ESRD Treatment Choices Learning Collaborative (ETCLC)

THE CHANGE PACKAGES:
Kidney Donation & Kidney Transplant

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I. Executive Summary

Overview

In March of 2020, CMS released two kidney change packages with the intent of increasing the number of kidneys transplanted. The change packages addressed two audience groups: the Kidney Donation Change Package addressed Donor Hospitals and Organ Procurement Organizations (OPOs) and the Kidney Utilization (Transplant) Change Package addressed Transplant Programs and OPOs. The National Aims were to increase the number of deceased donor kidneys and decrease the number of unused kidneys. These two change packages included detailed strategies, expected outcomes, and effective practices that are shown to improve the donation, recovery, and transplantation process.

The ESRD Treatment Choices Learning Collaborative (ETCLC) was established as a platform to support organizations in successfully adopting the effective practices in the change packages, through individual and team-based collaborations, learning events, and case studies designed to achieve the three National Aims.

A product of the collaborative will be revised change packages for the Transplant and Donor Communities. The learning, insights, and experiences gained through the collaborative will guide the final versions. This is the first in a series of three phases planned to refine the two change packages between 2022-2025.

Phase 1 (2022-2023). In this phase, the TAQIL Team will produce and publish insights and experiences generated from the first year of working with the Change Package. The document will describe the activities that took place and includes insights generated from the experience as they relate to improving the change packages.

Phase 2 (2023-2024). In this phase, the TAQIL Team and National Faculty will work with organizations to evaluate the efficacy of the identified initiatives and determine whether performance can be attributed to the actions generated from the change package or other innovative practices. This phase will showcase performance and actions in two areas:

1. High-performing organizations utilizing the Progress Tracking system and completed Quality Improvement (QI) Initiatives that generate high performance.
2. High-performing organizations who have not chosen to use the Progress Tracking system yet are engaged in the collaborative.

Phase 3 (2024-2025). This phase brings the work of Phases 1 and 2 together to produce rebuilt change packages that reflect the learnings of the collaborative and is streamlined and structured to improve clarity and motivate the user into action to improve kidney transplantation and donation. The distribution of these change packages in Option Year 3 sets up Option Year 4 to motivate all ETCLC participants to adopt the full change packages by the final year of the collaborative.

Section II focuses on how organizations in the collaborative interacted with the change packages through a variety of methods. Topics addressed include:

- **Initiatives Focused on National Aims**. How the quality improvement initiatives supported the three National Aims and a special focus on Aim 2.
- **Initiative Focus on Change Package Strategies**. How organizations reporting focused on the change package strategies.

- **Action Items to Focus on First**. The most frequently cited change package action items, (as initially chosen by organizations reporting their progress) as a signal to start improvement campaigns with these items first.
- **National Faculty suggestions for OPOs**. Findings from Faculty-led conversations with high-performing OPOs who successfully increased recoveries from donors over the age of 60 and Donations after Circulatory Death (DCD).
- **Promising Practices from Completed Initiatives**. Descriptions of initiatives that have been completed by reporting organizations and are awaiting a validation conversation.
- **Innovations (New Action Items) Being Tested**. An overview of the scale of new innovations being reported by organizations.
- **Action Items Not Yet Addressed by the ETCLC Community**. Current Action Items in the change packages that have not yet been reported as being tested by an organization.

A summary of insights and experiences from the initial use of the change packages is found at the end of the section followed by the Kidney Donor Change Package (Section IV) and Kidney Transplant Change Package (Section V).

II. Insights and Experiences with the Change Packages

Initiatives Focused on National Aims

Initially, organizations across the ETCLC were encouraged to adopt effective practices that aligned with current or future planned quality improvement initiatives within their organizational structure. Organizations were asked to share basic information on these initiatives through an exclusive ETCLC system known as the Progress Tracking system. This system was designed to send at least five (5) key signals:

1. The nature of the Quality Improvement initiatives implemented,
2. The initiatives' alignment with the National Aims,
3. The initiatives associated with change packages action items,
4. A quantifiable picture of progress over time toward the achievement of certain milestones, and
5. The level of engagement as measured through submission volume and frequency.

The following highlights some of the signals sent from the Progress Tracker:

Table 1 – Distribution of QI Initiatives by Aim.

Aim	Count	% Dist	Org
1. Increase Transplants	231	65%	136
2. Decrease Unused	109	31%	72
3. Increase KDPI ≥ 60 Recoveries	16	4%	9
Total	***356***	***100%***	***217***

65% of the QI Initiatives are focused on Aim 1. The TAQIL Team has started focusing on initiatives related to Aim 2 as this aim is proving to be the most challenging. QI Initiatives focusing on Aim 2 represent 31% of reported initiatives, with many newer initiatives being developed focusing on this aim to increase the level of effort on Aim 2, the TAQIL team highlighted eleven "Focused Initiatives." The "Aim 2 11 Focused Initiatives" represent activities that are critical to driving improved performance on the aim. The 11 initiatives are listed below in Table 2.

Table 2 – Distribution of Aim 2 11 Focused Initiatives

Focused Initiative	# of Initiatives	% Distribution
AIM 2: 1 - UNOS reports	10	13%
AIM 2: 2 - Near real-time review	34	43%
AIM 2: 3 - Waitlist management	20	25%
AIM 2: 4 - Bypass filters	2	3%
AIM 2: 5 - Perfusion pumps	4	5%
AIM 2: 6 - Patient education / orientation package	1	1%
AIM 2: 7 - Professional Education (ID teams)	4	5%
AIM 2: 8 - Nephrology Roundtable	0	0%
AIM 2: 9 - Chartered flights	1	1%
AIM 2: 10 - Airline Agreements	0	0%
AIM 2: 11 - Distributed staffing transportation	3	4%
Total	***79***	***100%***

Of the 11 Aim 2 Focused Initiatives, nine have been identified as QI initiatives by participants reporting through the Progress Tracking System. The two most popular initiatives are:

1. **Near Real-Time Review** which calls for monitoring and review of missed opportunities using 'After Action Review' format ideally on a weekly basis. Action items supporting these efforts can be found in the Transplant Change Package in Sections T1.B.iii and T1.B.iv.

2. **Waitlist Management** where Transplant Programs are encouraged to communicate with waitlisted patients consistently and regularly and follow up with the dialysis facility on a monthly or quarterly basis. Action items supporting these efforts can be found in the Transplant Change Package in Sections T2.A., T2.B., and T2.C.

Two of the 11 initiatives have not yet been selected by Transplant Programs or OPOs reporting through the Progress Tracker. These two action items are:

1. **Nephrology Roundtable** as a forum for surgeons willing to accept Kidneys with a KDPI ≥ 60 and other expanded criteria to share their experiences with Fellows and other surgeons.
2. **Airline Agreements** that secure priority flight availability for organ transport.

Initiative Focus on Change Packages Strategies

One of the signals from the Progress Tracking system is the degree to which organizations have engaged on particular action items. The structure of the change packages lends itself to a better understanding of where ETCLC Organizations have chosen to focus their efforts through the adoption of the action items.

Each Change Package is comprised of three "Strategies." These Strategies are: 1) Robust Leadership, 2) Right Systems, and 3) Engaged Community. The distribution of Quality Improvement initiatives among these three strategies signals the level of importance and value of the action items identified in each Change Package. Tables 3 and 4 highlight the distribution of initiatives among the three strategies.

Table 3 – Distribution of Strategies for the Donor Package

DONOR CP	Robust Leadership	Right System	Engaged Community	TOTAL
# of Initiatives	55	91	15	161
# of Organizations	43	50	14	79

Table 3 shows that 56% of the initiatives from the Donor Change Package are focused on building the Right System, while 34% of the initiatives are focused on Robust Leadership. The final 10% of initiatives are focused on engaging the Community.

Table 4 indicates that 65% of the initiatives from the Transplant Change Package are focused on building the Right System, with 32% focused on Robust Leadership and 3% focused on Engaging the Community.

Table 4 – Distribution of Strategies for the Transplant Package

TRANSPLANT CP	Robust Leadership	Right System	Engaged Community	TOTAL
# of Initiatives	62	126	7	195
# of Organizations	52	87	7	112

Together, over 350 quality improvement initiatives have been reported from over 190 organizations from March 2022 through March 2023. The TAQIL team continues to encourage organizations to share their Quality Improvement initiatives with the community through the Progress Tracker.

Action Items to Focus on First

ETCLC participants chose Change Packages Action Items to work on through Quality Improvement initiatives. Progress on these initiatives was reported in the Progress Tracker to signal which of the items best aligned with work needed to improve organizational process and practice.

Tables 5 and 6 summarize the Top Action Items being implemented and reported on within the ETCLC community. These tables narrow the change package options and serve as an impetus to move organizations into action.

Donor and Transplant community members beginning their improvement journey are encouraged to start implementing these strategies and practices now. Resources, such as Pacing Events and Case Studies, are available to the ETCLC community several times per month. Active participation on monthly QI Team calls has also been instrumental in the spread of knowledge while offering peer-to-peer, real-time feedback on these active initiatives. More information on previous events and the QI Teams is available at etclc.org.

Note: Using CTRL-Click on the underlined numbers below will take the reader to the referenced location in the change package.

Table 5 – Top Action Items for Transplant Programs and OPOs

TRANSPLANT PROGRAMS AND ORGAN PROCUREMENT ORGANIZATIONS (OPO)		
Outcome	**Practice**	**% of Initiatives Reported**
T1.B OPO and transplant centers establish accountability for increasing kidney transplants and avoiding kidney discards through continuous quality improvement	T1.B.i The OPO and transplant center leadership meet at least quarterly to review and take action to improve performance on bold aims and share the results with key stakeholders (e.g., Boards, medical staff, dialysis centers, community leaders, etc.).	6.7%
	T1.B.iii Transplant teams formally follow up on declined kidneys as an opportunity to improve the understanding of the acceptance criteria between transplant center decision-makers and OPOs and influence changes in practice.	6.1%
	T1.B.iv Transplant teams review organ acceptance patterns on a routine basis and identify missed opportunities for kidney utilization. (Identify variations in acceptance between team members and any negative outcomes for patients overlooked).	6.1%
T2.A Transplant centers, dialysis centers, and community nephrologists are ready to manage patients as candidates for the active waitlist.	T2.A.i Transplant centers monitor the time it takes to get patients on the transplant center waitlist from their initial referral from their community nephrologist (the time it takes for the evaluation process and testing to be completed before the patient is waitlisted).	8.5%
T2.C "Active" waitlist candidates are always "transplant ready"; the transplant center is ready to accept a kidney when offered.	T2.C.i Transplant center manages the waitlist so that an "active" patient can always accept a kidney. (Active waitlist is actionable.)	7.9%
T2.E Transplant center decision-makers are prepared to manage risk and accept offers. OPO and transplant centers standardize the decision-making process for accepting a kidney offer.	T2.E.ii Transplant center creates predictable organ offer acceptance behavior across transplant center team members.	5.5%

Table 6 – Top Action Items for Donor Hospitals and OPOs

DONOR HOSPITALS AND ORGAN PROCUREMENT ORGANIZATIONS (OPO)		
Outcome	**Practice**	**% of Initiatives Reported**
D1.A OPO and its donor hospital network executives adopt bold aims guided by data and national priorities to improve donor potential and kidneys recovered.	D1.A.iv Strategically align OPO and donor hospital resources that ensure the "donation system" functions optimally.	6.4%
D1.B OPO and its donor hospital network establish a culture of accountability for results and continuous quality improvement.	D1.B.iii Ensure policies, protocols, and practices are focused on measurable goals with continual tracking/trending of donation metrics, and compare performance against other similar hospitals and local, regional, and national benchmarks.	6.4%
D2.A OPO and its donor hospital network adopt the top nine recognized principles that guide effective practice to increase organ donation. See "Focus Area #1" for further illustration of the top nine principles.	D2.A.i Honor the first-person authorization for donation without exception.	8.0%
	D2.A.ii Use broad clinical triggers (i.e., all patients on ventilators and all circulatory deaths) and adopt a policy of timely hospital referral to OPO.	13.6%
	D2.A.iii Streamline the referral process between the OPO and the hospital.	8.8%
	D2.A.vi Develop "cues" from the family to initiate timely approach for donation.	8.0%

National Faculty Suggestions for OPOs

As part of the collaborative start-up, National Faculty was asked to review the initial change packages and identify the Top 5 Action Items that would provide a starting point for organizations adopting the packages. The National Faculty assigned points from 1 – 5, with 5 being the most important action items. The top 5 Action Items for the Transplant Change Package and Donor Change Package are listed in Table 7 and Table 8.

Table 7 – Top 5 Transplant Action Items Identified by National Faculty

Transplant Change Package
Right Systems-D.ii Provide a full spectrum of transplant possibilities, and follow up, including the use of high KDPI kidneys, two high KDPI kidneys, PHS, increased risk, hepatitis C virus (HCV+), etc. (4.7 Points)
Right Systems-F.i Look beyond the KDPI to determine if a kidney will work for a patient. Review all clinical data (i.e., pictures, pump-data, biopsies) to ascertain the whole picture of the organ offer; do not rule out acceptance based on one number. (4.7 Points)
Right Systems-F.iii Actively pursue and utilize kidneys from donors over 60 years old for utilization in patients over 60 years old. (4.6 Points)
Right Systems-C.iii Transplant program maintains a large pool of active candidates and "know the candidates well" to increase possibility of kidney placement. (4.4 Points)
Leadership-B.iv Transplant teams review organ acceptance patterns on a routine basis and identify missed opportunities for kidney utilization. (Identify variations in acceptance between team members and any negative outcomes for patients overlooked). (4.3 Points)

Table 8 – Top 5 Donor Action Items Identified by National Faculty

Donor Change Package
Right Systems-2D.ii Provide a full spectrum of transplant possibilities, and follow up, including the use of high KDPI kidneys, two high KDPI kidneys, PHS, increased risk, hepatitis C virus (HCV+), etc. (4.7 Points)
Right Systems-2F.i Look beyond the KDPI to determine if a kidney will work for a patient. Review all clinical data (i.e., pictures, pump-data, biopsies) to ascertain the whole picture of the organ offer; do not rule out acceptance based on one number. (4.7 Points)
Right Systems-2F.iii Actively pursue and utilize kidneys from donors over 60 years old for utilization in patients over 60 years old. (4.6 Points)
Right Systems-C.iii Transplant program maintains a large pool of active candidates and "know the candidates well" to increase possibility of kidney placement. (4.4 Points)
Leadership-1B.iv Transplant teams review organ acceptance patterns on a routine basis and identify missed opportunities for kidney utilization. (Identify variations in acceptance between team members and any negative outcomes for patients overlooked). (4.3 Points)

Based on feedback and discussion, the TAQIL team pursued a series of interviews with OPOs, focusing on the Donor Change Package and Action Item D2.F.iii, which encourages organizations to pursue and utilize kidneys from donors over 60 years of age as well as pursuing increases in DCD recoveries.

After an initial series of National Faculty-led interviews with the OPOs, the interviewees were convened to review the findings and summarize the results. These results were presented as the effective practices that were implemented and then shared with the ETCLC participants during an Open Office Hours call in October 2022.

Table 9 focuses on "Effective Operational System Practices" and Table 10 focuses on "Creating A Culture of Donation." These tables show the alignment of the practices with the change packages. Where applicable, if the effective practices did not map to an action item in the change packages, "Potential New Action Item" is indicated.

Table 9 – Effective Operational System Practices Emerging from Interviews with OPO

Effective Practice	Alignment with Current Donor Change Package
OPOs consider eliminating or reducing reliance on the use of predictive tools such as the Wisconsin DCD Tool and the Glasgow Coma Scale (GCS) for referral triggers to rule out the pursuit of potential donor referrals. Focus on medical suitability and not predicting death.	D2.A.ii Use broad clinical triggers (i.e., all patients on ventilators and all circulatory deaths) and adopt a policy of timely hospital referral to OPO.
Expand assessments to higher age groups; expand warm ischemic (e.g., beyond 60 minutes) up to 90 minutes or longer (for DCD)."	D2.B.v OPO and donor hospital clinicians agree to utilize the broadest national definitions of an "acceptable kidney" (e.g., acute kidney injury [AKI] kidneys, hepatitis C kidneys, HIV+ kidneys) for OPO and hospital clinicians to determine appropriate donations.
Rapid (6 hours or less) DCD Process Development	D2.A.v Provide aggressive clinical care/donor management for potential donors, ensuring the opportunity to donate is preserved.

Effective Practice	Alignment with Current Donor Change Package
OPOs collaborate with the care team and focus on generating an unbiased and objective assessment of suitability for donation.	POTENTIAL NEW ACTION ITEM
Conduct robust (within next business day) medical record review (all deaths ventilated or previously ventilated) to identify missed opportunities and share the findings with staff.	D1.B.iv Solicit and utilize feedback about case activity to optimize the donation experience for all stakeholders.
Donor Hospitals and OPO enable real-time electronic donor referrals.	D2.A.iii Streamline the referral process between the OPO and the hospital.

Table 10 – Creating A Culture of Donation Emerging from Interviews with OPO

Effective Practice	Alignment with Current Donor Change Package
OPOs facilitate and promote a positive organizational culture through the use of multiple recognition platforms.	POTENTIAL NEW ACTION ITEM
OPOs consider the use of specialist's positions that will be accountable for specific results in the donation process.	POTENTIAL NEW ACTION ITEM
Consider hiring dedicated recovery surgeon(s) who focus solely on recoveries rather than relying on community physicians.	POTENTIAL NEW ACTION ITEM
OPO shares current, organ-specific donation data with Interdisciplinary Donor Council (IDC) and other information.	D1.C.i Donor hospital sets up and staffs an Interdisciplinary Donor Council (IDC) to support donor hospital and OPO efforts to identify potential donors, maximize family support and communication, and optimize the availability of organs for transplantation.
OPOs and Donor Hospitals Leverage National Donate Life Blue & Green Day and other state and local opportunities to promote recognition in the community for donation.	D3.A.i Participate in community events. Work with high schools, faith-based agencies, first responders, local businesses, and other community organizations to make donation the default.

Promising Practices from Completed QI Initiatives

As organizations complete initiatives, the TAQIL team will work to determine the efficacy of the results and jointly determine whether the initiative can be brought forward in the form of a briefing to the collaborative community and ultimately included in the final version of the Change Packages.

Tables 11 (Donor) and 12 (Transplant) highlight the change packages action items that have been signaled as "Complete" through the date of this document. During Phase 2, the efficacy of the completed initiatives will be evaluated against organizational performance on the National Aims as well as data collected during the initiative.

Table 11 – Completed Initiatives from the Donation Change Package

Action Item	Initiative Description
D1.A.v New Action	Re-education of Renal Team staff for OPO referral process. Referral rate 28% for the month of May, 40% for April. The Renal Team did not know they could call. They also did not know they did not have to know medication details.
D1.B.iii Focus on measurable goals; continual tracking; trending; benchmarking.	Real time death record review ensures timely follow-up in the event of a missed or late referral - so that hospital staff can be made aware while case is fresh in their mind to prevent in future.
	OPO & DSA hospitals will share a collaborative relationship that encourages timely identification of potential organ donors and early interactions with families to increase the authorization rate to 60%.
D1.B.iv Use feedback to optimize donation experience.	OR staff will receive education to better understand the DCD process.
D1.C.ii IDC has representation from stakeholders.	Expanding beyond IDCs, which we currently have at almost all our donor hospitals; we are engaging hospital leadership in a DSA-wide forum to spread best practices.
D2.A.i Honor 1st-person authorization w/o exception.	Change DCD language around authorization and family care to honor first person authorization in a standard way as it is approached with BD donation.
D2.A.ii Use broad clinical triggers; policy on timely referral to OPO.	Modification of allocation practice to actively pursue kidney donors who are > 60 years old in brain dead donors.
D2.A.iii Streamline referral process.	Eliminate missed and late referrals with electronic referrals
D2.A.v Provide aggressive clinical care/donor management.	Implementing Donor Management Goals to increase organ transplantation rate.

Table 12 – Completed Initiatives from the Transplant Change Package

Action Item	Initiative Description
T1.A.ii Aims based on national / regional high-performance.	We will decrease the number of median days from the initial referral to a kidney transplant specialist until presentation to the MRB.
	Use of kidney pumps to increase kidneys accepted for transplant in the 60-85 Kidney Donor Profile Index (KDPI) score group.
T1.A.iv. New Action	Allocation of hard-to-place kidneys using aggressive center list.
T1.B.i Hold regular meetings; review performance.	Develop and implement a Learning Assessment Tool (LAT) to assess patient knowledge gaps in post-transplant self-care management in the pre-transplant setting to improve post-transplant outcomes.
T1.C.i Cultivate deep partner relationships.	Improve transport logistics for recovery teams as well as organ delivery to Transplant Centers. Working with NORA for ground transportation.
T2.C.i Active patients can always accept a kidney.	Ensure readiness for transplantation

Action Item	Initiative Description
T2.C.iii Transplant program maintains large pool of active candidates.	Identify waitlisted patients who may come up for offers in the near future based upon UNOS reports. Implement interventions to ensure candidates are transplant ready.
T2.D.vi New Action	Improve the kidney biopsy process to obtain accurate biopsy interpretations; read by a transplant pathologist; as quickly as possible. This will result in a decrease in CIT and an increase in kidney utilization.
T2.E.ii Create predictable organ offer acceptance behavior across team.	Monthly organ offer review of kidney offers using UNOS Analytics tools.
	Review of all deceased donor kidney offers which were actually available to the TX candidate and declined, which were then later transplanted by another center into pediatric TX candidate
	Allocation changes to utilize aggressive centers earlier to maximize utilization of the kidneys
T2.E.iii Adopt philosophy of accepting the offer.	Based on SRTR data, our center is less aggressive in accepting kidneys with higher cold ischemia times and looking to decrease our decline rates for ischemia time.

Innovations (New Action Items) Being Tested

A critical component of the ETCLC is to encourage the adoption of the Action Items contained in the two change packages. Likewise, ETCLC participants are encouraged to test new theories and ideas for consideration in future change package revisions. Table 13 identifies the volume of new Action Items being tested by organizations submitting progress reports. The items will need to be vetted to ensure that they are indeed new to the change packages and that they are producing the desired results before they will be considered for inclusion in the change packages. This number suggests that organizations are looking beyond the change packages for solutions that accelerate progress towards completion of the Aims as approximately 18% of the initiatives submitted so far represent potential innovative practices.

Table 13 – Innovations (New Action Items) in Transplant & Donor Change Packages

Strategy	Transplant Change Package		Donor Change Package	
	# of Initiatives	# of Organizations	# of Initiatives	# of Organizations
1. Robust Leadership	8	7	6	6
2. Right Systems	23	18	24	23
3. Engaged Community	5	5	0	0
Total	***36***	***30***	***30***	***29***

Action Items Not Yet Addressed by the ETCLC Community

The Donor Change and Transplant Change Packages contain 34 and 44 action items respectively. As of the date of this report, 6 (17.6%) of the possible 34 Action Items from the Donor Change Package have not yet been selected and reported on through the Progress Tracking systems. The Transplant Change Package has 11 items (25%) of the 44 action items not yet selected.

The TAQIL Team will monitor these items to determine if they are candidates for elimination from the change packages. This decision will consider the many different factors including, but not limited to, 1) obsolescence

(the item no longer applies), 2) universal adoption (everyone is doing this, and it is standard operating procedure nationwide), or 3) is not replicable in other situations (results cannot be obtained in other settings).

Table 14 – Unused / Unreported Donor Change Package Action Items

Donor Change Package	
2Aviii.	Provide unconditional support to the family.
3Aii.	Build partnerships with the Department of Motor Vehicles and local and state law enforcement to create awareness related to donor designation from an early age
3Bi.	Provide current methods, practices, and rationale related to kidney donation to schools of medicine and nursing, residency programs, and professional associations.
3Bii.	Train clinical students and residents on how to explain "brain death" and "circulatory death."
3Civ.	Secure a significant role in new donor hospital staff orientation and train staff on donor philosophy, policies, and practices.
3Cvi.	Close the loop with donor (critical care or hospital) staff. Provide a report (e.g., "hero outcome memorandum") for all patients who made an organ donation. Share with administration and all departments that care for the patient.

Table 15 – Unused / Unreported Transplant Action Items

Transplant Change Package	
1Cii.	Use proven recruitment and retention strategies to build the right team. a. Recruit and retain clinicians who have the philosophy of care and risk tolerance that aligns with the expectations of the transplant center/OPO. b. Recruit and retain physicians with the commitment and technical expertise to manage the complexities associated with the use of "less-than-ideal" kidneys.
1Civ.	Recruit and retain a diverse and talented workforce utilizing proven human relations (HR) strategies and effective practices for on-boarding, off-boarding, growing talent, and leadership development. a. Use panel interviews, including peer-to-peer interviews. b. Implement a Division of Culture for new hires to find the right person and the right fit for the team.
2Diii.	Frequently revisit consent for the use of "less-than-ideal" kidneys if not obtained during evaluation.
2Fii.	Monitor and review impact of DGF on hospital length of stay, use of dialysis, and cost implications; monitor the increase in DGF patients who receive "less-than-ideal" kidneys.
2Fiii.	Actively pursue and utilize kidneys from donors over 60 years old for utilization in patients over 60 years old.
3Aii.	Develop scripts to standardize patient education including a focus on post- transplant events and possibilities (e.g., likelihood of dialysis) to ensure patient expectations are realistic.
3Aiv.	Provide at least one monthly contact with patients/families to provide ongoing education while on the kidney waitlist.
3Bii.	OPOs have a teaching culture with dedicated staff accountable to provide education and professional development to all involved personnel and organizations in an energizing and measurable way.
3Biii.	OPO and transplant center hospitals use cross organizational training programs to put faces with names and foster personal relationships with those working to successfully transplant kidneys.
3Ciii.	Community nephrologists participate in and streamline the referral process for kidney transplantation.

Transplant Change Package	
3Civ.	OPOs and transplant centers have forums and events for sharing effective practices, innovations, and ideas around reducing kidney discards and changing practice.

Insights, Experiences and Setting Up Phase 2

In the first year, ETCLC organizations have worked to adopt significant portions of the two Change Packages. Activity has been primarily focused on Aims 1 and 2, with the TAQIL Team encouraging organizations to focus efforts on Aim 2 since October 2022. Use of the Progress Tracking system has signaled that a variety of new efforts are underway in support of the National Aims.

Phase 2 will focus on connecting performance on the aims to those initiatives and working with organizations to share their findings and experiences with the broader collaborative. A summary of significant insights and observations is included below:

Table 16 – Summary of Insights and Experiences

Insight	Comment
1. Most of the activity is focused on Aims 1 and 2.	96% of the reported initiatives addressed Aim 1 (65%) or Aim 2 (31%).
2. Significant portions of the Change Packages are being utilized.	82% of the Donor Change Package and 75% of the Transplant Change Package have had at least one action item identified as QI initiative by a reporting organization.
3. Reporting organizations are multi-tasking.	217 organizations have reported on 356 initiatives thus averaging 1.6 initiatives per organization.
4. Opportunities exist to improve representation from organizations who have not yet shared their initiatives.	217 of 408 organizations have reported at least one initiative. Improvements can be achieved in the number of organizations reporting and the frequency of the report submissions.
5. Organizations will need to be willing partners in sharing their methods to produce results.	The TAQIL Team will prepare organizations to bring their completed initiatives forward to the ETCLC. This will be the significant work of Phase 2.
6. To align action items with performance on aims, more organizations need to be working on the same action item.	The TAQIL Team will use the QI Team structure and other platforms, to encourage organizations to focus on selected action items to foster collaboration and build the evidence base for improvement.

III. The Case for Change in Deceased Kidney Donation and Transplantation (March 2020)

Background

In the United States, approximately 96,000 [i] people are on the kidney transplant waitlist. That list has been growing about 2-3 percent annually, although there were 25,499[ii] kidney transplants in 2022. More candidates are added to the list than removed each year.

The average time on the waitlist is three to five years. [iii] Every day, approximately 13 people die waiting for a kidney transplant, which equates to over 4,745 deaths per year. This high mortality rate is staggering, yet some 5,051[iv] kidneys in 2020 were recovered and not used.

To expedite the transition of patients from dialysis to kidney transplant, the Centers for Medicare & Medicaid Services (CMS) is working with Organ Procurement Organizations (OPOs), Transplant Centers, and Donor Hospitals to:

1. Increase the number of patients that receive kidney transplants.
2. Decrease the number of kidneys that are recovered and not used.
3. Increase the number of "less-than-ideal" kidneys (KDPI ≥ 60) recovered.

In March of 2020, CMS released a Kidney Focused Change Package develop through a series of site visits to Organ Procurement Organizations, Transplant Centers and Donor hospitals demonstrating high standards of performance in increasing kidney transplants and decreasing the number of unused kidneys.

In March of 2023, the change package was refreshed to reflect the initial learnings (Refresh #1) generated from the CMS End Stage Renal Disease (ESRD) Treatment Choices (ETC) Kidney Transplant Learning Collaborative or ETCLC which began in earnest in January of 2022. Consisting of 53 Organ Procurement Organizations; 180 Transplant Centers and 122 Donor Hospitals, participating organizations are working in 25 Quality Improvement Teams to implement the strategies and action items that lead to the outcomes identified in this change package and develop and test new effective practices that lead to achievement of the national aims.

National Aims Drive Results

A guiding principle of CMS improvement efforts is that "Aims create systems and systems create results."[vi] Building on the President's Executive Order of July 2019,[vii] CMS established three National Aims for the ETCLC:

National Aim 1: Increase Deceased Kidney Transplants

Increase the number of deceased donor kidneys transplanted by 7% over baseline of 19,843 (DCD Kidneys in 2021) in the base period yielding 21,232 deceased donor kidneys in the current year. Achieve an additional 7% increase in goal of each option period ending with a total increase of 28% over baseline for the total 4-year period.

National Aim 2:

a) **Decrease Discard Rate KDPI <60.** Decrease the current national discard rate of all procured kidneys with a KDPI greater than or equal to 60 from 45% to 40% in the current year. Achieve an absolute decrease of 20% for procured kidneys with a KDPI greater than or equal to 60 for the total 4-year period.

b) **Decrease Discard Rate KDPI >=60.** Decrease the current national discard rate for all procured kidneys with a KDPI <60 by 1% in the current year and by 4% for the total 4-year period.

<u>National Aim 3</u>: Increase % of >=60 KDPI recovered for Transplant

Achieve a 7% increase in the number of deceased donor kidneys with a KDPI greater than or equal to 60 recovered from transplant from the baseline of 11,284 yielding 12,863 deceased donor kidneys in the current year. Achieve a 28% increase in kidneys recovered for transplant with a KDPI greater than or equal to 60 for the total 4-year period.

The work of the ETCLC builds on the previous work of the Health Resources and Services Administration (HRSA) Organ Donation Collaborative (2003), which was instrumental in hardwiring exceptional practices that have improved organ donation rates for both brain death and donation after circulatory death (DCD). These change packages also build on more recent kidney-focused improvement efforts, such as the HRSA Collaborative Innovation and Improvement Network (COIIN), which explored innovative approaches to increasing kidney transplantation with a focus on utilization of DCD with a kidney donor profile index (KDPI) score greater than 50 percent.

Two Change Packages Share Effective Practices

The ETCLC focuses on both kidney donation and transplantation and fosters collaboration between Organ Procurement Organizations (OPOs) and their associated donor hospitals and transplant centers. The *Kidney Donation Change Package* is designed to promote collaboration between donor hospitals and OPOs. The *Kidney Utilization (Donation) Change Package* is designed to promote collaboration between transplant centers and OPOs. The users of each change package are expected to review the strategies and actions outlined in their respective change packages and work collaboratively to implement the strategies to improve their collective performance on the National Aims.

The two change packages can be viewed as synergistic. The intent of the collaboration of the donor partnerships (donor hospitals and OPOs) is that they will increase the number of deceased donor kidneys available for transplantation by:

- ✓ Broadening their definition of an eligible donor.
- ✓ Increasing the conversion rate of *eligible donors* to *donors*.
- ✓ Increasing the number of kidneys recovered with KDPI >60.

The intent of the collaboration of the transplant partnerships (transplant centers and OPOs) is that they will increase the number of transplants by (among other strategies) decreasing the number of unused kidneys by:

- ✓ Broadening their definition of an acceptable kidney (increase the use of "less-than-ideal" kidneys).
- ✓ Increasing the acceptance rate of kidneys by patients and transplant centers.
- ✓ Increasing the number of active waitlist candidates who are "transplant ready."
- ✓ Increasing the number of kidney transplantations for eligible patients.

How to Use the Change Packages

As mentioned above, the expectation is that the donor hospitals and transplant centers will collaborate with OPOs to adopt actions suggested in the change packages that are necessary to achieve the national aims. The change packages do not identify which organization is responsible for the specific action. Accountability for those actions is the product of the collaboration between organizations. The Kidney Donation and Kidney Transplant Change Packages are each organized with a summary of three main **<u>Strategies</u>** (labeled 1,2,3) supported by specific **<u>Outcomes</u>** (labeled A, B, C…) to be generated for the strategy. Each of the specific outcomes is supported by **<u>Action Items</u>** (labeled i, ii, iii…).

The following section contains action items for the strategies and desired outcomes that surfaced from site visits to high-performing organizations and reviewed by a national Technical Expert Panel in 2019.

Getting Started

The following actions are suggested for implementation of the change packages:

1. **Start with a Bang!** Convene and publicize a "Kidney Kickoff" with key leadership from the donor hospital or transplant center and the OPO to review the change package and assess the readiness of both organizations to begin activating one or more of the highly effective practices.
2. **Quantify Success**. Develop the bold aims for each organization that will driveand define success in contributing to the achievement of the National Aims.
3. **Put the Systems in Place**. Create the internal structure and accountability necessaryto implement the change package and produce results.
4. **Share the Results**. Share the bold aims and results with key stakeholders (staff, Boards, medical professionals, community leaders, etc.).

The kidney donation and transplantation community has come together in support of this effort. The information contained in the change packages reflects the community's commitment and provides a pathway to procure kidneys for every person who needs one.

IV. Kidney Donation Change Package

Strategies, Outcomes and Action Items

D1. Robust Leadership. Donor hospital executive leadership accepts ownership of the donor program and commits to a partnership with the OPO to establish benchmark targets for organ donation and kidney recovery.	
A.	OPO and its donor hospital network executives adopt bold aims guided by data and national priorities to improve donor potential and kidneys recovered.
i.	Continually lead OPO/donor hospital strategic planning throughout the year and goal setting activities for donations and kidney recovery with a focus on kidney failure and mitigating the waitlist crisis.
ii.	Establish a shared philosophy of the approach to donation between the donor hospital and OPO (i.e., "Zero-missed donation opportunities," "Every organ, every time," "Every referral, every time").
iii.	Set bold aims based on national, regional, and DSA data and high- performing OPOs/donor hospitals for donation (specifically for donation after brain death and donation after circulatory death), conversion rates, kidneys available for recovery, and number of kidneys recovered.
iv.	Strategically align OPO and donor hospital resources that ensure the "donation system" functions optimally.
B.	OPO and its donor hospital network establish a culture of accountability for results and continuous quality improvement.
i.	Hold regular meetings between donor hospital leadership and OPO leadership to review performance data on bold aims and ensure an increase in the number of kidneys recovered.
ii.	Include bold aims in the donor hospital and OPO strategic plan performance measures.
iii.	Ensure policies, protocols, and practices are focused on measurable goals with continual tracking/trending of donation metrics, and compare performance against other similar hospitals and local, regional, and national benchmarks.
iv.	Solicit and utilize feedback about case activity to optimize the donation experience for all stakeholders.
C.	Donor hospitals charter and deploy IDCs to advance donation, improve the kidney donation process, and increase the number of kidneys donated.
i.	Donor hospital sets up and staffs an IDC to support donor hospital and OPO efforts to identify potential donors, maximize family support and communication, and optimize the availability of organs for transplantation.
ii.	Donor hospital ensures that IDC has representation from all stakeholder disciplines including (but not limited to) nephrologists and other physicians, critical care, palliative care, social work, executive leadership, finance, and any other champions for donation.
iii.	Donor hospital empowers the IDC to support programming and OPO access, ensuring that staff are educated on protocols. Facilitate OPO introductions/access to hospital forums/committees.
iv.	Donor hospital executives and/or senior leadership actively participates in IDC and donor-related committees.

D2. Right System. OPO and its donor hospital network hardwire "donation system" practices that expand the opportunity for donations and ensure high donor potential and high kidney availability. Partners should seek best-in-class performance as established benchmarks.	
A.	OPO and its donor hospital network adopt the top nine recognized principles that guide effective practice to increase organ donation. See "Focus Area #1" on pages 13-14 for further illustration of the top nine principles.
i.	Honor the first-person authorization for donation without exception.
ii.	Use broad clinical triggers (i.e., all patients on ventilators and all circulatory deaths) and adopt a policy of timely hospital referral to OPO.
iii.	Streamline the referral process between the OPO and the hospital.

D2. Right System. OPO and its donor hospital network hardwire "donation system" practices that expand the opportunity for donations and ensure high donor potential and high kidney availability. Partners should seek best-in-class performance as established benchmarks.	
iv.	Adopt OPO rapid (two-hour) and on-site (where practical) response to referrals from donor hospitals for every potential donor scenario.
v.	Provide aggressive clinical care/donor management for potential donors, ensuring the opportunity to donate is preserved.
vi.	Develop "cues" from the family to initiate timely approach for donation.
vii.	Deploy OPO staff as trained designated requestors.
viii.	Provide unconditional support to the family.
ix.	Ensure donor hospital clinicians and OPO staff are organized and trained to provide the potential donor family with consistent messaging in all phases of the critical care process.
B.	Donor hospital and OPO establish a robust donor kidney management plan to ensure kidney availability.
i.	OPO and donor hospital clinicians agree to utilize the broadest national definitions of an "acceptable kidney" (e.g., acute kidney injury [AKI] kidneys, hepatitis C kidneys, HIV+ kidneys) for OPO and hospital clinicians to determine appropriate donations.
ii.	Donor hospitals use nephrologist to optimize kidney function and availability.

D3. Engaged Community. OPO and donor hospitals have the Donor Service Area (DSA) community at every level supporting organ donation and kidney transplantation as a solution to the health crisis of widespread kidney failure.	
A.	Give organ donation and kidney donation a community-wide presence in the DSA.
i.	Participate in community events. Work with high schools, faith-based agencies, first responders, local businesses, and other community organizations to make donation the default.
ii.	Build partnerships with the Department of Motor Vehicles and local and state law enforcement to create awareness related to donor designation from an early age
B.	Hardwire the story and methods of donation and kidney transplantation into the curriculum of healthcare professional education with a heavy focus on hospital personnel who are directly involved in the organ donation process.
i.	Provide current methods, practices, and rationale related to kidney donation to schools of medicine and nursing, residency programs, and professional associations.
ii.	Train clinical students and residents on how to explain "brain death" and "circulatory death."
iii.	Provide clinical students instruction on the scale and urgency of the kidney failure crisis, dialysis risks and cost, and transplantation as the best solution.
C.	Systematically train and update hospital personnel, ensuring leaders, physicians, nurses, and all critical care providers are knowledgeable and prepared for their roles in the donation process and instinctively use donation practices and protocols.
i.	Make donor hospital staff aware that the OPO is the right "designated requestor" and collaborate to determine who will be involved in the request process and what to listen for during conversations with families.
ii.	Provide clinical peer-to-peer educational opportunities (e.g., physician to physician, critical care RN to critical care RN) by using kidney donation champions from other organizations.
iii.	Make clinical staff aware of and use "transitional language" to introduce family care coordinators/OPO staff at the right time for the family.
iv.	Secure a significant role in new donor hospital staff orientation and train staff on donor philosophy, policies, and practices.
v.	Utilize "Connect to Purpose" speakers (such as donor families and kidney transplant recipients) in departmental meetings and public events to build an understanding of kidney donation.
vi.	Close the loop with donor (critical care or hospital) staff. Provide a report (e.g., "hero outcome memorandum") for all patients who made an organ donation. Share with administration and all departments that cared for the patient.

Focus Area #1 – Top 9 Donation Principles

Top Nine Recognized Principles That Guide Effective Practice to Increase Organ Donation in the Donation Community
1. Honor the first-person authorization for donation without exception. ✓ Donor hospital develops a donation policy that includes a plan for escalation in addressing scenarios where the family is adamantly opposed to donation in the presence of a legal gift document. ✓ Donor hospital supports the OPO in all cases where there is organ donor designation, ensuring the intention of the decedent to donate is honored and families supported.
2. Use broad clinical triggers (i.e., all patients on ventilators and all circulatory deaths) and adopt a policy of timely hospital referral to OPO. ✓ Hospital and OPO collaborate to fine-tune language for referral triggers. ✓ Hospitals and OPO provide comprehensive hospital-wide education, ensuring staff know when to notify the OPO. Use clinical triggers to define standards of practice for "timely referral" of potential organ donors. ✓ Hospital and OPO systematically and periodically review data and adjust the triggers where necessary.
3. Streamline the referral process between OPO and hospital. ✓ Ensure operational efficiencies are in place that minimizes the length of time hospital staff are on the telephone at the time of initial referral call/notification. ✓ Utilize remote access to electronic medical record (EMR) to reduce the amount of time on the phone with nurses calling in referrals.
4. Adopt OPO rapid (two-hour) and on-site (where practical) response to referrals from donor hospitals for every potential donor scenario. ✓ Use the visit to perform effective surveillance for potential donors by developing relationships with donor hospital staff. ✓ Invite the OPO to attend patient rounds.
5. Provide aggressive clinical care/donor management for potential donors, ensuring the opportunity to donate is preserved. ✓ Ensure the establishment of a Catastrophic Brain Injury Guideline (CBIG) in the hospital. ✓ Use evidence-based practices to provide optimal critical care through the end of life. ✓ Ensure the hospital's DCD policy and practices are aligned with the OPO practice. ✓ Establish standards of practice and procedures for stabilization of potential donors. ✓ Ensure that standing orders for organ donation after brain death and DCD are fully integrated into routine hospital order sets. ✓ Use nephrologist to optimize kidney management.
6. Develop "cues" from the family to initiate timely approach for donation. ✓ The family holds no hope for survival. ✓ Brain death has been declared. ✓ A decision was made to limit/withdraw life-sustaining therapy that would compromise donation opportunities. ✓ The family mentions donation. ✓ Pulmonary or hemodynamic instability with cardiac arrest is imminent. ✓ Donation is brought up by the care team (independent of OPO).
7. Deploy OPO staff trained as designated requestors. ✓ Jointly develop and implement a plan for how the donation discussion will go. ✓ Hold after action reviews (AARs), or debriefing sessions ideally within 1 week of all potential organ donor cases, regardless of outcome.
8. Provide unconditional support to the family. ✓ Develop a trusting relationship with the patient's family to preserve the opportunity for kidney donation. ✓ Effectively communicate to the patient's family that "all that could be done has been done" in the best interest of the patient.

Top Nine Recognized Principles That Guide Effective Practice to Increase Organ Donation in the Donation Community
✓ Help the family understand the meaning of "brain death" or "circulatory death" and share medical results and brain imaging as needed. ✓ Engage palliative care teams to prepare the family for end of life decision-making. ✓ Define and provide an appropriate environment for the consent conversation. ✓ Establish expectations with the family around the time needed to recover organs and work with the family on how to say goodbye to their loved one. ✓ Honor the donor in a manner consistent with the family's wishes (including Honor Walks, Donate Life Flag).
9. Donor hospital clinicians and OPO staff are organized and trained to provide the potential donor family with consistent messaging in all phases of the critical care process. ✓ Ensure the attending physician is involved in guiding/implementing pre- and/or post-donor management strategies.

V. Kidney Transplant Change Package

Strategies, Outcomes and Action Items

T1. Robust Leadership. OPO and transplant center executive leadership accept ownership of the program and commit the partnership to benchmark targets for outcomes in kidney donation acceptance, transplantation, and avoidance of discards.
A. OPO sets bold aims on the number and types of kidneys transplanted and discard rates for its transplant network and shares the commitment with its transplant centers, creating a framework for joint accountability for outcomes.
i. Leadership of OPO and transplant center holds annual strategic planning and goal-setting events for kidney transplantation and sets aims that are measurable and included in the overall hospital and OPO strategic plans.
ii. Transplant center and OPO network aims are based on national, regional, and OPO network data on high-performing programs for kidney transplants and discards.
iii. Transplant center and OPO establish (a) a vision to relentlessly pursue the utilization of all kidneys and (b) a culture where all kidney offers are reviewed with the intent to accept. Incorporate the belief that there is “A right person for every recovered kidney.”
B. OPO and transplant centers establish accountability for increasing kidney transplants and avoiding kidney discards through continuous quality improvement.
i. The OPO and transplant center leadership meet at least quarterly to review and take action to improve performance on bold aims and share the results with key stakeholders (e.g., Boards, medical staff, dialysis centers, community leaders, etc.).
ii. Network leadership and transplant teams use three types of metrics to monitor, understand, and improve performance on aims. a. Measures for the donor community (OPO and donor hospitals). b. Measures for the transplant community (OPO and transplant centers). c. OPO-specific measures (OPO Donation and Transplant Network).
iii. Transplant teams formally follow up on declined kidneys as an opportunity to improve the understanding of the acceptance criteria between transplant center decision-makers and OPOs and influence changes in practice.
iv. Transplant teams review organ acceptance patterns on a routine basis and identify missed opportunities for kidney utilization. (Identify variations in acceptance between team members and any negative outcomes for patients overlooked).
v. During quality improvement meetings, transplant center seizes opportunities to incrementally increase the risk tolerance for “less-than- ideal” kidneys.
C. OPO and transplant centers hire their respective staff and manage their operations to function as a high-performing transplant team accountable for achievement of bold aims.
i. Cultivate deep partnership relationships between OPO and transplant centers within and outside the Donor Service Area (DSA).
ii. Use proven recruitment and retention strategies to build the right team. a. Recruit and retain clinicians who have the philosophy of care and risk tolerance that aligns with the expectations of the transplant center/OPO. b. Recruit and retain physicians with the commitment and technical expertise to manage the complexities associated with the use of “less-than-ideal” kidneys.
iii. Provide a full onboarding process with expectations of ongoing education and regular evaluation of competencies and performance and continued training on new techniques and technologies.
iv. Recruit and retain a diverse and talented workforce utilizing proven human relations (HR) strategies and effective practices for on-boarding, off-boarding, growing talent, and leadership development. a. Use panel interviews, including peer-to-peer interviews. b. Implement a Division of Culture for new hires to find the right person and the right fit for the team.

T2. Right System. OPO and transplant centers follow highly effective practices that ensure efficient kidney acceptance, transplantation of all accepted kidneys, and lowest possible rates of kidney discards.	
A.	Transplant centers, dialysis centers, and community nephrologists are ready to manage patients as candidates for the active waitlist.
i.	Transplant centers monitor the time it takes to get patients on the transplant center waitlist from their initial referral from their community nephrologist (the time it takes for the evaluation process and testing to be completed before the patient is waitlisted).
ii.	Transplant centers regularly inform dialysis centers of the patient's status and when and what tests are needed.
B.	OPO and transplant center operations are ready to process offers and acceptances at any time or day.
i.	Transplant center organizes and maintains staffing 24/7, 365, with no variances in capability based on the day of the week or time of day.
ii.	Transplant center coordinator is paired with a physician (e.g., nephrologist) to manage waitlist patients (to remove clinical barriers that prevent patients from being transplant ready).
iii.	Transplant center and OPO establish dedicated points of contact to facilitate the timely and accurate flow of information between the organizations; provide direct access between transplant decision-makers and OPO personnel through the sharing of phone numbers, email addresses, call schedules, etc.
C.	"Active" waitlist candidates are always "transplant ready"; the transplant center is ready to accept a kidney when offered.
i.	Transplant center manages the waitlist so that an "active" patient can always accept a kidney. (Active waitlist is actionable.)
ii.	Transplant center ensures that the "active" patients have the appropriate support and are physically and mentally ready to accept a kidney; they understand the transplant process and the results expected (including the possibility of delayed graft function).
iii.	Transplant center maintains a large pool of active candidates and "know the candidates well" to increase possibility of kidney placement.
iv.	Transplant center uses the hospital EMR to document and ensures that all candidates' required evaluation testing is complete and to prevent duplicative testing.
D.	Transplant centers are ready to process each type of "less-than-ideal" kidney with proactive protocols for each case.
i.	Discuss utilization of "less-than-ideal" kidneys as an option during the evaluation and continuously while the candidate is on the waitlist; approach all patients with options.
ii.	Provide a full spectrum of transplant possibilities, and follow up, including the use of high KDPI kidneys, two high KDPI kidneys, PHS, increased risk, hepatitis C virus (HCV+), etc.
iii.	Frequently revisit consent for the use of "less-than-ideal" kidneys if not obtained during evaluation.
iv.	Set expectations of delayed graft function (DGF) with candidates and discuss the dialysis implications; present DGF as a transplant expectation and success.
v.	Develop and test scenarios where the strategy is to use a series of transplants with "less-than-ideal" kidneys to keep patients off dialysis and extend life expectancy.
E.	Transplant center decision-makers are prepared to manage risk and accept offers. OPO and transplant centers standardize the decision-making process for accepting a kidney offer.
i.	Transplant center sets up "kidney offer filter criteria in DonorNet" that reflect actual transplant center practice and stewardship of the kidney to avoid delays from receiving offers that will never be accepted.
ii.	Transplant center creates predictable organ offer acceptance behavior across transplant center team members.
iii.	Transplant center adopts a philosophy of accepting the offer. (Incorporate checks and balance into decision-making, such as it only takes one person to accept the offer, but two people to reject the offer.)
iv.	Transplant center has the intake team prepare a timely, complete, and objective "offer package" for physician review. (Work with physician decision-makers on what best package content looks like.)

<u>T2. Right System</u>. OPO and transplant centers follow highly effective practices that ensure efficient kidney acceptance, transplantation of all accepted kidneys, and lowest possible rates of kidney discards.	
F.	OPO drives its network to engage transplant centers to achieve their lowest possible kidney discard rate. (Note: A zero-discard rate is not the target as it may discourage recovery of "less-than-ideal" kidneys.)
i.	Look beyond the KDPI to determine if a kidney will work for a patient. Review all clinical data (i.e., pictures, pump-data, biopsies) to ascertain the whole picture of the organ offer; do not rule out acceptance based on one number.
ii.	Monitor and review impact of DGF on hospital length of stay, use of dialysis, and cost implications; monitor the increase in DGF patients who receive "less-than-ideal" kidneys.
iii.	Actively pursue and utilize kidneys from donors over 60 years old for utilization in patients over 60 years old.

<u>T3. Engaged Community</u>. OPO and its transplant centers have every level of the community behind efforts to increase kidney transplantation as a solution to widespread kidney failure	
A.	Patients and their families understand the benefits and trade-offs between dialysis and transplantation with their providers helping them set realistic expectations.
i.	Provide continuous education on kidney transplantation and related options (e.g., high KDPI kidneys) to patients and their families.
ii.	Develop scripts to standardize patient education including a focus on post- transplant events and possibilities (e.g., likelihood of dialysis) to ensure patient expectations are realistic.
iii.	Regularly communicate information and messages about "less-than-ideal" kidneys in different formats (in-person, written, video, web-based, etc.) and allow patients to take educational materials home.
iv.	Provide at least one monthly contact with patients/families to provide ongoing education while on the kidney waitlist.
B.	OPO and transplant center teams are prepared and current in the next generation of evolving kidney transplant knowledge and processes and the increasing demand for kidneys.
i.	Transplant center ensures the understanding of transplant practices and policy through unit-specific education.
ii.	OPOs have a teaching culture with dedicated staff accountable to provide education and professional development to all involved personnel and organizations in an energizing and measurable way.
iii.	OPO and transplant center hospitals use cross organizational training programs to put faces with names and foster personal relationships with those working to successfully transplant kidneys.
C.	Stimulated and guided by the OPO, and collaborating with transplant centers, the local health care community is actively involved in the campaign to increase kidney transplantation.
i.	Healthcare professionals, as they participate in local, state, and national professional events, learn about transplant opportunities from national leaders.
ii.	Dialysis centers position dialysis not as an end therapy, but rather as "a bridge to kidney transplantation."
iii.	Community nephrologists participate in and streamline the referral process for kidney transplantation.
iv.	OPOs and transplant centers have forums and events for sharing effective practices, innovations, and ideas around reducing kidney discards and changing practice.

VI. References

i. U.S. Department of Health & Human Services. Organ Procurement and Transplantation Network. National data. Available at: https://optn.transplant.hrsa.gov/data/view-data-reports/national-data/#.

ii. U.S. Department of Health & Human Services. Organ Procurement and Transplantation Network. National data. Available at: https://optn.transplant.hrsa.gov/data/view-data-reports/national-data/#.

iii. National Kidney Foundation. The kidney transplant waitlist – what you need to know. Available at:

https://www.kidney.org/news/newsroom/factsheets/Organ-Donation-and-Transplantation-Stats

iv. Deceased Donor Kidneys Utilization and Discard Rates During COVID-19 Pandemic in the United States. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8419126

v. American Kidney Fund Kidney Disease Statistics. Available at: https://www.kidneyfund.org/all-about-kidneys/quick-kidney-disease-facts-and-stats.

vi. Wagner D. Aims create systems, systems create results. Alliance for Integrated Medication Management. December 2, 2016. Available at: http://aimmweb.org/aims-create-systems-systems-create-results/.

vii. Executive Order on Advancing American Kidney Health. Issued on: July 10, 2019. Available at: https://www.whitehouse.gov/presidential-actions/executive-order-advancing-american-kidney-health/.