OPTN

DCD Lung Transplant Collaborative

Learning Congress Summary

San Antonio, Texas

September 26-27, 2023

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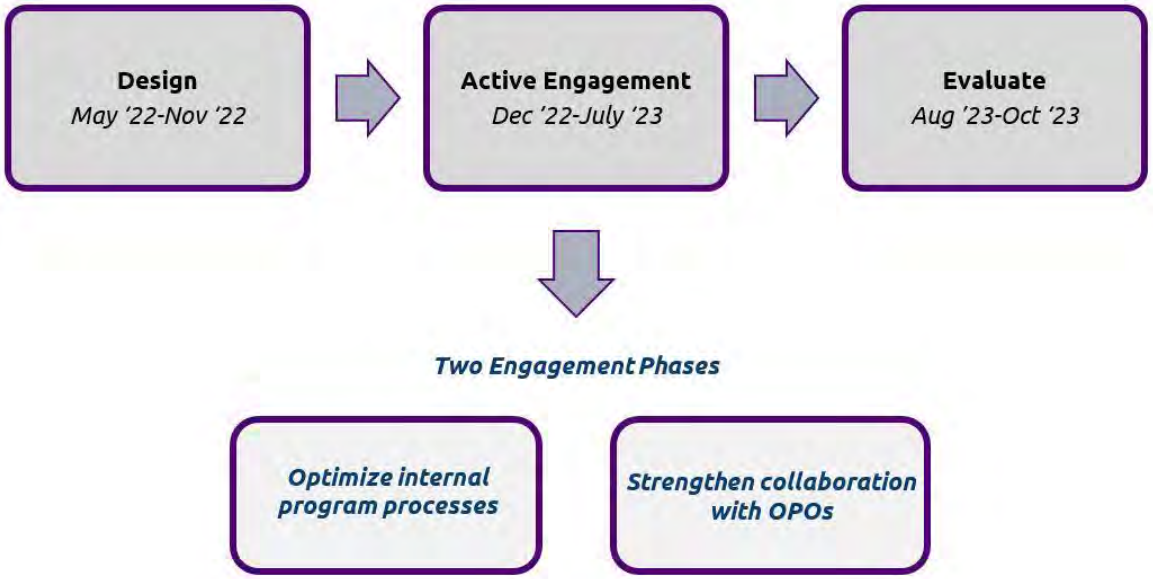
OPTN DCD Lung Transplant Collaborative

The volume of donation after circulatory death (DCD) lung transplants performed in the U.S. varies among programs, even while data indicates that DCD lungs can be transplanted with favorable outcomes. To address this variation in practice, the Organ Procurement and Transplantation Network (OPTN) launched the DCD Lung Transplant Collaborative in December 2022. This collaborative was a national initiative focused on supporting efforts to increase the transplantation of DCD lungs by identifying and sharing effective practices. More than 40 percent of the nation's adult lung transplant programs, twenty-nine in total, participated in this initiative. This eight-month long project fostered improvement efforts via a collaborative framework and encouraged organizational learning and community sharing to drive improvement.

During successive four-month periods, participants focused their performance improvement efforts on internal and external change concepts which involved optimizing internal transplant processes and patient care practices and strengthening collaboration with OPOs. Upon conclusion of the active engagement period in July 2023, an in-person Learning Congress was held, bringing together over 80 professionals from across the county to discuss common challenges, identify potential solutions, and share improvement ideas related to DCD lung transplantation.

OPTN DCD Lung Transplant Collaborative Project Timeline



OPTN DCD Lung Transplant Collaborative Participants

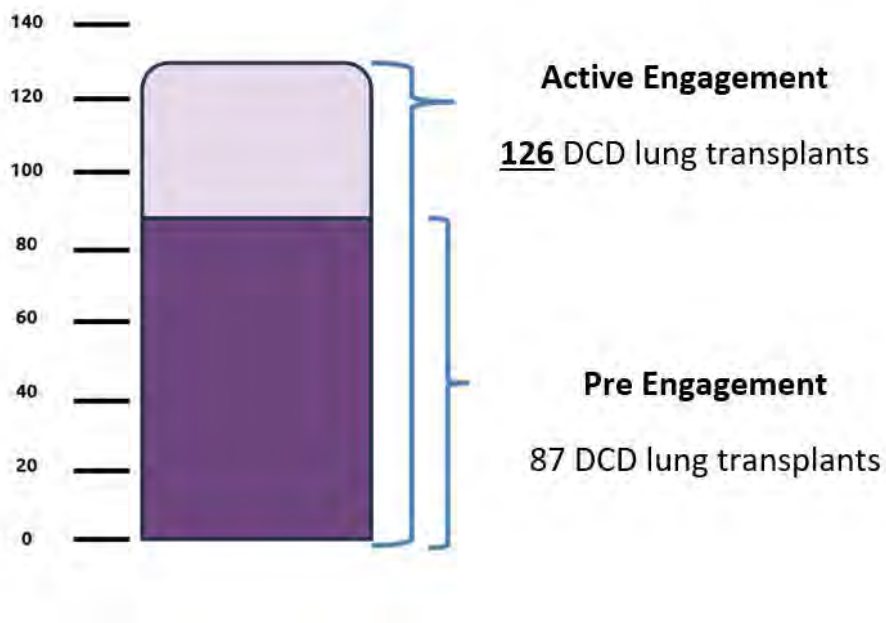
AZSJ* St. Joseph's Hospital and Medical Center	**CACS** Cedars-Sinai Medical Center	**CASD** UC San Diego Health	**CASF** University of California San Francisco Med Center	**CASU** Stanford Health Care
CAUC University of California at Los Angeles Med. Center	**FLTG** Tampa General Hospital	**FLUF** UF Health Shands Hospital	**KYUK** University of Kentucky Medical Center	**ILLU** Loyola University Medical Center
MNUM University of Minnesota	**NCDU*** Duke University Hospital	**NEUN** University of Nebraska Med. Center/Nebraska Medicine	**NJBI** Newark Beth Israel Medical Center	**NYCP*** NY Presbyterian Hospital/Columbia Univ. Medical Center
NYMS Mount Sinai Medical Center	**OHCC*** Cleveland Clinic	**OHOU** The Ohio State University Medical Center	**OHUH** University Hospitals of Cleveland	**PAPT** University of Pittsburgh Medical Center
PAUP Hospital of the University of PA	**SCMU** Medical University of South Carolina	**TXBC** University Health Transplant Institute	**TXHH** Memorial Hermann Hospital, University of Texas at Houston	**TXHI** CHI St. Luke's Health Baylor College Med Center
TXTX Baylor University Medical Center	**UTMC** University of Utah Medical Center	**VAFH** Inova Fairfax Hospital	**WISE** Froedtert Memorial Lutheran Hospital	

**Practice Model Organization*

Collaborative Aim and Results

Primary Aim: Increase DCD lung transplantation by 30% over the eight months prior to active engagement

The twenty-nine participating hospitals performed eighty-seven DCD lung transplants from April 2022 through November 2022. During active engagement, which ran from December 2022 through July 2023, these hospitals *exceeded the 30% goal* by transplanting 126 DCD lungs (plus one additional heart/lung transplant), resulting in a 45% increase in DCD lung transplantation.



The Learning Congress

The day and a half in-person Learning Congress brought together both representatives from programs that participated in the collaborative as well non-participating programs. Representatives from Organ Procurement Organizations (OPO) also attended and played a key role in the on-site discussions. Highlights from the event include:

- Plenary Sessions: Collaborative participants discussed strategies for growth including optimizing donor assessment and clinical practices, capacity building, the importance of leadership support, and post-transplant care practices.
- Breakout Discussion Sessions: Topics focused on effective ways to review offer data and creative ways to create a culture of team engagement from a quality perspective. Additionally, guided discussions also focused on donor evaluation and strategies for successful recoveries, which included the offer review process, dry runs, and use of local recovery teams.
- Large Group Brainstorming Session: Attendees participated in a large group activity to elicit overall feedback and provide input on topics related to ideas for future potential improvement opportunities and ways to further engage with OPOs and donor and transplant hospital staff.

OPTN DCD Lung Transplant Collaborative Learning Congress Playlist
QLT174: Welcome and Overview
QLT175: Strategies to Increase DCD Lung Transplantation
QLT176: Donor Assessment and Death Prediction
QLT177: Transplant Program and OPO Collaboration
QLT178: Key Insights and Shared Purpose
QLT179: Quality Improvement Project Highlight
QLT180: OPO Fireside Chat and Closing Remarks

The recordings and accompanying slide sets for the plenary sessions are available in the OPTN DCD Lung Transplant Collaborative Learning Congress Playlist in the OPTN Learning Management System (known as UNOS Connect^{SM}). Completed modules will provide ABTC Category 1 CEPTC credits.

General Keys to Successful DCD Lung Transplantation

Several "Keys to Success" were frequently mentioned and discussed throughout the Learning Congress. These keys are imperative for successful relationship building both within one's own team and externally, with OPOs and donor hospitals. Consider these keys when evaluating areas for improvement within your own organization's processes.

Invest in a Supportive Culture – Leadership support of DCD lung transplantation is a must. Leaders need to empower staff to strive for improvement, push limits, and encourage new ideas.

Improve Communication – There is no such thing as over communication. Practice increased communication within your own teams as well as with the OPO community.

Explain the "Why" – Provide the rationale behind additional asks of meds, labs, or tests. The "Why" helps to better inform those involved in the donation process and can improve efficiency.

Utilize Local Procurement – Build trust in the lung transplant community and utilize local procurement to increase the potential for DCD lung transplantation. Discuss this option with the OPO and maintain open lines of communication with the OPO and procurement teams.

Plan for "Dry Runs" – "Dry Runs" are often unavoidable with DCD donors. Be prepared and make a plan to incorporate dry runs into your practice. Use dry runs as an opportunity to dive deeper into your processes and seek opportunities to improve.

Standardize Processes – Whenever possible, standardize your team's processes and be consistent. Develop checklists (e.g., logistical needs, process flows, etc.) and draft protocols for your staff to follow. This helps your team understand clear expectations and helps provide continuity of decision making.

Collaborate with Donor Hospitals – Donor hospitals have varying policies and practices, as well as familiarity and comfortablity specfic to DCD donors. Be informed of donor hospital policies, keep lines of communication open, and provide education to help with understanding of the donation process.

Donor Evaluation Clinical Criteria

Over the course of the Learning Congress, attendees worked to identify the key elements needed to communicate and assess DCD lung offers. During the Donor Evaluation Clinical Criteria breakout session, representatives from the University of Minnesota Medical Center, Fairview guided a group discussion of DCD lung assessment processes and donor evaluation criteria. Attendees also separated into smaller groups during the Successful Recovery Strategies breakout sessions to identify effective strategies for DCD lung recovery and transplantation.

Pre-Acceptance Process

- Neuro status updates
  - Current
  - Every X hours
  - At least every shift
- Current medications
  - Pressors
- Mechanism of injury
  - History of event (open vs. closed head injury)
- CPAP or pressure trial performed
- Current vent settings (is the MD willing to make changes?)
  - Pulmonary history
- Current fluid status
- What has been done to treat?
- When was albumin, blood, or diuretic given?
- Current IV hourly infusion rates

Acceptance Process

- Lay out a care plan with the OPO and seek their input
- Vent settings
  - Ideal body weight with appropriate vent settings
  - Ventilator screen set vs. measured (picture)
- NRP (y/n)
  - What other organs are being offered?
  - Who are the other accepting programs and teams
- Communicate with other recovery teams
  - What help can the other teams provide?
- Bronchoscopy
- ABG every four hours (challenge)
- Imaging
- Albumin/blood/Lasix
- Positioning/consider proning
- Fluid status <2L over vs. >2L over
- Anticoagulants
- Sedation scheduled or PRN
  - Sedation vacation
- Repeat neurological assessments
  - What does the patient look like?
- Seizures (during hospital stay)
- Tongue swelling
- Size of neck

OPO Factors to Consider

- Hospital size
- Capabilities of the donor hospital
  - Bronch
  - CT
  - Proning
  - Donor hospital and OPO staffing
    - Is someone available to reintubate?
  - Equipment
    - What is on hand?
    - What needs to be requested?
    - What to bring?
- Blood requests/needs
- Access to blood bank
- Distance (if drivable, always pursue)
- Donor hospital physician willingness
  - Who is pronouncing?
- OR availability
- Other organs being placed
- Other recovery teams
- Location of withdrawal of support
- Use of perfusion (EVLP, NRP)

Communication	
• Inform when calling the surgeon • Obtaining a virtual crossmatch • Accepting/declining the offer • Donor care plan changes • After bronch, ABG results, CXR/CT, labs	• Encourage coordinator to coordinator as well as physician to physician discussions • Explain the "why" behind requests • Time restraints • Any nuances to DCD policy

Key Takeaways

- Strive for accessible, standardized, current data (e.g., neurological assessment, labs).
- Utilize a consistent process approach across all team members.
- Over-communicate with the OPO – establish a care plan and re-evaluate often based on current data.
- Be proactive, not reactive – have conversations ahead of donor OR with a plan in place.
- Give physicians and surgeons a high-definition picture with all the answers every time.

Local Recovery

Utilizing local procurement is one way to increase transplantation of DCD lungs, reduce costs associated with travel due to potential dry runs, and increase overall system efficiency. When investigating options to use local procurement, consider these questions:

- Would your program be willing to procure lungs for another program?
- In what situations would the use of local procurement be beneficial to your team (e.g., caseload, distance, donor specifics)?
- Did you ask the OPO if utilizing a local procurement team would be a viable option?
- Does your team want to send someone to be on-site as well, such as a procurement coordinator?
- What would make your program trust a local surgeon to procure lungs on your behalf?
- What technology is available and how can it be used to help with your assessment available (e.g., OR webcam)?
- What level of communication do you want to have with the on-site teams during the procurement?
- Do you have written documentation to provide to the OPO and/or the recovery surgeon?
- What are your logistical requirements for the local recovering surgeon?
- How can the use of perfusion options influence your decision to use local procurement?

Engaging Teams in Quality Improvement Initiatives

Two hospitals provided examples of quality improvement initiatives which resulted in increased team engagement. Both hospitals emphasized the importance of team inclusivity and input when designing, deploying, and evaluating quality initiatives.

INOVA Fairfax Hospital

Goal

- Improve overall acceptance rates and transplant volume.
- Minimize variation in practice.
- Promote an inclusive culture for increased dialogue and interdisciplinary education.

Process

- Select meaningful cases for anonymous offer review polling: cases selected for review were recommended by team members and were offers that were declined, but ultimately transplanted by another center.
- Compile relevant offer information and send out to the team to obtain their offer decision anonymously, to accept or decline, based on donor information.
- Reconvene the multidisciplinary team to review the actual decision of the offer and post-case offer decisions.
- Outcomes are shared with the team after the decision discussions take place.

Outcomes

- Anonymous polling review sessions create robust team discussions, especially when there is a variety of answers for whether the offer would be accepted or declined.
- This process is well received by staff and is easily replicated across other organ groups.
- This review process is simple and impactful and can be done in one 30 minute meeting. Use of existing virtual polling capabilities, such as Zoom, etc. makes this process easy.

University of Pittsburgh Medical Center

Goal

- Increase DCD organ acceptance by creating standard evaluation criteria and amending the donor call process.

Process

- The donor call process shifted from surgeon-only to a shared responsibility between the surgeons and the pulmonologists and involved coordinators more in the process.
- The team developed a list of standard DCD evaluation criteria and used this criteria to assess consistency with decision-making.
- Each team member involved had the opportunity to participate in discussions about the offer and discuss potential changes in evaluation and acceptance criteria, especially when reviewing declined organs that were transplanted elsewhere.

Outcomes

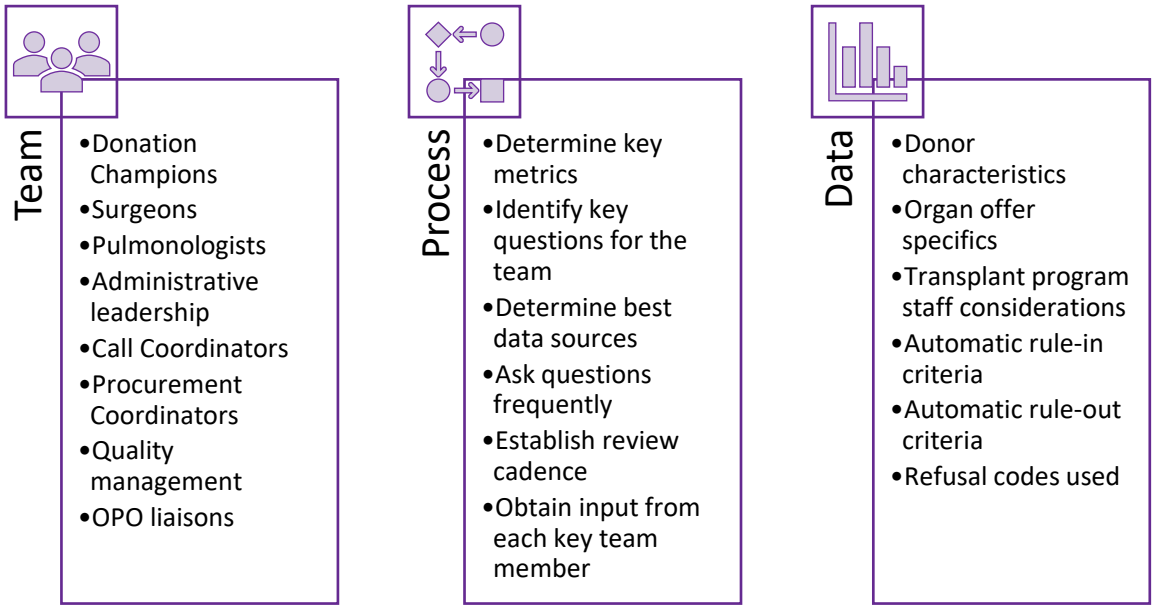
- The weekly discussions helped create buy-in from the entire team and helped the team learn from each other.
- The team learned more about the continuum of the offer acceptance process and learned a lot about the offers declined but accepted elsewhere.

Key Takeaways

- Ensure leadership support and participation of team engagement and improvement opportunities.
- Engage teams by taking a multi-disciplinary approach, ensure key staff participation, and allow everyone to have a voice.
- Create a no-fault and collaborative environment.
- Encourage creativity to re-energize teams.

Conducting Meaningful Retrospective Reviews

Representatives from University Hospital, University of Texas Health Science Center and Nebraska Medical Center shared how their programs have standardized their review processes and how to utilize current data on offers declined by their programs and accepted elsewhere to influence current practice. Both programs emphasized three areas for success: the importance of forming the right team for the review, the development of a robust review process, and identifying and streamlining key data for the team's review.



Key Takeaways

- Determine the optimal size of the team and which team members should be involved in the review process. Ensure decision makers are present and included in these reviews.
- Establish a regular, standardized, and consistent process for organ offer reviews with your team. Determine which tools will work best for your program based on the data your team wants to review or the questions you want to answer.
- Ask why your program did not accept a particular offer when another program did. What would or could have changed your program's decision-making process?
- Check-in with your team about how the established review process is working. Are you achieving the results you need? If not, what can be modified in the process to help improve your reviews?

Collaborative Group Discussion

During the large group brainstorming session, attendees shared ideas for future potential improvement opportunities within their transplant programs and OPOs. Attendees also shared suggestions on ways to further connect with donor and transplant hospital staff to allow for more seamless organ placement and recovery processes.

What is one area where your transplant program would like to improve?

- Quality: DVT prevention, implementation of formal reviews (to energize, no fault, what went right/wrong, include OPOs, debrief dry runs), creation of patient-driven goals (include tool in patient room for self-goals)
- Relationships: for local recovery, create contact lists, join collaboratives
- Efficiency: staff (more coordinators), standardized checklists, screening service

OPOs: What are you going to take back from the Learning Congress?

- Relationships: over-communicate with transplant hospital, get transplant hospital contact for process discussions
- Neuro assessments: keeping updated in DonorNet with date and time, checklist of questions to review and ask, how frequently they are done
- DonorNet: chest x-ray upload, updating ABGs, smart phrases for donor highlights
- Retrospective reviews: donors not pursued, organs not allocated, non-utilization after pump, transplant hospital-specific donor decline meetings
- Understanding ways to improve DCD donors for smaller programs
- Train OPO staff to reintubate

Transplant Hospitals: What are you going to take back from the Learning Congress?

- Relationships: together we are can (and want) to do better, build better relationships, coordinate better with other organ teams
- Communication is key: pre-OR huddles, proactively reach out to AOC
- Standardize DCD workflows and checklists
- Better utilization of UNet data tools and reports
- All donors, whether DCD or DBD, are possible
- Criteria for declining a DCD donor

If you could say one thing or give one piece of advice to OPOs across the country, what would it be?

- Overcommunicate
- The majority of us want to work collaboratively
- Be as detailed as possible in DonorNet: update often, including neuro status as it evolves
- Be patient with coordinators, they are busy and tired
- Have OR time set at the time of offer

Thank You

The Collaborative Improvement team would like to extend a sincere ***THANK YOU*** to everyone who attended the Learning Congress and helped to make this event a truly collaborative success.

To the Collaborative participants who presented your work or helped to moderate a breakout session – ***THANK YOU!*** We are so grateful for your willingness, for putting in the extra time, and for your thoughtful effort!

For colleagues who joined in this collaborative effort for the first time – ***THANK YOU*** for participating in this event, being open to sharing your perspectives with other transplant professionals, and most importantly, for your presence and engagement during this event!

We look forward to collaborating with all of you on other initiatives in the future and we wish you all continued success in your improvement journeys!

Sincerely,

The OPTN Collaborative Improvement Team

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key points
Criteria Follow Up