surgeon experienced in living donation. The goals of the medical evaluation are *all* of the following:

1. To assess the immunologic compatibility of the living donor to the recipient
2. To assess the general health and surgical risk of donation to the living donor including screening for conditions that may predict future complications from having only one kidney
3. To determine if there are diseases present that may be transmitted from the living donor to the recipient
4. To assess the anatomy and function of the living donor's kidneys

Documentation of the medical evaluation must be maintained in the donor medical record.

The medical evaluation must include *all* of the components in *Table 14-2* below.

Table 14-2: Requirements for Living Kidney Donor Medical Evaluations

This evaluation must be completed:	Including evaluation for and assessment of this information:
A general living donor history	1. A personal history of significant medical conditions which include but are not limited to: a. Hypertension b. Diabetes c. Lung disease d. Heart disease e. Gastrointestinal disease f. Autoimmune disease g. Neurologic disease h. Genitourinary disease i. Hematologic disorders j. Bleeding or clotting disorders k. History of cancer 2. History of infections 3. A kidney-specific personal history including: a. Genetic renal diseases b. Kidney disease, proteinuria, hematuria c. Kidney injury d. Diabetes including gestational diabetes e. Nephrolithiasis f. Recurrent urinary tract infections 4. Active and past medications with special consideration for known nephrotoxic medications 5. Allergies 6. An evaluation for coronary artery disease
General family history	The living donor's family history of coronary heart disease and cancer
Kidney-specific family history	The living donor's family history of: • Kidney disease • Diabetes • Hypertension • Kidney Cancer
Social history	The living donor's history of: • Occupation, employment status, health insurance status, living arrangements, and social support • Smoking, alcohol and drug use and abuse • Criteria to assess increased risk for disease transmission as defined by the ~~PHS Guideline~~*U.S. Public Health Services (PHS) Guideline* • Psychiatric illness, depression, suicide attempts
Physical Exam	A physical exam of the living donor including: • Height • Weight • BMI • Examination of all major organ systems • Blood pressure taken on at least two different occasions or 24-hour or overnight blood pressure monitoring

This evaluation must be completed:	Including evaluation for and assessment of this information:
General laboratory and imaging tests	• Complete blood count (CBC) with platelet count • Blood type and screen • Prothrombin Time (PT) or International Normalized Ratio (INR) • Partial Thromboplastin Time (PTT) • Metabolic testing (to include electrolytes, BUN, creatinine, transaminase levels, albumin, calcium, phosphorus, alkaline phosphatase, bilirubin) • HCG quantitative pregnancy test for premenopausal women without surgical sterilization • Chest X-Ray • Electrocardiogram (ECG)
Other metabolic testing	• Fasting blood glucose • Fasting lipid profile (cholesterol, triglycerides, HDL cholesterol, and LDL cholesterol) • Glucose tolerance test or glycosylated hemoglobin in first degree relatives of diabetics and in high risk individuals

Kidney-specific tests	• Urinalysis or urine microscopy
	• Urine culture if clinically indicated
	• Measurement of urinary protein and albumin excretion
	• Measurement of glomerular filtration rate by isotopic methods or a creatinine clearance calculated from a 24-hour urine collection
	• Hospitals must develop and comply with a protocol for polycystic kidney disease or other inherited renal disease as indicated by family history
	• Patients with a history of nephrolithiasis or nephrolithiasis (>3mm) identified on radiographic imaging must have a 24-hour urine stone panel measuring:
	  ○ Calcium
	  ○ Oxalate
	  ○ Uric acid
	  ○ Citric acid
	  ○ Creatinine
	  ○ Sodium

Anatomic assessment	An assessment to determine: • Whether the kidneys are of equal size • If the kidneys have masses, cysts, or stones • If the kidneys have other anatomical defects • Which kidney is more anatomically suited for transplant. The choice of test for radiologic imaging may be determined based on the local radiological expertise and surgical preference, and may include CT angiogram or MR angiogram.

This evaluation must be completed:	Including evaluation for and assessment of this information:
Transmissible disease screening	Infectious disease testing must include *all* the following: 1. CMV (Cytomegalovirus) antibody 2. EBV (Epstein Barr Virus) antibody 3. HIV 1,2 (Human Immunodeficiency Virus) antibody testing 4. HepBsAg (Hepatitis B surface antigen) 5. HepBcAB (Hepatitis B core antibody) 6. HepBsAB (Hepatitis B surface antibody) 7. HCV (Hepatitis C Virus) antibody testing 8. RPR (Rapid Plasma Reagin test for syphilis) Living donor recovery hospitals must determine if the potential donor is at increased risk for tuberculosis (TB) and if so testing must include screening for latent TB using either intradermal PPD or Interferon Gamma Release Assay (IGRA).
Endemic transmissible diseases	For the following infectious diseases, recovery hospitals must determine if the potential donor is from an endemic area, and if so must test for: • Strongyloides • Trypanosoma cruzi • West Nile
Cancer screening	Recovery hospitals must develop and comply with protocols consistent with the American Cancer Society (ACS) to screen for: • Cervical cancer • Breast cancer • Prostate cancer • Colon cancer • Skin cancer • Lung cancer
Exclusion criteria	Kidney recovery hospitals may exclude a donor with any condition that, in the hospital's medical judgment, causes the donor to be unsuitable for organ donation. Kidney recovery hospitals must exclude all donors who meet *any* of the following exclusion criteria: • Is both less than 18 years old and mentally incapable of making an informed decision • Uncontrollable hypertension or history of hypertension with evidence of end stage organ damage • HIV • Diabetes • Active malignancy, or incompletely treated malignancy • High suspicion of donor coercion • High suspicion of illegal financial exchange between donor and recipient • Evidence of acute symptomatic infection (until resolved) • Diagnosable psychiatric conditions requiring treatment before donation, including any evidence of suicidality

14.5.A Living Kidney Donor Psychosocial Evaluation Requirements

This living kidney donor psychosocial evaluation must be performed by a psychiatrist, psychologist, or clinical social worker. Documentation of the psychosocial evaluation must be maintained in the living donor record and include *all* of the following components:

1. An evaluation for any psychosocial issues, including mental health issues, that might complicate the living donor's recovery and could be identified as potential risks for poor psychosocial outcome
2. An evaluation for the presence of behaviors that may increase risk for disease transmission as defined by the ~~U.S. PHS Guideline~~ *U.S. Public Health Services (PHS) Guideline*
3. A review of the living donor's history of smoking, alcohol, and drug use, abuse, and dependency
4. The identification of factors that warrant educational or therapeutic intervention prior to the final donation decision
5. The determination that the potential living donor understands the short and long-term medical and psychosocial risks for both the living donor and recipient associated with living donation
6. An assessment of whether the decision to donate is free of inducement, coercion, and other undue pressure by exploring the reasons for donating and the nature of the relationship, if any, to the transplant candidate
7. An assessment of the potential living donor's ability to make an informed decision and the ability to cope with the major surgery and related stress. This includes evaluating whether the potential donor has a realistic plan for donation and recovery, with social, emotional and financial support available as recommended
8. A review of the potential living donor's occupation, employment status, health insurance status, living arrangements, and social support
9. The determination that the potential living donor understands the potential financial implications of living

16.4.D Internal Labeling of Vessels

The rigid container holding the vessels and the outermost layer of the triple sterile barrier must have a completed OPTN vessel label. The OPTN Contractor distributes a standardized label that must be used for this purpose. The label must contain *all* of the following information:

1. Donor ID
2. Donor blood type
3. Donor blood subtype, if used for allocation
4. Recovery date
5. All infectious disease testing results
6. Description of the container contents
7. Whether the vessels are from a donor that meets the increased risk for disease transmission criteria in the ~~U.S. PHS Guideline~~*U.S. Public Health Services (PHS) Guideline*.
8. That the vessel is for use in organ transplantation only

Exhibit A

Novartis Diagnostics public comment in response to DTAC's Proposal to Modify Deceased Donor Testing Requirements

Subject: Proposal to modify deceased donor testing requirements by the Ad Hoc Disease Transmission Advisory Committee (DTAC) of the Organ Procurement Transplantation Network (OPTN)

Issue: This proposal seeks to modify current deceased donor testing requirements in policy based upon updated testing kit availability and laboratory practice, and also clarify any points of confusion for the Organ Procurement Organizations (OPOs). Current test requirements stemmed from changing test kit availability and a widely publicized transmission event in 2007. Over the years, there have been a number of questions regarding the application of this language from OPOs that do not understand the terminology or wish to use tests outside of the current requirements.

Question for public comment:

1. The DTAC requests public comments regarding the use of the phrase "commercially available" in Policy 2.2.4.

Novartis Diagnostics proposed response:
a. We believe that "commercially available" means an assay that exists and has an FDA approved screening claim. This would allow for two categories of tests:
1. Traditional "commercially available tests" which are made by one company (e.g. Abbott or Novartis) and sold to a third party (e.g. NIT) for use in screening.
2. Tests developed, manufactured and used by the same company that have the appropriate screening claims (e.g. Parvo/HAV developed and used by CTS and has a claim for in process manufacturing of plasma).

b. We agree with the original intent of the OPTN Board of Director's Executive Committee to enhance patient safety. Requirements for using US Food and Drug Administration (FDA) licensed, approved, or cleared serological screening tests were put in place to avoid programs using "homemade" research use only (RUO) tests that had not undergone FDA evaluation and approval. The intent of this language was to require that an approved or licensed test be completed by an appropriately accredited laboratory using an appropriate sample as
indicated by the testing package insert. Screening tests have been specifically evaluated by the FDA for their performance in donor screening including sensitivity, specificity, comparison to known standard panels, seroconversion panels and interfering substances. The sensitivity and specificity performance characteristics of diagnostic tests are designed differently and therefore are evaluated differently by the FDA. It is our opinion that the use of diagnostic assays for donor screening should only be used when screening assays **do not exist** and limitations of the diagnostic assays are well known to all parties involved including the patient.

c. We agree with the DTAC and believe OPOs should be using appropriate samples for FDA licensed, approved, or cleared testing in an appropriately accredited laboratory according to package insert directions as a way to enhance patient safety. The OPTN requirement is meant to require use of a lab that is recognized as providing appropriate information for clinical decision making.
d. We disagree that changing test kit availability and the arrival of new kits on the market means this "blanket approach for donor screening is no longer critical and, therefore, the commercially available phrase is no longer necessary". We believe it is more important than ever to clarify the OPTN's position on patient safety and public health and evaluate this on data and not anecdotal cases.
We encourage the clarification of "commercially available" which means that it exist for screening in the United States is needed for patient safety and public health.

2. The DTAC requests public comments regarding the use of specific tests on potential deceased donors under Policy 2.2.4.1

Novartis Diagnostics proposed response:

a. We believe that policy or policy changes should not be driven by convenience but rather data to support patient safety and public health. While we agree that testing may be difficult for some OPOs, we believe that quality systems need to be endorsed by the OPTN. A quality system should embrace testing strategies, qualified logistics and qualified vendors to support testing requirements. The findings and recommendations from DTAC should embrace the quality system and data to support changes should be presented, not anecdotal comments.
b. We assume when the DTAC proposes to permit 4th generation combination antibody/antigen testing, the ad hoc committee means a chemiluminescent immunoassay (CLIA).
c. We also believe the policy changes proposed by the DTAC to permit 4th generation combined anti-HIV antibody/antigen diagnostic testing, rather than improving OPO understanding and adherence to infectious disease testing requirements, will create an inconsistent and confusing organ donor screening program in the US. This leads to a failure to improve donor organ availability, increased transmission of HIV through organ transplantation, and ultimately an increased burden to our health care system through increased costs of donor screening and providing care for organ recipients unnecessarily infected with HIV. The combination antibody/antigen diagnostic serology test for HIV 1/2 is **currently neither** approved under the OPTN standards (Standards 2.2.4.1, http://optn.transplant.hrsa.gov/policiesAndBylaws/policies.asp) for donor acceptability nor approved by the FDA for donor screening. In fact, a review of one HIV 1/2 serologic diagnostic test (GS HIV Combo Antigen/Antibody enzyme immunoassay by Bio-Rad, package insert Revised: July 2011 Part # 506188) demonstrates that the manufacturer includes a disclaimer for use in screening blood or plasma donors as the effectiveness has not been established.

d. **In the consensus report there is much discussion of the perceived false positive rate with Nucleic Acid Technology (NAT) which is not supported by existing data.** Good Laboratory Practices (GLP) supported by a quality system is required for donor testing. This includes, but is not limited to training, validation of assays, quality control, and external quality assurance systems. The reality of false positives is extremely low in laboratories practicing GLP and if testing algorithms for confirmation of positive results are established. Examples of algorithms are Grabarczyk P. et al. (2013) Transfusion **53**:2412 and Zhang R. et al. (2013) Trans Med **23**:260.

1. Specificity (as reported in the Procleix® Ultrio Plus® assay (Ultrio Plus assay) package insert 502432 Rev. A 2012) has been reported as 100% (95% CI 93-100)

a. The table below shows specificity of Procleix Ultrio Plus assay and Procleix Ultrio Plus discriminatory assays in fresh and frozen normal blood donor plasma specimens as reported in Procleix Ultrio Plus assay package insert 502432 Rev. A 2012.

b. Tests that were invalid due to instrument hardware errors were not retested, and are excluded from the data analysis. There were no invalid results due to assay chemistry errors, for an initial invalid rate of
0.00% for each of the 4 assays.

	Ultrio Plus assay	dHIV-1 assay	dHCV assay	dHBV assay
Valid Results (N)	3043	578	717	714
Initially Reactive (N)	1	0	0	2
Initially Reactive Rate (%)	0.03	0.00	0.00	0.28
True Positive After Repeat Testing** (N)	0	NA	NA	0
False Positive After Repeat Testing*** (N)	1	NA	NA	2
Unresolved After Repeat Testing**** (N)	0	NA	NA	0
False Positive Rate After Repeat Testing (%)	0.03	0.00	0.00	0.28
Specificity After Repeat Testing (%)	99.97	100.00	100.00	99.72
Combined Mean Analyte S/CO of Negative Specimens	0.07 ± 0.04	0.10 ± 0.05	0.04 ± 0.04	0.05 ± 0.04

N = Number of specimens; NA = Not Applicable; S/CO = Signal to Cutoff ratio
*Two different reagent lots were used during testing.
**Specimens determined to be True Positives were repeat reactive in either the Ultrio Plus assay or the relevant Ultrio Plus discriminatory assay.
***Specimens determined to be False Positives were non-reactive upon retesting in either the Ultrio Plus assay or the relevant Ultrio Plus discriminatory assay.
****Specimens determined to be Unresolved were inconsistently reactive in the Ultrio Plus assay, but were reactive in one of the Ultrio Plus discriminatory assays.

e. While we believe that CLIA assays (a.k.a. 4th generation) are improved over the previously available antibody HIV assays, the window period from infection to detection still exceeds that of NAT.

f. Furthermore, approval of 4th generation antigen/antibody diagnostic testing as an alternative to approved screening tests will allow OPOs that have adopted NAT testing to abandon this preferred testing in favor of an inferior performing HIV antigen/antibody combination test as a potential cost savings measure.

The potential use of a 4th generation combination antibody/antigen HIV 1/2 serology diagnostic test for organ donor screening would not appear to provide

significant logistical advantages or performance and safety equivalency compared to currently approved screening assays as:

1. Each run still requires 2.5 to 3 hours of uninterrupted processing.
2. Valid test results are dependent on incubation times, temperatures and washing.
3. Reactive initial results must be retested in duplicate; Specimens that are reactive on the initial assay and negative on the HIV-1/HIV-2 differentiation should be tested per CDC guidelines with an FDA-approved nucleic acid test for HIV-1 RNA.
4. Serologic assays detect chronic or persistent infections but are less useful for detecting recent infections. The Window period is the time between infection and the detection of infection.
5. A negative antigen/antibody EIA result does not preclude the possibility of exposure to either HIV-1 or HIV-2.
6. Antigen/antibody EIA detected only 36% (n=30) and 45% (n=71) of NAT yield samples.
7. Nucleic acid technology has been reported, based on seroconversion panels, to close the window period of detection by 14.5 days earlier when compared to the Abbott anti-HIV 1/2 assay and 8.6 days earlier when compared to the Coulter p24 antigen assay (Procleix Ultrio Plus assay package insert 502432 Rev. A 2012).
8. Several cases of donor-derived infection in organ transplantation have occurred after failures in serologic testing (e.g. window period cases).
9. A second diagnostic window exists in which antigen and antibody levels can fall below the diagnostic threshold after an initial reactive result.
10. Individuals with severe immunosuppression due to late disease, as well as those taking highly active antiretroviral therapy (HAART), can have negative EIA screening results.
11. False-positive EIA results are not uncommon.

g. We would encourage the DTAC to consider adding the CLIA (4th generation antibody/antigen chemiluminescent) assay, but only in addition to the HIV NAT.

3. The DTAC requests public comments on the relevance of requiring a donor with a negative HIV test on a qualified (non-hemodiluted) specimen be re-tested if a blood transfusion that had not been tested for HIV is administered after this first negative test under Policy 2.2.4.2

Novartis Diagnostics proposed response:

a. While DTAC did not provide any data to support this change, the purpose of the change is based on redundancy of testing.

b. Blood in the United States is required to be tested for HIV by NAT as well as a chemiluminescent (antibody/antigen) assay. We agree that it is highly unlikely that a unit of blood would not be tested; however, one must consider that emergency collection of blood does take place in some locations and testing

may not be available until several days after transfusion. We recommend that this policy be retained for patient safety and public health.

4. The DTAC requests public comments on what should be done to improve donated organ safety.

Novartis Diagnostics proposed response:

a. We commend the DTAC for asking for comments on this issue. We believe, under the direction of the Department of Health and Human Services, Health Resources and Services Agency and the Centers for Medicare and Medicaid Services, the contracted OPTN should establish policies to embrace the Quality System in all operational and clinical aspects including biovigilance and monitoring long term outcomes of transplant patients. Embracing the Quality System for donor procurement and transplantation would require that good laboratory practices are followed, cold chain logistics and service agreements are well qualified, data collected, and process improvement strategies are established on data.

b. We recommend that the OPTN's DTAC embraces multiplex NAT to reduce the window period of non-detection in potential donors.

Disease Transmission Reporting By DSA and Region

Prepared for:
Ad Hoc Disease Transmission Advisory Committee
Committee Meeting
March 26, 2014

By:
Sarah Taranto
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BACKGROUND/PURPOSE

During their September, 2010 meeting the committee discussed the variation among DSAs in the number of cases reported to the PSS. This data was reviewed again at the next three face-to-face meetings. As part of that discussion, it was requested that updated data on this issue be provided at each face-to-face meeting. At the September, 2012 meeting the committee decided to have the data provided at each meeting, but to only present the data once a year in the Spring.

WORK PLAN ITEM ADDRESSED

This request does not specifically address one of the work plan items of the committee. However, it does directly address the charge of the committee to review cases and assess the risk of disease transmission from donors to recipients. In order to do that the committee needs a better understanding of the potential for current underreporting of cases.

COMMITTEE REQUEST

1. The number of cases reported by region and encrypted DSA by time period.
2. The percentage of deceased donors resulting in a case overall and stratified by:
   a. Infection versus malignancy
   b. High risk donors versus all others
   c. Time period of report
   d. Adult versus pediatric donors
3. The percentage of deceased donors resulting in a proven or probable case by region.
4. The percentage of cases resulting in a proven or probable case by region and DSA.
5. The number of living donor cases reported over time. Stratify the data by region, disease, and classification.

DATA AND METHODS

Data Sources:

All DTAC cases reported through the patient safety system (PSS) and reviewed by the DTAC were examined. These data were linked to deceased and living donor demographics captured on the Deceased Donor Registration (DDR) and Living Donor Registration (LDR) forms. All analyses based on OPTN data as of February 21, 2014.

Cohort:

All DTAC cases reported from 2006 through 2013 were examined. These cases were stratified by year, and DSA/OPO and region of donor recovery. All deceased donors recovered from 2011-2012 were analyzed to determine the percentage of those donors with any, and also specific types of, DTAC cases reported through December, 2013 by OPO/DSA and region of donor recovery.

RESULTS

Total Cases Reviewed by DTAC 2006 to 2013

Figure 1 displays the total number of cases reviewed by the DTAC from 2006 to 2013.

- There have been a total of 1231 cases reported and reviewed from 2006 to 2013.
- The number has increased from 60 in 2006 to 284 in 2013.
- The dramatic yearly increases in cases stabilized from 2009 to 2010, with another large increase in 2011 from 157 (2010) to 181 (2011).
- 2012 showed a similar increase with 198 cases reviewed, 17 (9%) more than the previous year.
- There was a dramatic increase in the number of cases reviewed during 2013, from 198 to 284, a 43% increase.

Figure 2 limits the data to deceased donor cases for the same seven year time period. In this figure the data is displayed by the region where the deceased donor was recovered.

- Region 3 has reported the largest number of cases with 269, followed closely by region 5 with 248. The next closest are regions 2, 11, and 7 at 161, 133, and 119 cases respectively during the same time period.
- Region 1 has the fewest cases reported with 22 cases reported during the period.

Figure 1. Total Cases Reported to DTAC 2006- 2013 by Year

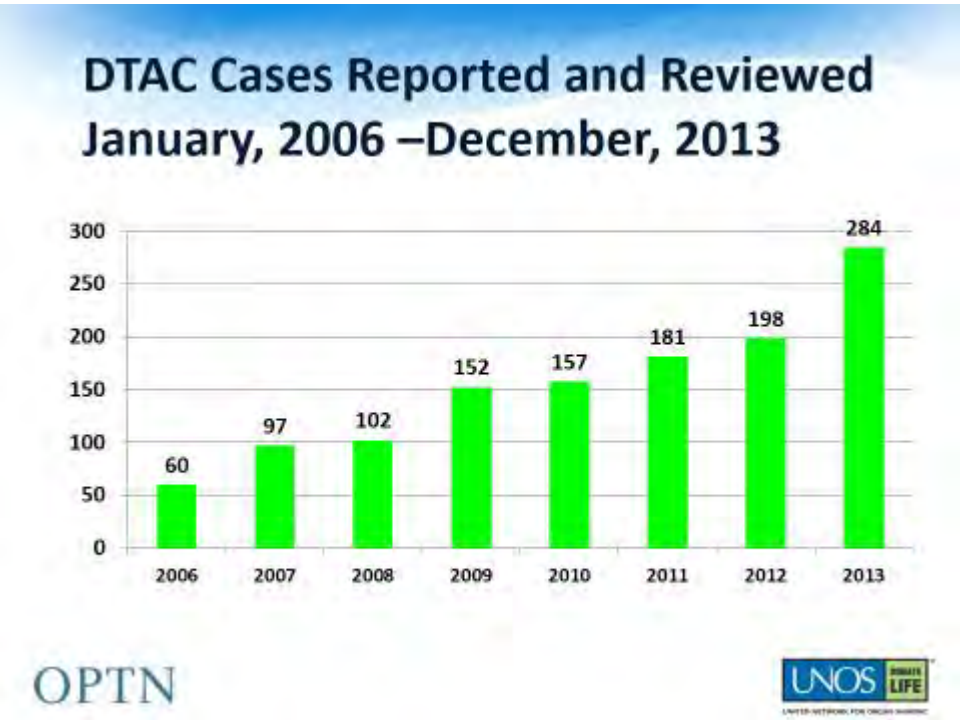


Figure 2. Total Deceased Donor Cases Reported to DTAC 2006-2013 by Region of Donor Recovery

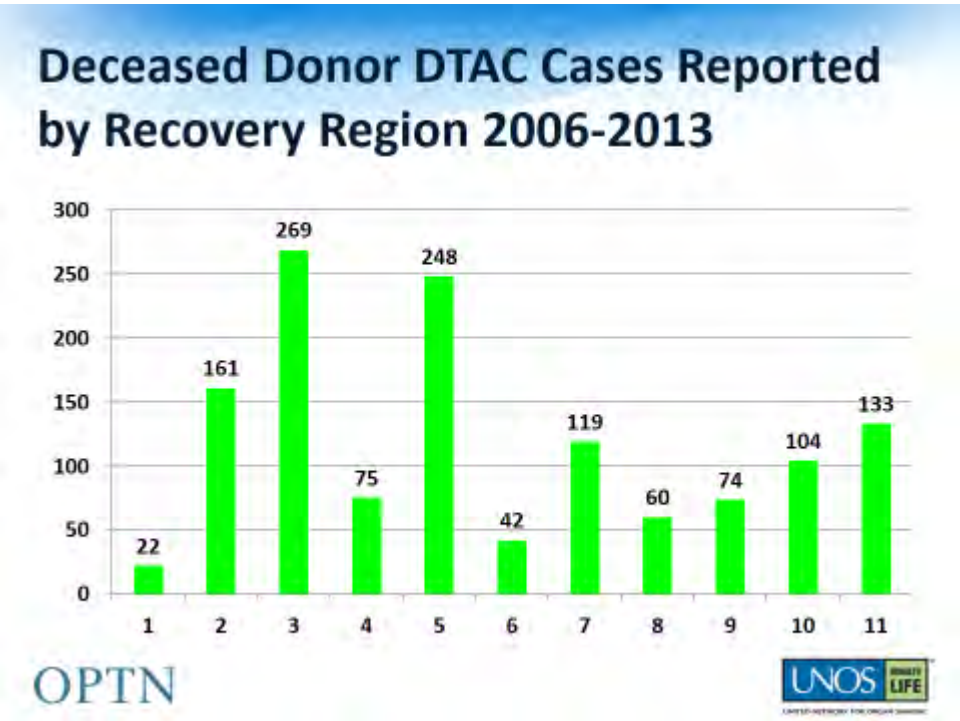


Figure 3. Total Deceased Donor Cases Reported to DTAC 2006-2013 by DSA of Donor Recovery

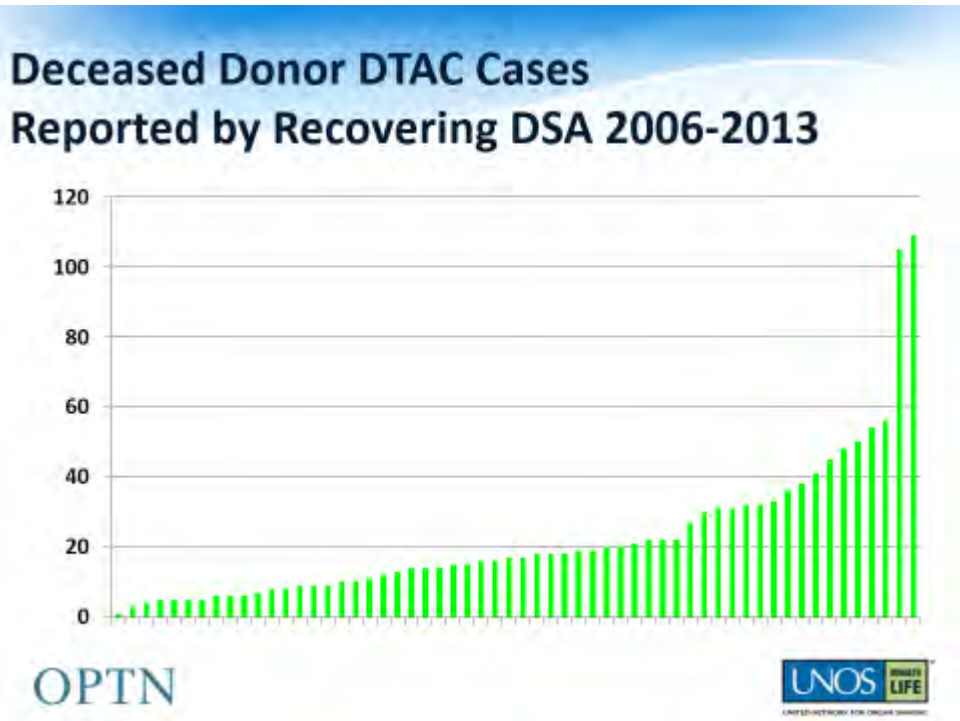


Figure 3 again graphically depicts the number of deceased donor cases reported during that time period, but now by individual OPO/DSA. The OPO/DSA reported is the location of the recovering OPO for the donor involved in the event.

- All OPOs had at least one case reported during the eight year time period.
- The greatest number of reported cases was 109, followed by 105 for another DSA. The next highest number for an individual DSA was much lower at 56.

Figure 4 is similar in format to figure 2, but now just for deceased donor cases reported during the most recent 12 month period of 2013.

- Region 3 resulted in the largest number of reported cases at 55, followed by regions 5 and 2 with 47 and 37 cases respectively.
- The four regions with the smallest number of cases were regions 6(4 cases), 1 (5 cases), 7(14 cases), and 9, with 17 cases.

Figure 5 shows data on deceased donor cases reported during the same 12 month period, but by individual OPO/DSA.

- Five of the 58 DSAs did not have any cases reported during the most recent calendar year.
- The highest number of reported cases in a single DSA was 27, followed by 24.

Figure 4. Total Deceased Donor Cases Reported to DTAC during 2013 by Region of Donor Recovery

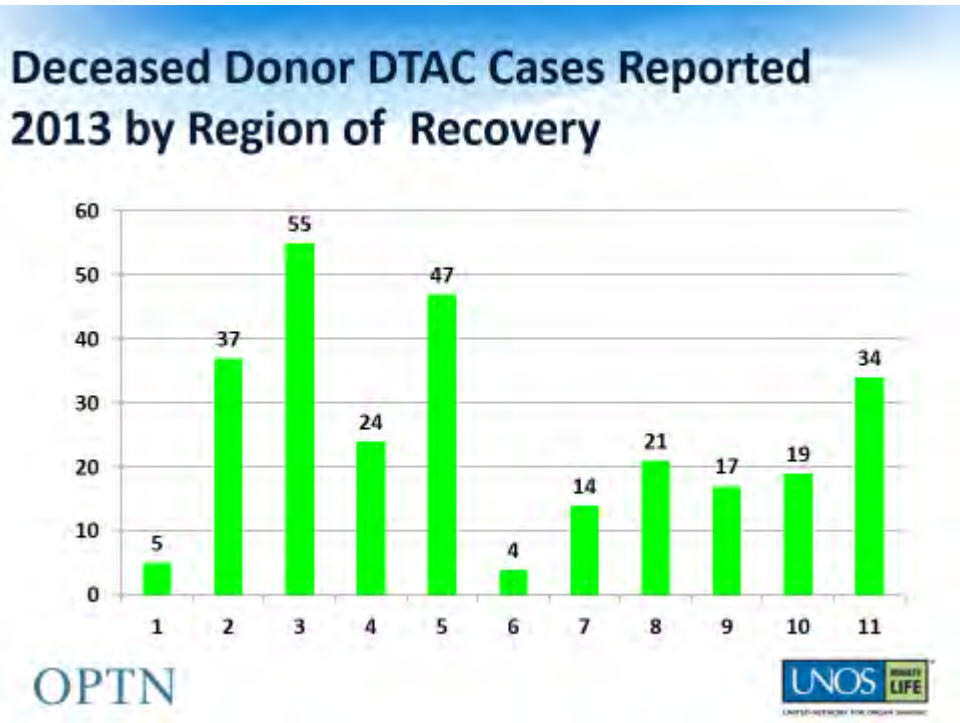


Figure 5. Total Deceased Donor Cases Reported to DTAC 2013 by DSA of Donor Recovery

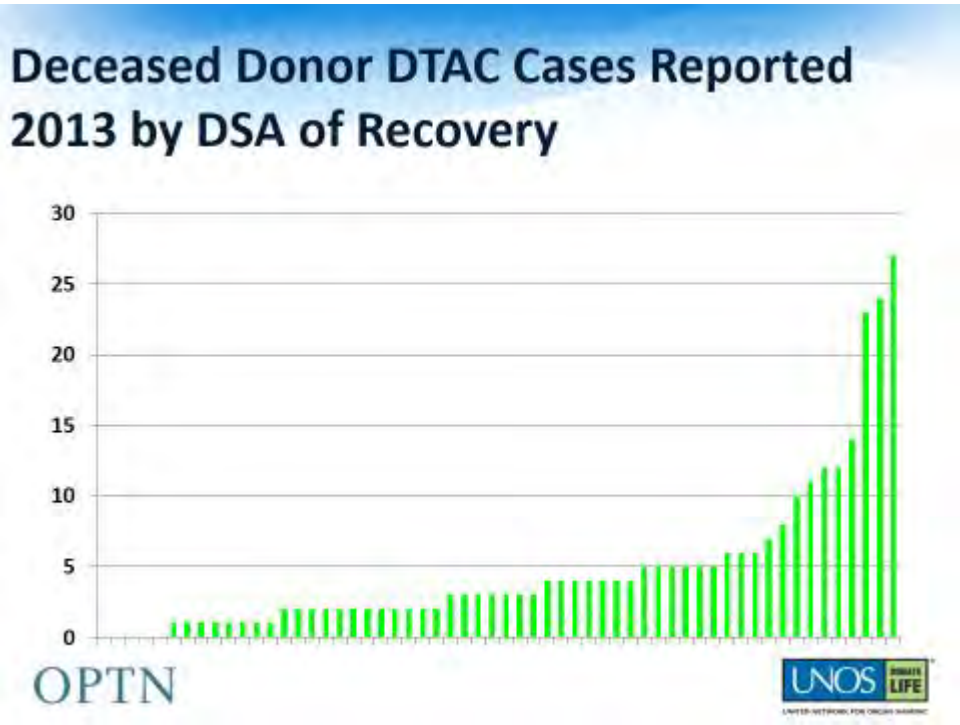


Figure 6. Total Deceased Donor Cases Reported 2009- 2013 by Year of Report and Region of Recovery

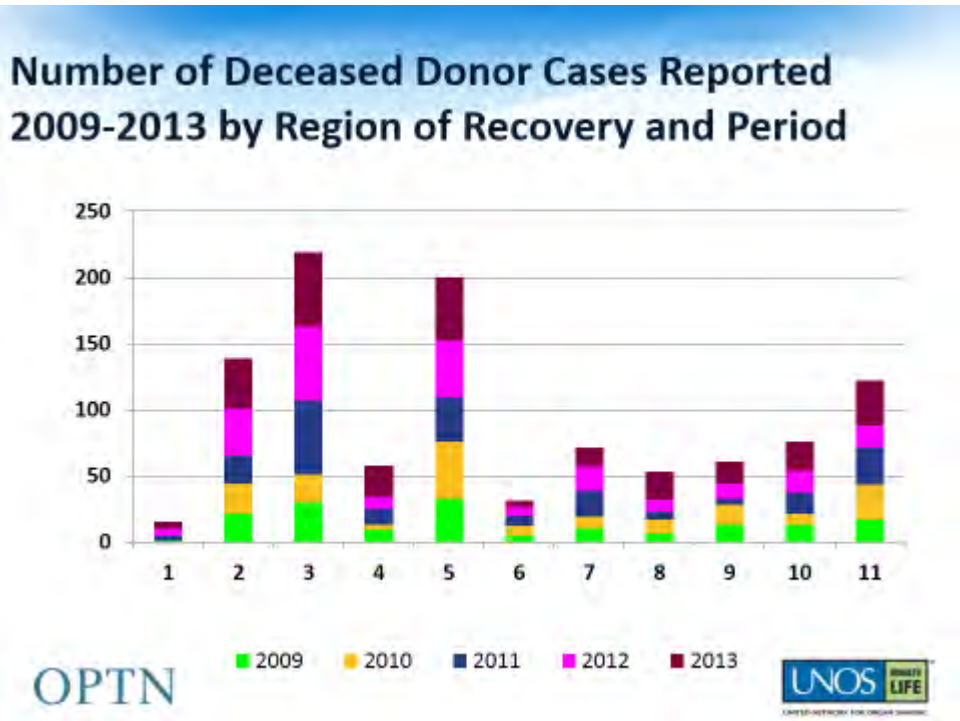


Figure 6 compares the number of deceased donor cases reported across regions and calendar years from 2009 through 2013. When comparing the most recent calendar year of 2013 to the previous year of 2012, there were only two regions that showed a decline in the number of cases reported, regions 6 and 7. Regions 1 and 3 held steady, and all other regions showed an increase in the number of deceased donor cases reported to DTAC.

Percentage of Deceased Donors Resulting in a DTAC Case

The next set of figures account for the variation in OPO/DSA and regional donor volumes by displaying, for each OPO/DSA and region, the percent of recovered deceased donors with a DTAC case reported. For each OPO/DSA and region, the number of deceased donors recovered during the time period that resulted in a reported case was divided by the total number of deceased donors recovered in the area during the time period. Deceased donors recovered 2011 through 2012 and cases reported through 2013, were included in this analysis.

Figure 7 reviews this data by region of recovery

- Regions 2, 3, 5, 7, 10 and 11 all were over 2.0% of their recovered deceased donors, with regions 3 and 5 over the U.S. rate of 2.5%
- Regions 1 and 8 were both under 1.5%, but no regions were under 1%

Figure 8 reviews this data by OPO/DSA of recovery

- For all deceased donors recovered 2011 - 2012, DSA reporting of cases through 2013 as a percentage of all donors recovered ranged from zero for two DSAs, to over 24% in the DSA with the highest percentage. The next highest percentage was 7.8%.
- The number with zero percent (2) was lower than the previous report of three DSAs.

Figure 7. Percent of Deceased Donors Recovered 2011 - 2012 Resulting in a Reported Case through 2013, by Region

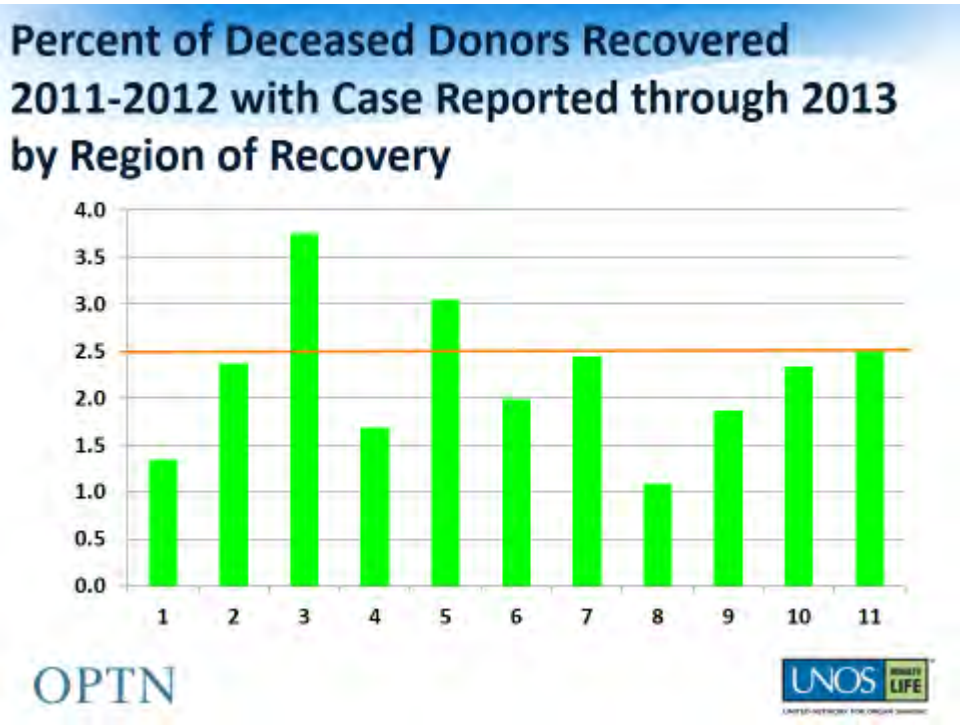
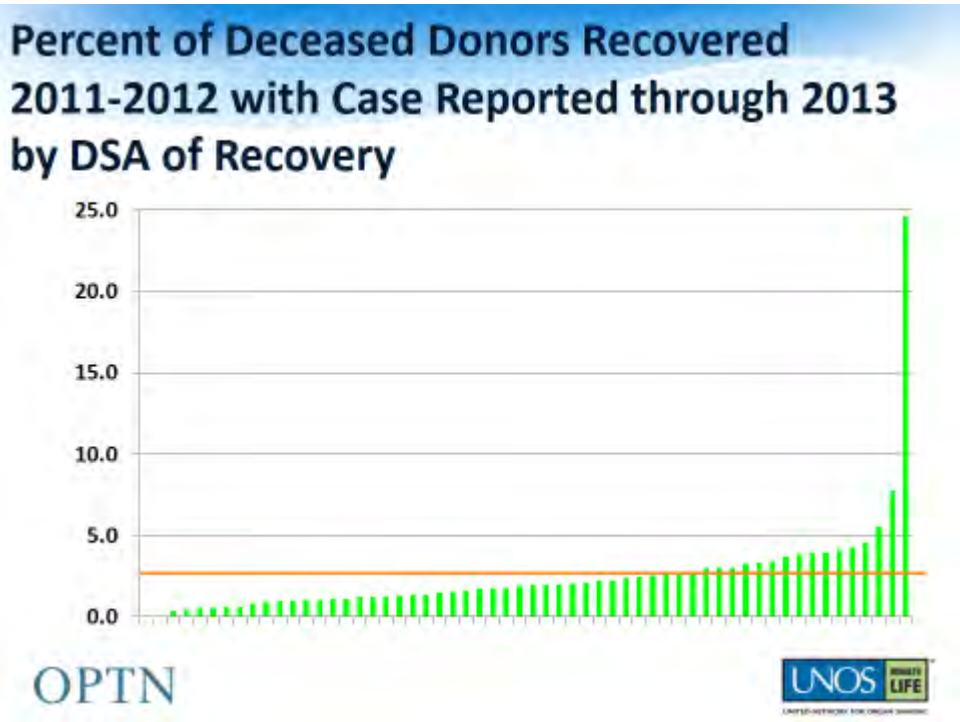


Figure 8. Percent of Deceased Donors Recovered 2011 - 2012 Resulting in a Reported Case through 2013, by DSA



Figures 9 and 10 display similar data for the same time period, but here the data is stratified by infection versus malignancy reports.

Figure 9 provides data on reported infection cases. These account for more than two-thirds of all reported cases in this group of donors, and for this reason the results are very similar to the overall.

- Region three has the largest percentage of cases with 2.3% with the next highest being region 5 with 2.1%.
- Region one has the smallest percentage of infection cases out of their deceased donors recovered with 0.4%

Figure 10 provides data on reported malignancy cases through 2013 for deceased donors recovered 2011-2012. Here, the numbers are much smaller, and the patterns across regions are quite different from infections.

- The highest reporting regions for malignancy cases are regions 1 and 7, both with about 0.9%.

Figure 9. Percent of Deceased Donors Recovered 2011-2012 Resulting in a Reported Infection Case through 2013, by Region

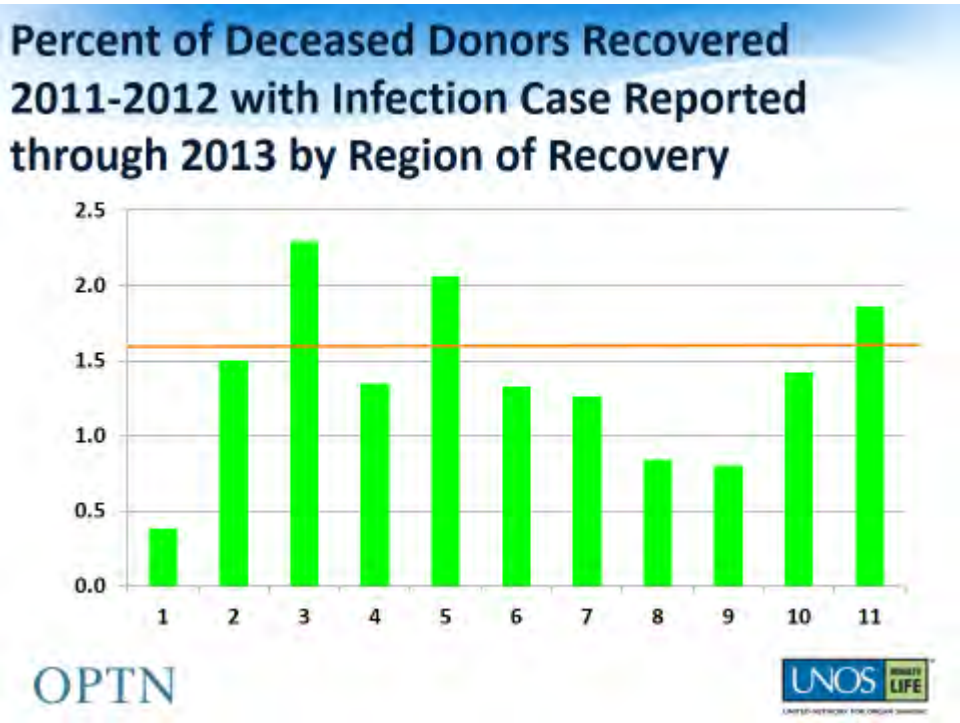
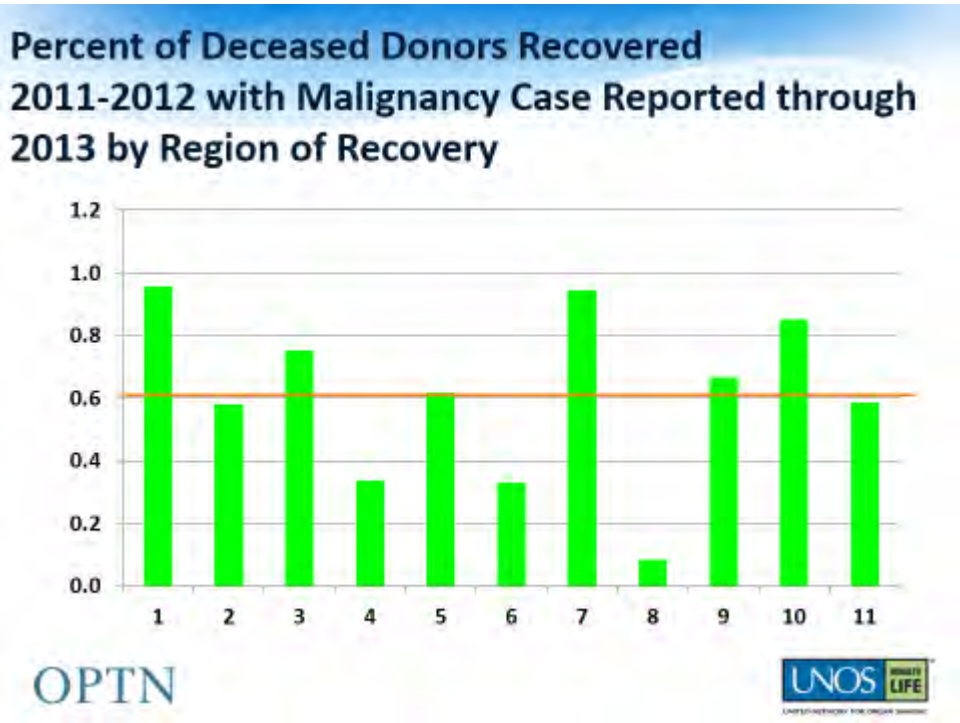


Figure 10. Percent of Deceased Donors Recovered 2011- 2012 Resulting in a Reported Malignancy Case through 2013, by Region



Percentage of Similar Deceased Donors Resulting in a DTAC Case

This next set of figures continue to look at cases reported through 2013 as a percentage of all deceased donors recovered 2011-2012, but groups them into different types of similar donors.

Figure 11 compares the percent of deceased donors resulting in a DTAC case between those donors indicated to be CDC high risk for HIV and all other deceased donors. In eight of the eleven regions the high risk donors have a higher percentage of cases reported, while the opposite is true in the other three regions. It is important to keep in mind, however, that in some regions the number of "high risk" donors recovered is quite small.

Figure 12 compares the percent of deceased donors resulting in a DTAC case between adult and pediatric donors. In seven of the eleven regions the adult donors have a higher percentage of cases reported, while the opposite is true in the other four regions. It is important to keep in mind, however, that in some regions the number of pediatric donors recovered during the time period is quite small.

Figure 11. Percent of Deceased Donors Recovered 2011- 2012 Resulting in a Reported DTAC Case through 2013, by Region and "CDC High Risk" Status of the Donor

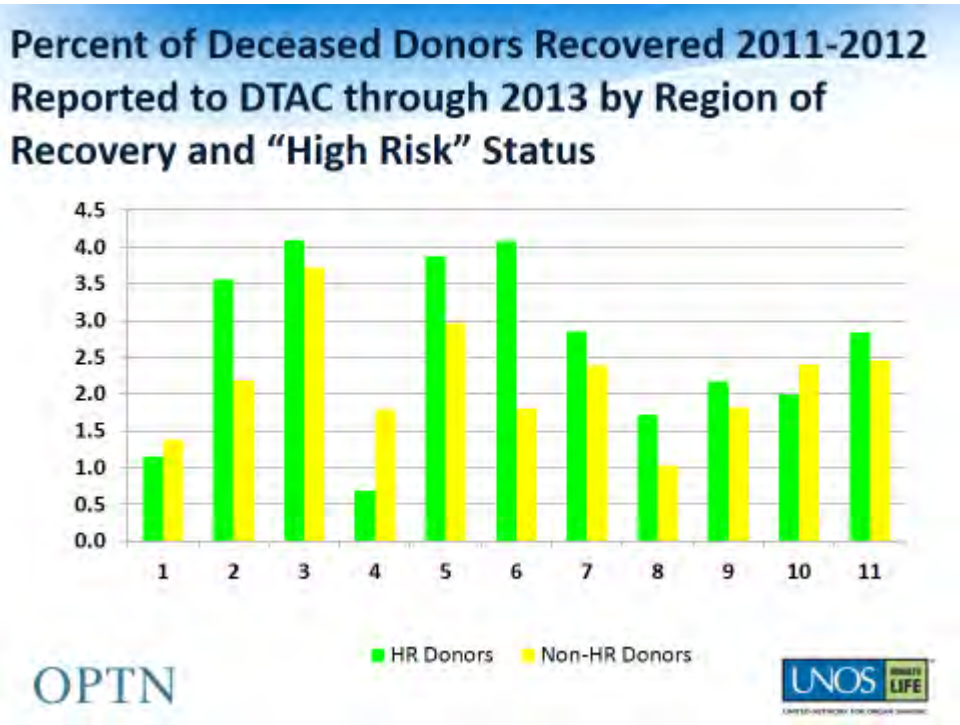
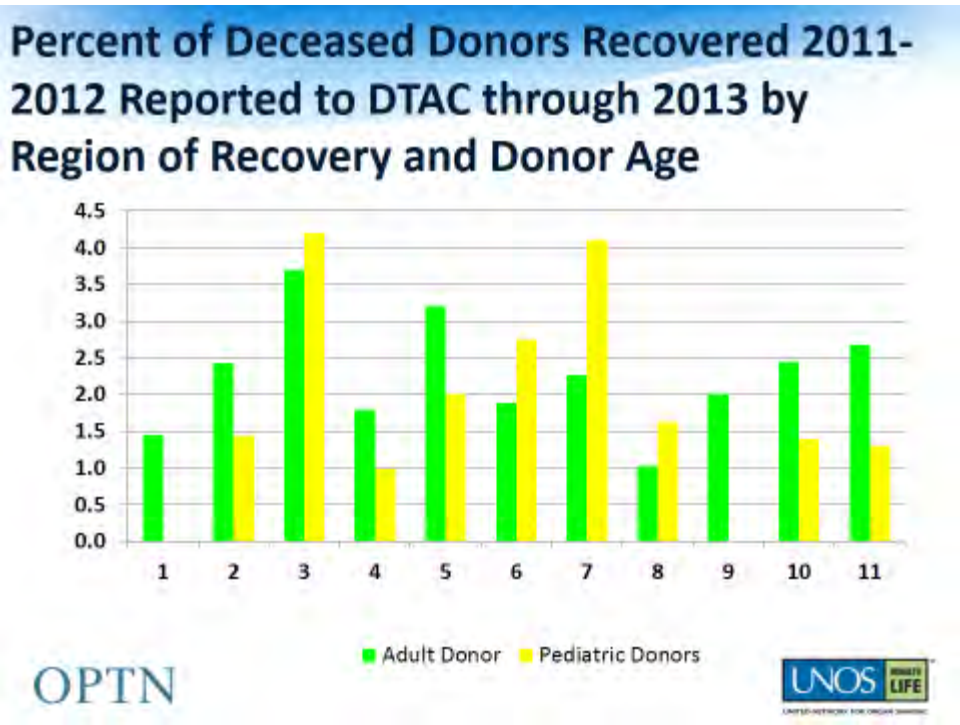


Figure 12. Percent of Deceased Donors Recovered 2011- 2012 Resulting in a Reported DTAC Case through 2013, by Region and Donor Age Group

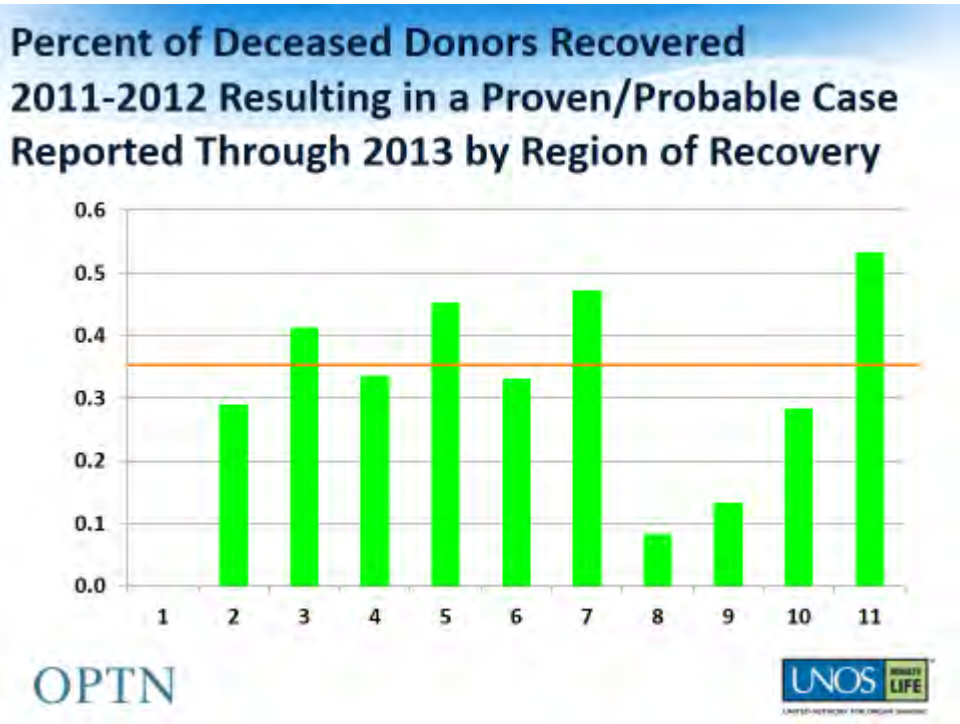


Percentage of Deceased Donors Resulting in a Proven or Probable DTAC Case

This next set of figures continue to look at cases as a percentage of all deceased donors recovered, but now limits the percentage calculation to cases classified as proven or probable by the DTAC. By doing this, it weeds out those types of cases that perhaps did not need to be reported. It also gets to the charge of the committee in determining the rate of disease transmission in solid organ transplantation. It is important to note that by limiting the analysis to proven and probable cases, the actual number of such cases during the period is very small, as these cases are less than a third of all cases reviewed by the DTAC.

Figure 13 displays this information by region. The method does eliminate some of the variation among regions. However, again it is important to note the very small number of events. The number of proven/probable cases in any region during the time period ranged from one to twelve cases. All the percentage are below 0.6% of deceased donors recovered during the period with a high of just over 0.5% in region eleven, and a low of 0% in region one.

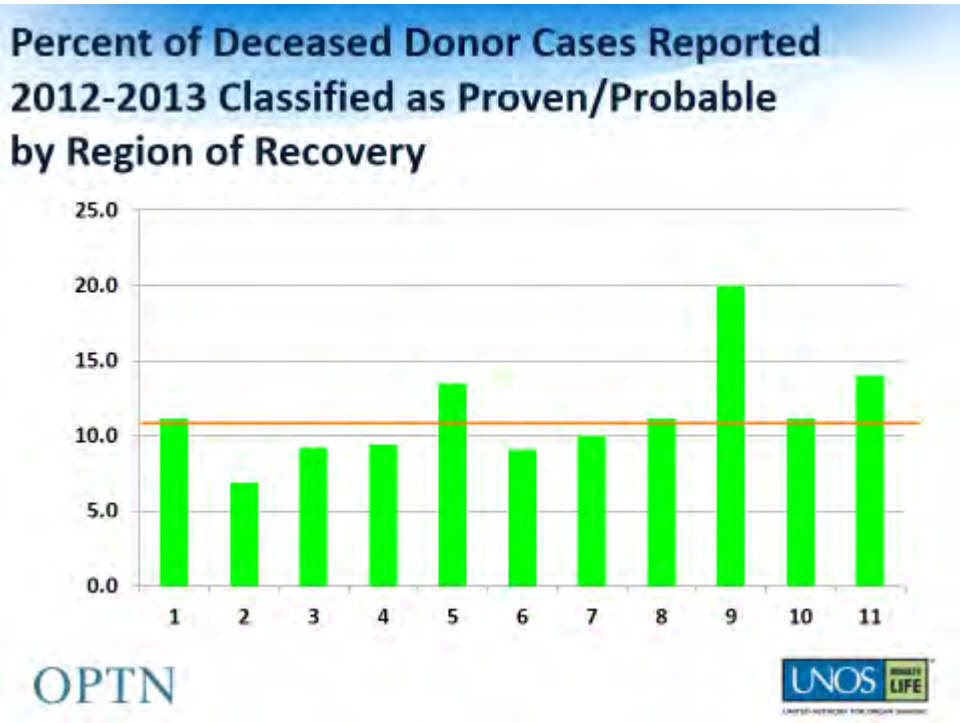
Figure 13. Percent of Deceased Donors Recovered 2011-2012 Resulting in a Proven or Probable DTAC Case Reported through 2013, by Region



Percentage of Reported Cases Resulting in a Proven or Probable Classification

Figure 14 examines all the deceased donor cases reported (including those not reviewed by the committee) during the two year period of 2012 through 2013 and determines the percentage that resulted in a DTAC classification of proven or probable. (As of the date of this report, all 2013 cases had not yet been classified.) Nationally, the percentage was 11% over the period. However, the results vary by region from about 7% in region 2 to 20% in region 9. This graphic strongly suggests that there are variations in reporting across regions, in that some areas are more likely to report any potential event, while others limit their reports to cases with a high probability of being a donor derived transmission. The percentages ranged across individual DSAs from 0% to 50% although in most DSAs the total number of cases reported during the period was extremely low.

Figure 14. Percent of Deceased Donor Cases Reported 2012-2013 Resulting in a Proven or Probable Classification, by Region



Living Donor Cases Reviewed by DTAC

During the time period of 2006 through 2013 a total of 35 living donor cases have been discussed by the DTAC. The majority of these were reported since 2011 with 12 cases in 2013 alone.

Table 1 provides data on the number of cases reported by year, malignancy versus infections and if the disease was first discovered in the donor or recipient. Table 2 gives the region of transplant center for each case, and table 3 provides the number of cases per disease.

Please note the following:

- Of the 35 reported cases, nine were in 2011 , eight in 2012, and 12 during 2013.
- The majority of living donor cases are malignancies (23 of 35).
- Twenty-two of the 23 cases were reported when disease was discovered in the donor as compare to the 13 identified through disease in the recipient.
- Seven of the 29 cases were from region 3, with no cases reported for region 6.
- The most common specific disease reported was breast cancer with five cases, followed by Renal Cell Carcinoma (RCC) with four cases, and HCV and HBV with three cases each.
- Six of the 35 (over 17%) of the cases were classified as a proven or probable transmission.

Table 1. Living Donor Cases Reviewed by DTAC 2006- 2013

Year	Total	Malignancy	Infections	Case Initiated From Disease in Recipient	Case Initiated From Disease in Donor
2006	1	1	0	0	1
2007	0	0	0	0	0
2008	1	0	1	0	1
2009	2	1	1	2	0
2010	2	1	1	2	0
2011	9	4	5	5	4
2012	8	7	1	1	7
2013	12	9	3	3	3
Total	35	23	12	13	22

Table 2. Region of Transplant Center for Living Donor Cases Reviewed by DTAC 2006- 2013

Region	N
1	1
2	4
3	7
4	3
5	4
6	0
7	3
8	4
9	4
10	4
11	1
Total	35

Table3. Reported Disease for Living Donor Cases Reviewed by DTAC 2006- 2013

Disease	N
Other Malignancy	14
Breast Cancer	5
RCC	4
HCV	3
HBV	3
HIV	1
Herpes Simplex Virus	1
HTLV-1	1
WNV	1
Coccidioides Immitis	1
CMV	1
Total	35