OPTN Pancreas Transplantation Committee
Meeting Summary
October 10, 2024
In Person Meeting

Oyedolamu Olaitan, MD, Chair
Ty Dunn, MD, MS, FACS, Vice Chair

Introduction

The OPTN Pancreas Transplantation Committee (henceforth the Committee) met in Richmond, Virgina as well as via WebEx teleconference on 10/10/2024 to discuss the following agenda items:

1. Public Comment Analysis and Guidance Document Discussion
2. Facilitated Pancreas
3. Graft Failure Definition Discussion
4. Medical Urgency Discussion

The following is a summary of the Committee's discussions.

1. Public Comment Analysis and Guidance Document Discussion

The Committee reviewed and discussed the public comment feedback on the Continuous Distribution of Pancreata Update.

The Committee also reviewed the outline of the guidance document and provided feedback.

Summary of presentation:

The public comment analysis provided the following insights for the Committee:

- Received 46 comments out of 1182 comments on all proposals
- 18 states represented across the commentary

The Committee heard feedback from regional meetings and public comment respondents which highlighted the following themes:

- Procurement of pancreata
- Training opportunities
- Dedicated staff
- Additional topics
    - Medical Urgency
    - Data Collection

Procurement of pancreata included feedback regarding development of specified procurement teams by organ procurement organizations (OPOs) for each abdominal organ. Public comment feedback indicated general support, however, reference was made to be cautious of added costs in transporting more teams for procurement.

Feedback on training opportunities indicated support for development of more training opportunities and recommended that local OPOs be utilized as an additional training opportunity for fellows. This was indicated as an option to encourage broader exposure to pancreas procurement. It was also

recommended that experienced surgeons mentor fellows to further their education on pancreas procurement.

An additional theme discussed was the support for dedicated pancreas staff. To grow pancreas program volume and promote wider understanding of pancreas transplant and procurement. It was recognized that though not all programs will be able to increase or adjust staffing to have more dedicated personnel, including it as guidance could highlight the positive impacts of having a "pancreas champion" in building up programs.

Summary of discussion:

No decisions made.

Members discussed the possibility of encouraging OPO recovery surgeons to aid in training of fellows, as often faculty at transplant centers are overworked and may not have the dedicated time to direct towards fellows for pancreas procurements. It was noted that it could be a cultural shift for centers and OPOs alike but could have positive ramifications. A member highlighted that procuring surgeons might appreciate the additional set of hands a fellow would provide while another noted that in some cases, not having a procuring surgeon for pancreas can slow down the procurement of other organs, therefore increasing access and opportunities for procurements could create a positive ripple effect across other abdominal organ types.

Members wondered whether it would be feasible for organizations such as the American Society of Transplant Surgeons (ASTS) to message specific requirements for pancreas procurements. It was highlighted that the ASTS does already have certification requirements for organ procurements as well as fellowship training program certifications. Members agreed that they would need to work with the OPTN OPO Committee to convey potential recommendations on how to improve procurement from the OPO perspective. It was also noted that the ASTS has conducted workshops specifically on pancreas procurement and intends to develop more.

The Committee discussed including points within the guidance document that would address enhanced training opportunities as well as working with OPOs on developing standards for their procurement surgeons. It was also mentioned that multi-organ transplantation is an opportunity for training as well, members added that it is beneficial for OPO recovery surgeons to be well-versed in multi-organ procurements. Members agreed with public comment feedback that highlighted the potential impracticality of having organ specific recovery teams as it could increase costs and cause delays during recovery.

A member who also works for an OPO offered to ask their internal staff how their procurement surgeons conduct training and provide that feedback to the Committee. The Committee debated whether they should advise 10 pancreas cases as required for all procurement professionals at OPOs, to stay in alignment with fellowship requirements set by the ASTS and ensure basic competence for pancreas procurements. Members went back and forth on whether a number should be set or if it is advisable to encourage better collaboration and communication between OPOs and transplant hospitals regarding who is skilled and qualified to procure the pancreas.

One member asked for further clarity on why the Committee is seeking to encourage programs by having a pancreas director separate from the kidney director, as it seems it would be difficult for some programs to attain. They highlighted that it might be of greater import to have someone passionate about pancreas transplant, but that would not necessarily require a separate director. Several members countered this view, advocating for separate directors. It was argued that division would ensure more focused attention on pancreas programs, which often take a backseat to kidney operations under the

current structure. The Chair emphasized how separate directors could better track and promote program growth.

However, practical challenges were highlighted as well. A member pointed out that kidney directors already struggle to secure protected time for their duties, and splitting the role could exacerbate this issue. Other members agreed, noting the difficulties in negotiating with hospital finance staff for resources and protected time.

The Committee explored how these issues might be addressed in a guidance document. While some suggested including requirements for protected time and dedicated staff, others worried this might overshadow the document's main purpose. One member highlighted how dedicated providers are crucial for patient care, particularly for diabetic patients, and how their absence could compromise post-transplant outcomes.

The discussion continued with the focus on the importance of having "pancreas champions" within programs. The Vice Chair emphasized how a single passionate advocate could demonstrate the importance of the program and that this could be included in the guidance document. Other members agreed, with one member suggesting that having a dedicated pancreas director could substantially enhance a program's capabilities. The Chair built on this point, emphasizing that such dedicated leadership could improve quality outcomes, while clarifying that these would be recommendations rather than mandatory requirements for the community.

One member shared their experience from their program, which handles approximately 300 kidney transplants annually and maintains separate kidney and pancreas directors. However, they highlighted a crucial challenge: there's a significant shortage of physicians interested in taking on the pancreas director role. In programs of this size, kidney transplants tend to dominate attention and resources. This member offered a solution based on their experience: the key to success lies in fostering strong interdisciplinary relationships, particularly with endocrinologists and bariatric specialists. They suggested that this collaborative approach should be explicitly recommended in the guidance document, emphasizing the importance of multidisciplinary care.

The Chair and other members agreed with this perspective, affirming that multidisciplinary care should indeed be a primary goal. The importance of addressing practical considerations on the medical side was also stressed, particularly the need for protected time and formal recognition of these roles within the institution.

Next steps:

The Committee will continue discussions in the development of the guidance document. The following items were highlighted for inclusion in the guidance document outline:

- Pancreas program outcomes
- Inclusion of American Society for Transplantation (AST), ASTS, and the Association of Organ Procurement Organizations (AOPO) as stakeholders

2. Facilitated Pancreas

The Committee reviewed current policy and discussed previously proposed modifications to the facilitated pancreas policy that would be incorporated in the Continuous Distribution (CD) of Pancreata project.

Summary of presentation:

OPTN Contractor staff clarified current policy language and previous Committee recommendations as well as subsequent public comment feedback from the Summer 2023 Public Comment cycle. The previous recommendation was:

- OPOs and the OPTN are permitted to make FP offers if no pancreas offer has been accepted **five hours** prior to the scheduled donor organ recovery
- Apply facilitated pancreas bypasses to candidates registered at transplant hospitals > **250 nautical miles (NM)** from the donor hospital
- Apply bypasses to **kidney-pancreas (KP) and pancreas** candidates
- Bypass all candidates at non-facilitated programs, **regardless** of CPRA or ABDR mismatch level
- Programs qualify if they have transplanted at least **4** pancreata from donor hospitals **>250NM** from the transplant program in the previous 2 years

Summer 2023 Public Comment feedback highlighted concerns with the increased transplanted pancreata requirement and the five-hour window before recovery. The Committee discussions in 2023 clarified the five-hour window as beneficial for OPOs so as to provide more time for facilitated pancreas offers.

The Committee received updated data regarding the number of pancreata transplanted from donor hospitals greater than 250NM between July 1, 2022 and June 30, 2024. The data showed that 117 programs transplanted pancreata, 52 (44.4%) did at least 1 transplant from greater than 250NM from the donor hospital, and 38 programs qualified for facilitated allocation under current pancreas policy.

Summary of discussion:

The Committee discussed rolling back previous recommendation of 4 transplanted pancreata from >250NM. They confirmed their recommendation of a 5-hour window prior to surgery for facilitated offers to begin.

A member asked for clarification whether the proposed recommendations would apply to pancreas alone transplants as well as simultaneous pancreas kidney (SPK) transplants. It was affirmed that this policy includes SPKs. One member highlighted their geographical challenges, being a remote program, when operating beyond the 250NM limit, as chartered flights are often required introducing other transportation issues even instances of organ damage. Another member offered that the variable distribution of pancreas donors across regions further complicates the picture.

Members discussed the appropriate program qualification threshold, with some suggesting reverting their suggestion back to current policy of 2 pancreata transplanted from >250NM away. Another suggestion was to develop a tiered system that could better recognize the varying acceptance rates across different programs. The prospect of an opt-in/opt-out framework, potentially overseen by the Pancreas Review Board, was also raised as a potential mechanism to provide programs with more flexibility.

Some concerns were expressed regarding the proposed five-hour time extension for recovery teams. However, overall the Committee agreed that this could facilitated greater use of expedited pathways for pancreas transplantation. While the Committee acknowledged the need to allow for more logistical flexibility, there were questions about how this change could be balanced against the imperative of maintaining geographic access. One member raised the question of incorporating organ acceptance behavior into the continuous distribution (CD) modeling, while another member probed the alignment

of the 250NM requirement with the shift towards continuous distribution. It was clarified that acceptance behavior is not currently in the CD models and could be difficult to simulate.

Members discussed the merits of monitoring programs that opt in, potentially with a six-month evaluation period to better understand whether the programs that have opted in are transplanted facilitated pancreata. The importance of addressing late declines and ensuring robust oversight mechanisms was also underscored.

The Committee seemed inclined to maintain aspects of current qualifying criteria for the time being, while exploring ways to gradually expand program participation. One member suggested examining historical procurement data and adopting a percentile-based approach, rather than relying solely on absolute numbers, to gain a more comprehensive understanding of the landscape.

Next steps:

The Committee will continue discussions on this topic.

3. Graft Failure Definition Discussion

The Committee reviewed and discussed the three-year monitoring report on pancreas graft failure definition.

The pancreas graft failure definition was implemented February 28, 2018.

Summary of presentation:

Conclusions from the monitoring report highlighted the following:

- Pancreas graft failure cannot be determined based on the new definition for most recipients on insulin due to missing data
- Additional data collection fields (C-peptide, HbA1c) are not utilized in many cases
- Among candidates with the appropriate clinical values reported to calculate the new pancreas graft failure definition threshold, few meet the new definition, even among recipients reported to have a failed graft
- Pancreas graft survival was significantly different only at two years

Summary of discussion:

The Committee agreed to continue examining the data and seeks an updated five-year monitoring report. The Committee agreed that a holistic data review of the Transplant Recipient Registration (TRR) and Transplant Recipient Follow-Up (TRF) forms would be beneficial and seeks insight on the feasibility of adding back in data fields for height, weight, and BMI on the TRF.

The Chair highlighted problems with the current form, specifically questioning the value of including an "unknown" field option, as it provides no meaningful information. Other members agreed that various status options create opportunities for missing data. A member connected this to broader systemic issues, emphasizing how these documentation challenges underscore the critical need for dedicated pancreas directors who can properly manage regulatory requirements. They pointed out that the regulatory burden is substantial, with insufficient resources to maintain proper documentation.

Another member questioned whether pancreas transplantation was being held to different standards than other organs like liver or kidney. They noted that other organs do not solely rely on transplant follow-up forms or staff due diligence for tracking outcomes. It was particularly emphasized the complexities of monitoring Type II diabetic patients post-transplant, explaining that weight gain and

supplement use might actually indicate proper function rather than graft failure, as these patients may gain weight due to improved caloric absorption.

One member noted that for lung transplantation, oxygen use post-transplant is not automatically considered graft failure, suggesting that insulin use alone should not necessarily indicate pancreas graft failure. This sparked a detailed discussion about potential metrics, with another member suggesting that elevated A1C after three years might indicate graft failure. However, others countered that modern medications like Ozempic could significantly impact these measurements, making them potentially unreliable indicators. It was highlighted that it is possible to reverse certain conditions with medication.

A member, speaking from their experience as a Type I diabetic, emphasized that their primary motivation for transplantation was to prevent further complications from diabetes rather than just achieving blood sugar control. Another member highlighted the critical issue of hypoglycemia awareness, noting that freedom from this fear was a primary rationale for transplant.

A representative from SRTR provided important historical context, noting significant changes in the transplant landscape. They pointed out that the introduction of GLP-1 medications has changed the treatment paradigm, and the percentage of Type II diabetic transplant recipients has more than doubled from 11% to 23%. Furthermore, they indicated that while hypoglycemia unawareness is an excellent target, it can be difficult to measure, as seen in discussions regarding medical urgency.

A member added some clinical context, cautioning about the complexities of using certain metrics. They noted that some newer medications for chronic kidney disease and heart failure could complicate assessment, and that A1C might be unreliable in patients with significant renal dysfunction or on dialysis.

The Vice Chair offered an idea of taking another look at full versus partial function, instead of staying with a binary of functioning or failed. They highlighted that this would be in an effort to better understand actual graft failures, but would need to be preceded by improved data input and comprehension. A representative from SRTR added that previously there had been efforts to outline the differences in guidance documentation and that when these conversations happened originally, partial function was not counted as a failure. They highlighted that this could be a potential research question moving forward. They also asked if the Committee is considering what can be done to address the "missingness" of the data. They asked if there was an option to prevent no data being entered.

The committee ultimately agreed to move forward with this as a project with two main components: addressing form review/data collection issues and working on the pancreas graft definition. There was strong emphasis on the need to address the significant problem of missing data before any new definition could be effectively implemented.

Next steps:

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4. Medical Urgency Discussion

The Committee reviewed and discussed clinical characteristics and guidelines for pancreas medical urgency.

Summary of presentation:

The previous considerations for clinical criteria for a medical urgency definition:

- Impaired awareness of hypoglycemia (Hypoglycemia Unawareness)
    - Clinical characteristics
        - Severe hypoglycemic events
        - Cardiac Autonomic Neuropathy
        - Diabetic Ketoacidosis

Subject matter experts also presented alternative measure for the Committee to review, the HypoA-Q IA subscale score of 12, as it demonstrates high sensitivity and specificity to predict impaired awareness of hypoglycemia (IAH). Another item was offered for consideration aimed at identifying patients at high risk based on time in hypoglycemic range:

- 9% or more of time <70 mg/dl
- 4% or more of time <60 mg/dl
- 2% or more of time <54 mg/dl

It was recommended that one or more of these thresholds could be utilized instead of the presence of a severe hypoglycemic events to identify an individual with IAH who would meet medical urgency.

A further alternative offered was for a patient with IAH, they should be considered for medical urgency priority if they have a Clarke or Gold Score of 4 or more combined with CGM <60mg/dl with TBR of 4% or more.

Summary of discussion:

The Committee agreed via straw poll on the following definition for pancreas medical urgency:
Criteria for autonomic approval:

- HypoA-Q IA subscale of 12 or more, or
- CGM data over past 6 months identifying patients at high risk based on time in hypoglycemic range:
    - 9% or more of time <70 mg/dl
    - 4% or more of time <60 mg/dl
    - 2% or more of time <54 mg/dl
- 1 recorded severe hypoglycemic event in the past 6 months

The Committee agreed via straw poll to send the following criteria out for public comment to solicit additional feedback on their inclusion in the definition for pancreas medical urgency:

- Past 6 months: DKA can be included with supporting documentation to the Review Board and taken under consideration
- Severe Cardiac Autonomic Neuropathy can be included with supporting documentation to the Review Board and taken under consideration w/ referral from cardiologist with proven documentation
- Exocrine Insufficiency with supporting documentation

Some members expressed unfamiliarity with the Clarke and Gold scores for IAH, noting they have not used these tools with their patients and would not know which one to apply. One member raised concerns about using glucagon as a metric or method for assessing IAH, pointing out that some patients may not have access to this medication. They also highlighted a disparity in care, specifically in the

southeastern United States, where patients often do not receive the same level of endocrinologic care or education regarding the Clarke and Gold scores.

Other members voiced concerns about both the Clarke and Gold scores. They noted that the Gold score is too subjective, while the Clarke score, although more comprehensive, may be difficult to validate. One member shared that in their patient population, Emergency Medical Services (EMS) calls were more common indicators of IAH, although they acknowledged that this is not an ideal measure.

The Chair referred to a subject matter expert (SME) who recommended combining the Clarke score with CGM (Continuous Glucose Monitoring) data as an objective measure for impaired awareness. The SME also suggested that to identify patients at high risk based on time spent in the hypoglycemic range, a threshold of 4% or more of time spent at <60 mg/dL would be more appropriate than the previously suggested 2% at <54 mg/dL.

A representative from SRTR added that the 54 mg/dL threshold comes from the International Hypoglycemia Study Group, which defines a severe hypoglycemic event using that level. They also mentioned a shift in terminology away from "impaired awareness of hypoglycemia", preferring to refer to such incidents as severe hypoglycemic events, regardless of whether the patient is aware. The representative noted that the Gold score uses a cutoff of 54 mg/dL, while the Clarke score ranges from 54-60 mg/dL. They also pointed out that the HypoA-Q IA subscale is more granular, providing percentages of time at different hypoglycemic levels, but it requires more effort to collect, as the data is tracked over four weeks and needs validation.

The Vice Chair expressed appreciation for the approach to keep things as subjective as possible but emphasized the need for a variety of options for potential supporting documentation, considering the burden of data collection. Some providers might not be familiar with or able to collect data using these specific metrics, which could disadvantage patients.

A member shared their experience, noting that endocrinologists should be able to access CGM data and categorize it easily. However, in their system, the preset thresholds were 80 mg/dl and 55 mg/dl, and while it might be possible to change these values, that may not be the case for all glucose monitoring systems. They recommended using these thresholds for validation. Another member suggested there should be two pathways for patients: one for those with CGMs and one for those without.

The Chair clarified that this will all serve as guidance for the Review Board in determining cases of medical urgency. The Committee can propose certain measurements or a combination of criteria, but specific criteria should not be prescribed at this time.

Members then discussed whether the following conditions would be appropriate for a patient to be considered for medical urgency:

For a patient with impaired awareness of hypoglycemia, should they be considered for priority if they have:

- A HypoA-Q IA subscale score of 12 or more, or
- A Clarke or Gold score of 4 or more, combined with CGM readings <60 mg/dl and a time below range (TBR) of 4% or more?

Further feedback was provided, with one member pointing out that while the Clarke or Gold survey could be useful as a spot survey, it might not be sufficient for stratifying patients who may be medically urgent. Another member dissented, stating that for their patients, a Clarke score of 4 and impaired awareness of hypoglycemia would indicate severe hypoglycemic events. They advised against requiring a CGM, as adjustments to insulin regimens could affect the numbers reported.

A member asked whether a process would be imbedded into the OPTN Computer Systems as some of these surveys and forms may not be readily accessible.

A representative from SRTR provided an example where a patient with hypoglycemia unawareness starts using a CGM and is able to maintain their blood glucose above 60 mg/dL, indicating the CGM is working well for them. However, once their blood glucose falls below 60 mg/dL, these patients remain unaware of hypoglycemia when it occurs. The key question is whether such patients should receive a combined kidney-pancreas transplant or just a kidney transplant while continuing CGM use. The challenge is determining whether long-term CGM effectiveness eliminates the need for a pancreas transplant, or if underlying hypoglycemia unawareness still justifies the combined procedure.

A member asked if there is an estimate of the number of patients who would qualify for medical urgency based on the above criteria. It was suggested that around 90% of pancreas transplant alone (PTA) candidates could qualify. The member pointed out that if every candidate qualifies for medical urgency, then no candidate is truly considered medically urgent.

Another member inquired about the percentage of Type 1 diabetics with impaired awareness of hypoglycemia. It was clarified that approximately 80% of Type 1 diabetics have IAH. A member then asked if Type 2 diabetics with an A1C of 10 would qualify under this criteria, and it was suggested that this could be considered a separate issue, as it pertains to uncontrolled diabetes. One member highlighted that they see two distinct groups of patients: those with Type 1 diabetes who are doing their best to manage their condition but experience severe hypoglycemic episodes and maintain an A1C of 6.4 or 6.5, and those who are struggling with higher blood glucose levels, resulting in an A1C of 8 or 9. It was noted that the Clarke score would not capture this second group. Members discussed that, although this may be attributed to non-compliance, these patients should not be excluded or disadvantaged, as it is not entirely their fault that they cannot control their blood sugars.

Members also debated the potential subjectivity of surveys, expressing concerns that they could be "gamed," as the majority of patients may express concern and fear over their blood sugar levels being low or out of control. One member noted that many patients may not fully understand the value of their blood sugar readings and that there is likely no intentional manipulation behind their responses, beyond how they feel in the moment.

The Chair clarified that if a program identifies a patient who needs additional medical urgency points, an endocrinologist or a primary care physician knowledgeable enough should complete the necessary forms to measure the patient's score. It was also clarified that, while a Clarke score of 4 is a common threshold for determining IAH, no specific threshold was provided by the SME. It was suggested that if the Clarke score is used to help determine medical urgency, it should be considered alongside CGM data.

Members debated whether the criteria should be more open and lenient to allow for a greater number of submissions, or if the criteria should be slightly more stringent to ensure that only the most medically urgent cases are considered. It was suggested to select a threshold for the Clarke score, other than 4, and observe how many requests the Review Board receives. The Board could then monitor and re-evaluate the criteria every 6 or 12 months.

Members agreed that if this approach is taken, the initial criteria should be lower, allowing any of the recommended criteria to be considered. The Chair suggested setting a benchmark for submissions that would trigger a Committee review to re-evaluate the criteria. For example, if 10% of submissions show a specific Clarke score, then the criteria might need to be adjusted. A 6-month review window was proposed. The Vice Chair noted that data collection would be an important part of this effort as well.

A member pointed out that the OPTN Liver and Intestine Committee has revisited and clarified their Review Board process and criteria several times, and that the Committee could potentially use this as a model.

A member asked how many Type 1 diabetics with end-stage kidney disease (ESKD) lack hypoglycemia unawareness. They believed most would meet the Clarke or Gold criteria for hypoglycemia unawareness due to years of poorly controlled blood sugar. It was suggested that while using Clarke or Gold as standalone criteria would capture many patients, combining it with CGM or HypoA-Q IA subscore would narrow the pool significantly, possibly to around 10% of kidney-pancreas candidates. However, most pancreas-alone transplants will meet these criteria, which aligns with the long waiting time for PTA candidates, which is about four years.

It was suggested that using standalone criteria like Clarke or Gold could lead to a very high percentage of patients qualifying, potentially impacting the credibility of the approach if it is too lenient initially. A representative from SRTR offered a proposed approach of starting with stricter criteria and adjusting them as necessary based on real-world outcomes. This would mirror the process used for adjusting BMI limits for Type II diabetes. Initially, a BMI of 28 was set as the limit, then expanded to 30, and later removed altogether once evidence supported responsible use. Members reiterated that the primary goal should be identifying and prioritizing patients at risk of severe outcomes, such as passing out, seizures, or death due to hypoglycemia, rather than relying on subjective thresholds.

The concern was raised about who decides which patients qualify for medical urgency, questioning whether the decision is based on data the program already has about the patient. There were also concerns about how to address situations where a program isn't performing as expected. A member suggested that it might be the responsibility of the Review Board to monitor and address these issues. Another member asked who would be responsible for signing off on the documentation submitted for review.

One member expressed that a local endocrinologist shouldn’t be the one making decisions about transplant eligibility. Instead, the transplant program and transplant nephrologist should be the ones petitioning for the patient. The SRTR representative agreed, proposing that all requests should include source documentation, which would then be audited during the evaluation process.

A member raised a question about the workflow on the program side: if a program receives a new referral, would they screen every patient for the condition in question? They specifically wanted to know what steps programs would take to incorporate these surveys into their processes. It was explained that, typically, programs already screen for hypoglycemia and use surveys like Clarke or Gold to gather additional information. A possible next step could involve reviewing CGM data if available. If CGM data isn’t available, the program could ask the patient to complete the HypoA-Q IA survey. If the patient’s score meets a specified threshold, they would then qualify for medical urgency.

One member queried how this process would specifically benefit patients with IAH. It was clarified that improving access to pancreas-alone transplants would reduce the long waiting times IAH patients currently face. It was also noted that while medical urgency is an important factor, it is just one of several criteria used to determine transplant priority. Therefore, even with additional points, an IAH patient may not necessarily be at the top of the transplant list.

The Vice Chair reiterated that the initiative aims to address the subset of patients for whom a pancreas transplant would be lifesaving, emphasizing the importance of defining what that subset looks like.

The Chair provided a summary of the discussion so far, noting that the Committee appeared to agree on including CGM data and the HypoA-Q IA subscale as objective elements. The Clarke and Gold scores,

however, are considered more subjective and should not be included in the definition. Members agreed with this summary.

A subject matter expert (SME) in attendance highlighted that clinicians often review data from the last two to three months during routine visits. The Committee had previously discussed a six-month review period as a balanced approach to include meaningful trends without overwhelming the system with excessive cases, since a shorter review period may not capture the full picture for patients with infrequent but severe hypoglycemic episodes. For particularly severe cases, the Committee also debated extending the evaluation window to a year, ensuring that critical events are not overlooked. It was identified that the thresholds referenced above would be adequate to identify urgency. Additionally, this threshold could be applied flexibly within the six-month or year-long timeframe. For example, a one-month period showing significant hypoglycemia might suffice to qualify a patient, even if their six-month average does not meet the threshold. This approach mirrors existing practices by experts like Dr. Pratik Choudhary and ensures that life-threatening but episodic events are captured.[1] Research done by Dr. Choudhary and Dr. Bernhard Hering aimed at qualifying patients with “problematic hypoglycemia” if they experience either two or more severe episodes in the past year or a single episode associated with IAH, extreme glycemic variability, or significant behavioral impacts such as maladaptive fear.[2]

Members acknowledged the challenges of subjectivity in hypoglycemia awareness. Patients report varying symptoms—some feel "low" at glucose levels of 90 mg/dL, while others may not recognize it until levels drop to 40 mg/dL. This variability underscores the need for objective CGM data to prioritize patients most at risk of unconsciousness, seizures, or even death due to hypoglycemia. Another layer of complexity arises from how clinicians manage blood sugar levels. For safety, some doctors intentionally maintain higher A1C levels (e.g., 8–8.5) in patients prone to severe hypoglycemia. While this reduces immediate risk, it can suppress CGM data, potentially underestimating the urgency of the patient's condition. This highlights the importance of nuanced interpretation of CGM reports, ensuring that no critical cases are inadvertently disqualified.

The Committee emphasized the need for a cautious, phased approach to implementing these criteria, similar to how BMI thresholds for type 2 diabetes transplants were adjusted over time. By starting with stricter requirements and loosening them as evidence supports, they aim to balance fairness with practicality. Aligning these criteria with existing practices, such as those for islet cell transplants, ensures consistency while prioritizing patient safety. Another point raised was the role of isolated but severe events in assessing urgency. For instance, a patient who has experienced a life-threatening hypoglycemic episode resulting in a seizure, car accident, or fall might demonstrate sufficient need for intervention, even if their overall hypoglycemic burden appears low.

The Chair summarized the previous discussion, affirming the Committee's decision to exclude the Clarke and Gold scores, while including the CGM score with accompanying TBR scales and the HypoA-Q IA subscale recommendation as the definition for medical urgency. There was general consensus on this from both the Committee and the SME. A member sought further insight on whether the CGM criteria and the HypoA-Q IA subscale criteria were aligned or if there was potential for unequal patient evaluation. It was clarified that, when viewed as two separate qualifying criteria, they would be adequate. However, there were concerns that the HypoA-Q IA subscale might disadvantage patients

[1] https://le.ac.uk/people/pratik-choudhary

[2] Pratik Choudhary, Michael R. Rickels, Peter A. Senior, Marie-Christine Vantyghem, Paola Maffi, Thomas W. Kay, Bart Keymeulen, Nobuya Inagaki, Frantisek Saudek, Roger Lehmann, Bernhard J. Hering; Evidence-Informed Clinical Practice Recommendations for Treatment of Type 1 Diabetes Complicated by Problematic Hypoglycemia. *Diabetes Care* 1 June 2015; 38 (6): 1016–1029. https://doi.org/10.2337/dc15-0090

actively managing their hypoglycemia with CGM, as the use of CGM could mask the true severity of their condition.

The Committee also discussed the reevaluation of waitlisted patients' medical urgency eligibility. Some transplant programs, such as liver transplants, reassess urgency points periodically. However, the Committee debated whether this was necessary or practical for pancreas transplants, given the chronic nature of hypoglycemia unawareness. It was suggested that for patients whose risk remains stable or chronic, reevaluation requirements should be minimized. Additionally, it was cautioned that imposing frequent updates on programs and the Review Board could detract from the system's efficiency and fairness. However, the Committee agreed that patients should remain eligible for reevaluation if programs believe their urgency has increased, allowing flexibility for exceptional cases.

The Committee discussed how exceptional cases should be handled by the Review Board. It was suggested that endocrinologists could submit cases where patients don't meet standard criteria but still demonstrate significant risk. For example, patients with intentionally high A1C levels to avoid hypoglycemia might appear less urgent on paper but could still pose high risks. The Review Board would ensure flexibility while maintaining fairness and rigor.

The Chair emphasized the importance of clear communication with the medical community. Programs need to understand that the system is designed to prioritize immediate danger without encouraging risky practices, such as deliberately adjusting A1C to meet criteria.

The Committee debated the inclusion of other criteria from previous discussions: diabetic ketoacidosis (DKA) and cardiac autonomic neuropathy (CAN). It was recognized that DKA is difficult to define and can also occur due to issues with compliance. The Chair suggested inclusion, but that it be evaluated on a case-by-case basis. Other members agreed and some suggested excluding CAN entirely, as it is quite prevalent in the diabetic population and could overwhelm the Review Board with applications if included. It was noted that there's significant cardiology literature on the condition, but classifying it for transplant purposes could be problematic without more objective data. It was suggested that if there is sufficient evidence, then it should be submitted to the Review Board for consideration.

A representative from the SRTR queried whether those with CAN would benefit from expedited pancreas transplants. They posited that while a pancreas transplant would not reverse cardiac autonomic neuropathy, it could halt its progression, which could be lifesaving. It was highlighted that patients with this condition face significantly higher mortality risks, and the transplant could help prevent further deterioration. The Vice Chair compared this scenario to kidney transplants, where patients with conditions like impending lack of dialysis access have a higher risk of death, though they might not always be ideal surgical candidates. It was emphasized that, like kidney patients, those with advanced neuropathy have elevated risks but also stand to benefit significantly from the transplant.

A member pushed back, as it had been discussed that Type 1 diabetic patients would benefit greatly from transplant, but that was not being considered as a criterion for medical urgency. They emphasized that, though all patients could benefit from a pancreas transplant, the urgency should focus on addressing immediate risks to the patient's health, rather than prioritizing long-term benefits.

A member noted that while there is no clear clinical improvement in severe cases, pancreas transplants have been shown to halt the progression of the condition, which is important, since patients with autonomic neuropathy face higher mortality risks compared to those with hypoglycemia. Committee members agreed that including CAN and then reviewing submissions that use CAN as a qualifier would be an acceptable path forward.

Some members expressed concerns about creating a flood of exceptions, referencing past issues with liver transplant exceptions. The Chair proposed setting a threshold—such as 10%—to review how many patients are being approved through exceptions by the Review Board. If this percentage is exceeded, the Committee could refine the definition for medical urgency further and create more selectivity in the review process, to prevent overload.

Staff shared the following as a summary of the Committee discussion thus far:

For a patient who has impaired awareness of hypoglycemia, should they be under consideration for medical urgency priority if they have:

- Major criteria:
    - HypoA-Q IA subscale of 12 or more, or
    - CGM data over past 6 months identifying patients at high risk based on time in hypoglycemic range:
        - 9% or more of time <70 mg/dl
        - 4% or more of time <60 mg/dl
        - 2% or more of time <54 mg/dl
    - 1 recorded severe hypoglycemic event in the past 6 months
- Minor criteria:
    - DKA can be included as supporting documentation to the Review Board
    - Severe Cardiac Autonomic Neuropathy can be included as supporting documentation to the Review Board

The Committee debated whether more subjective data, such as DKA and CAN, should be included as primary criteria or used to stratify patients by urgency level, assigning different "weights" based on severity. The Committee identified that these factors should serve as means for programs to submit applications based on the "minor" criteria, but expressed hesitancy about qualifying these items as such.

The Vice Chair introduced the idea of incorporating pancreatic insufficiency as a qualifying factor. Other members agreed, suggesting a focus on patients who had undergone total pancreatectomy as a way to clarify this condition. There was some debate about whether this would cause an influx of applications. Additionally, a member mentioned that this is a small subset of the pancreas transplant population. A recommendation was made to include exocrine insufficiency as a checkbox on the application—not as a requirement but as an added benefit for patients who need it. Some members felt it should be included in a public comment document for further community input. The Chair highlighted that, to maintain consistency and ensure equity, the current kidney medical urgency criteria should also be considered. Members agreed.

The Committee received confirmation on how this would be operationalized procedurally. It was clarified that medical urgency could not be rolled out individually and is part of the continuous distribution (CD) system. As such, its weight would still need to be determined in correlation with the other attributes previously identified by the Committee.

The Committee took a straw poll vote on the above identified criteria, including exocrine insufficiency as well, to determine how patients can qualify for medical urgency. The Committee agreed on the following:

Criteria for autonomic approval:

- HypoA-Q IA subscale of 12 or more, or

- CGM data over past 6 months identifying patients at high risk based on time in hypoglycemic range:
    - 9% or more of time <70 mg/dl
    - 4% or more of time <60 mg/dl
    - 2% or more of time <54 mg/dl
- 1 recorded severe hypoglycemic event in the past 6 months

“Minor” criteria:

- Past 6 months: DKA can be included with supporting documentation to the Review Board and taken under consideration
- Severe Cardiac Autonomic Neuropathy can be included with supporting documentation to the Review Board and taken under consideration w/ referral from cardiologist with proven documentation
- Exocrine Insufficiency with supporting documentation

Members highlighted the need for further clarification of the language surrounding "major" vs. "minor" criteria. It was emphasized that programs should understand they can and should submit cases that fall under the "minor" category, as this would help with data collection and further understanding of pancreas medical urgency. The Review Board would be responsible for reviewing these cases and determining whether medical urgency priority is warranted. However, for "major" criteria, patients could be automatically approved for medical urgency priority.

A member suggested providing example cases in the guidance to help both programs and the Review Board avoid potential confusion.

The Committee agreed on the first three criteria and emphasized that the remaining criteria should be sent out for public comment. This would allow the community to provide input on whether these criteria are adequate for defining pancreas medical urgency. Additionally, the Committee acknowledged that iterative work may be needed, and the definition could be updated and refined in the future based on submissions and data received.

Next steps:

OPTN Contractor staff will send out the final decisions from the discussion and develop a public comment document to solicit feedback from the community.

Upcoming Meetings

- November 4, 2024 (Teleconference)

Attendance

- **Committee Members**
  - Oyedolamu Olaitan
  - Ty Dunn
  - Colleen Jay
  - Dean Kim
  - Muhammad Yaqub
  - Asif Sharfuddin
  - Neeraj Singh
  - Mallory Boomsma
  - Piotr Witkowski
  - Shehzad Rehman
  - Stephanie Arocho
  - David Lee
  - Patrick McGlone
  - Jason Morton
  - Todd Pesavento
  - Rupi Sodhi
- **HRSA Representatives**
  - Jim Bowman
  - Marilyn Levi
- **SRTR Staff**
  - Bryn Thompson
  - Raja Kandaswamy
- **UNOS Staff**
  - Joann White
  - Stryker-Ann Vosteen
  - Dzhuliyana Handarova
  - Kim Uccellini
  - Kristina Hogan
  - Taylor Michalski
  - Lauren Motley
- **Other Attendees**
  - Betul Hatipoglu