ASTS
American Society of Transplant Surgeons

October 18, 2024

Amber Kimball Hsu, RN
North Carolina Medicaid, Division of Health Benefits
NC Department of Health and Human Services
820 S Boylan Ave
McBryde Building
Raleigh, NC 27603

Dear Ms. Hsu:
Thank you for the opportunity to comment on North Carolina's Medicaid coverage related to transplantation. ASTS is a medical specialty society representing approximately 2,000 professionals dedicated to excellence in transplantation surgery. Our mission is to advance the art and science of transplant surgery through patient care, research, education, and advocacy.

Kidney

Pediatric Kidney

- Clarify that Medicaid will reimburse for both living donor and deceased donor. Put language that states preemptive pediatric kidney is both living and deceased donor.
- Provide coverage for pediatrics less than 17 for eGFR <40 so the program can start a preemptive work-up.

Adult Kidney

Clinical Coverage
Policy No: 11B-4
Language:

- Change 'cadaver' to 'deceased donor.'

Suggestions:

- Section 1.0, lines 3-4: some deceased (and living donor) kidneys have suffered injury, so this part of the paragraph should be removed.
- Section 1.0, lines 5-6: living donor is preferred due to: tends to work longer, tends to have higher GFR, recipients tend to have fewer complications after implantation, and living donor procedures can be scheduled when both donor and recipient are cleared, thereby eliminating extra or hard to predict waiting time/s.
- Last line of the paragraph: "blood group matched…is the gold standard." This may not be needed and there are so many more nuances to "matching" (blood type, HLA typing, biology matching). This line should be removed.
- Section 1.1.1: GFR is not a measure of how much blood is flowing through kidney/glomeruli. It is a measure of how much of a certain solute is filtered per min (mL/min) which depends on many factors, including the flow rate.
- 1.1.3: would remove "polycystic kidney disease (PKD) or other kidney diseases" part of this sentence. Creates confusion.

- End of Section 3 in the statement about children and need for preemptive, these can come from living OR deceased donors; the key is early referral and listing. We are not sure that this paragraph needs to be included.
- Section 4.1: many patients multicast. This is advantageous to the patient as each center offers different types of organs and services which might allow for earlier or better transplantation. Is this considered a duplication?
- Section 4.2.1.e: some recipients can smoke at different centers.

Previous recommendations that are still applicable:
- Medicaid should cover adult patients who have GFR 25 or less to allow ample time to get patients worked up and listed for kidney transplantation to increase probability that living or deceased donor kidney can be completed before dialysis is needed (due to long waiting times for adult deceased donor kidney transplantation).

Additions related to the Provider/External Stakeholders Inquiry
- Treatments, including this for immune suppression and/or complications should be covered if they are considered standard of care. Examples: belatacept for maintenance IS; IVIg to treat refractory BK; there are many others. Standard of care changes over time, so the policy has to be flexible.
- Medicaid should cover DUAL or MULTI organ transplantation if center/s following OPTN guidelines.

Small Bowel

Section 1.0 – Description of the Procedure, Product, or Service
Second paragraph:

A small bowel transplant is typically performed in beneficiaries with intestinal failure (erase short bowel syndrome). Intestinal failure is a condition in which the absorbing surface of the small intestine is inadequate due to extensive disease or surgical removal of a large portion of small intestine (short bowel syndrome). In adults, etiologies of intestinal failure (erase short bowel syndrome) include dysmotility, ischemia, trauma, volvulus, and tumors. In children, gastroschisis, volvulus, necrotizing enterocolitis, and congenital atresia are predominant causes.

Third paragraph:

The small intestine, particularly the ileum, does have the capacity to adapt to some functions of the diseased or removed portion over a period of one to two years. Prognosis for recovery depends on the degree and location of small intestine damage. Therapy is focused on achieving adequate macro- and micro-nutrient uptake in the remaining small bowel. Pharmacological agents have been studied to increase villous proliferation and slow transit times, and surgical techniques have been advocated to optimize remaining small bowel. Some beneficiaries with short bowel syndrome are unable to obtain adequate nutrition from enteral feeding and become dependent on total parenteral nutrition (TPN). Beneficiaries with complications from TPN may be considered candidates for small bowel transplant. Complications include catheter-related mechanical problems, infections, clots, hepatobiliary disease, and metabolic bone disease. While cadaveric intestinal transplant is the most commonly performed transplant, there has been recent interest in using living donors.

Section 3.2.1 Specific criteria covered by Medicaid

b. Absence of significant infection that could be exacerbated by immunosuppressive therapy – please keep the statement but erase the infections in parenthesis since these are infections that we could transplant through if well controlled (e.g., chronic active viral hepatitis B, hepatitis C, and human immunodeficiency virus).

Small Bowel/Liver Specific:
Evidence of intolerance of TPN includes multiple and prolonged hospitalizations to treat TPN-related complications, or the development of progressive (erase but reversible) liver disease (erase failure). In the setting of progressive liver disease (erase failure), small bowel transplant may be considered a technique to avoid end-stage liver failure related to chronic TPN, thus avoiding the necessity of a multivisceral transplant.

Section 4.2.4 Substance Use

B2 – six months of negative sequential random drug screens

We recommend erasing the "six months" and keep the rest of the sentence

Section 7.1
e. A statement signed by the surgeon certifying all FDA requirements for the implants, products, and devices must be retained in the beneficiary's medical record and made available for review upon request.

Liver
Adult Liver Feedback
Throughout remove term alcoholic liver disease and use newer terminology of alcohol associated liver disease

3.2.1: Need to include metabolic dysfunction associated steatotic liver disease (MASLD) as indication for transplantation (It is number 2 reason for transplant)
3.2: Asymptomatic human immunodeficiency virus (HIV)-positive beneficiaries who meet the following criteria:

A. Cluster Differentiation 4 (CD4) count greater than 200 cells/mm-3 within the last 6 months (or greater than 100 for liver transplant candidates);
B. HIV-1 Ribonucleic acid (RNA) suppressed (occasional low-level viremia can be allowed at the discretion of the treating physician);
C. On stable anti-retroviral therapy;
D. No other current or past complications from acquired immune deficiency syndrome (AIDS) that in the opinion of the treating clinician would likely negatively impact graft or patient survival; and
E. Meets all the other criteria for transplantation.

3.3: A3 neomycin is not used anymore, and a protein restricted diet is actually harmful. Would state electrolyte derangement corrected and patient is adherent to lactulose and rifaximin if coverage is provided for this medication.

C7: Duration of abstinence is no longer used for alcohol liver disease. Also, the term alcoholic

should be removed. Recommend including both acute alcohol associated hepatitis and alcohol associated cirrhosis. We would state that there is no formal abstinence duration requirement and candidacy should be determined by multidisciplinary medical, surgical, and psychosocial team based on multiple domains including alcohol use history, insight, sober support systems, mental health history and treatment adherence history. Consider referring Dallas consensus conference. (https://pubmed.ncbi.nlm.nih.gov/31743578/)

C9: HIV in this section does not match above section 3.2.4 re cd4 count
Beneficiaries re alcohol use section-see above, remove 6-month rule

For substance use would change to illicit substance use, again to remove the 6-month rule for alcohol.

4.2.5: Remove HIV as infection contraindication or state uncontrolled HIV: Unclear why advanced physiologic age and chronic hep B are together in this section.
We are not sure how HBeAG and HBV DNA impact the decision for hepatitis B transplant and would remove this.

Additionally, we would consider including hilar cholangiocarcinoma (as outlined in OPTN policy 9) and intrahepatic cholangiocarcinoma less than 3cm in a cirrhotic since this is in process of being implemented by OPTN as indications for liver transplantation.

Pediatric Liver Feedback

1. What is important to your constituents/colleagues regarding solid organ transplantation services?
    - Equitable access for patients in need of liver transplant
    - Continued adequate timelines for evaluation and listing
    - Continued living donor benefits that promote increasing the donor pool and improving access to patients in need of liver transplantation

2. What limits, if any, should Medicaid put on solid organ transplantation services?
None.

3. If any services should be limited to certain diagnoses, please include your recommendations with evidence to support the diagnoses that you have recommended.
   N/A
4. Is there any additional evidence in medical literature on the procedure that you would like to present?
    a. Medicaid should provide coverage for treatment of vitamin deficiencies related to ESLD/advanced chronic liver disease after listing for transplant and post-transplant

Cameron R, Kogan-Liberman D. Nutritional considerations in pediatric liver disease. Pediatr Rev. 2014 Nov;35(11):493-6. doi: 10.1542/pir.35-11-493. PMID: 25361909.

Mouzaki M, Bronsky J, Gupte G, Hojsak I, Jahnel J, Pai N, Quiros-Tejeira RE, Wieman R, Sundaram S. Nutrition Support of Children With Chronic Liver Diseases: A Joint Position Paper of the North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition and the European

Society for Pediatric Gastroenterology, Hepatology, and Nutrition. J Pediatr Gastroenterol Nutr. 2019 Oct;69(4):498-511. doi: 10.1097/MPG.0000000000002443. PMID: 31436707.

Mortensen M, Lundberg C, Horslen S. Nutritional Management for Infants and Children Pre and Post-Liver Transplant. *OBM Transplantation* 2019**;** 3(3): 073; doi:10.21926/obm.transplant.1903073.

5. What additional criteria would you include in the policy to define the service and identify community standards of practice?
   Policy Guideline 3.3 a. 3. Encephalopathy- remove "and patient placed on a strict protein restricted diet" and add ", or rifaximin"

Policy Guideline 3.3 a. 5. Fatigue- pediatric patients should not be required to have a detailed psychiatric evaluation to rule out other factors causing fatigue.

Policy Guideline 3.3 d. 2 Add "D. Complications from portal hypertension"

Attachment A: Claims-Related

Information #1 *Billing for Donor*

Expenses
It currently reads. "Medicaid reimburses only for the actual donor's transplant-related medical expenses. Medicaid does not reimburse for unsuccessful donor searches." Not covering expenses to work-up potential donors will limit the donor pool. It should read: Medicaid reimburses for transplant related medical expenses incurred by the donor or potential donors.

Same pattern for #3 Living Organ Donations
It reads "Medicaid covers reimbursement only for the approved donor." It should read "Medicaid covers reimbursement for all transplant-related expenses for potential donors."

Heart
For HIV, utilize the same wording as for Lung.

Lung

NC Medicaid responses for Lung Transplant regarding Policy 11B-1
The following are suggested edits and additions to the Clinical Coverage Policy

3.2.1.a.1 (additions to indications for lung transplant) Kartagener's syndrome
Thrombotic pulmonary hypertension Pulmonary surfactant deficiency Alveolar proteinosis
Amyloidosis
Adult respiratory distress syndrome (ARDS)
Minimally invasive adenocarcinoma, adenocarcinoma in situ COVID-19 pulmonary

fibrosis
COVID-19 ARDS
Graft versus host disease (GVHD)
Lung retransplant or graft failure
Occupational lung disease
Granulomatosis with polyangiitis (GPA or Wegener's granulomatosis)

3.2.1.a.1.D

Emphysema – add language modifying FEV1 requirement for patients with concomitant pulmonary hypertension…. "FEV1 post-bronchodilator less than 25% unless accompanied by significant pulmonary hypertension"

3.2.1.d

Again, request removal of language of AIDS as indication for transplant since there is important distinction between being HIV-positive and having AIDS-defining illness. Suggest the following edit:

"The beneficiary is human immunodeficiency virus (HIV)-positive, the case shall be evaluated on an individual basis providing the following criteria are present…"

Would keep the AIDS language in 3.2.1.d.4 as a potential exclusion to transplant.

4.2.1

4.2.1.a.1: Tobacco use
Modify language to "cigarette use in the last 6 months or other nicotine supplements in the last 3 months".

4.2.1.c.4.A/B
Should include verbiage about multi-organ transplant option for lung-liver and lung-kidney in these sections…such as….

A. Hepatic dysfunction, including cirrhosis and chronic liver disease (combined lung-liver multi-organ transplant to be considered in some cases)
B. Renal dysfunction (creatinine over 1.5 or creatinine clearance less than 50 ml/min or less than 35 ml/min for pulmonary hypertension beneficiaries); combined lung-kidney multi-organ transplant to be considered in some cases with creatinine clearance less than 40 ml/min

Review of Solid Organ Transplantation Policies

1. What is important to your constituents/colleagues regarding solid organ transplantation services?

   Our transplant center prioritizes making lung transplants accessible to patients and removing barriers whether they be in relation to medical conditions, need for multi-organ transplant, awareness for referral or social determinants of health (SDOT).

2. What limits, if any, should Medicaid put on solid organ transplantation services?

3. If any services should be limited to certain diagnoses, please include your recommendations with evidence to support the diagnoses that you have recommended.

   All end-stage lung diseases should be eligible for lung transplant outside of extrapulmonary metastatic lung cancer provided candidates meet the other commonly accepted inclusion criteria.

4. Is there any additional evidence in medical literature on the procedure that you would like to present?
5. What additional criteria would you include in the policy to define the service and identify community standards of practice?

   Expand and ensure coverage across pre- and post-transplant periods (such as pulmonary rehab, medication costs, enteral nutrition formula/supplies, wound care management).

   Broaden medication coverage to include certain unique immunosuppressants and infections as this is integral to their survival and outcomes. Relatedly, allow longitudinal care and testing at the transplant center that performed the transplant surgery with the health professionals most familiar with their medical conditions given the complicated nature of lung transplant.

Transplant ID
Thank you for strongly considering modifications to the current language in the NC Medicaid guidelines, regarding patients living with HIV progressing to organ transplantation. As you know, such patients have been able to safely undergo organ transplant for a number of decades now, and since the HIV Organ Procurement Equity (HOPE) Act was passed and put into practice in 2016, hundreds of lives have been saved through also allowing HIV-positive living and deceased organ donors to have the chance to donate.

Critically, the HOPE Act has given us the opportunity to better understand the physiologic limits to safe transplantation for patients with HIV infection. Specifically, we have recognized liver transplant candidates, with a degree of hypersplenism, often have CD4 counts lower than what we traditionally expect, yet without the increased risk of new incident post-transplant infections. 100 cells / mm3 is currently used as a national standard.

Similarly, we have learned that absolute viral control is not necessary for excellent transplant outcomes. Many patients with longstanding HIV-infection will often have small 'blips' in their viral load, more common with contemporaneous and highly precise viral load testing platforms. Blips neither confer sustained loss of virologic control, nor pose an immunologic or infectious risk, in comparison to the standard transplant recipient.
Consequently, to restrict candidates to only those who maintain "undetectable" viremia, significantly limits those who can safely be transplanted. In the HOPE Act safety data so far, there have been no signals suggesting low- level episodic viremia negatively impacts post-transplant graft or patient survival.

Furthermore, the duration of how long someone needs to be on a stable, effective, and tolerable anti-viral regimen can be shortened. We sometimes see liver transplant candidates become acutely ill, where transplant is an urgent proposition. Occasionally patients are still on antiquated

ARV therapy, for example, boosted protease inhibitors and we need to make changes to set an artificial time.

Finally, as we have entered an era where AIDS-defining opportunistic infections are exceedingly rare, we can instead judge transplant candidacy based on the presence of an *active* infection or malignancy, or the history of having one that might acutely reactivate. For example, most people who had PCP in the distant past, but are now stable and compliant, have no additional risk for transplantation.

Ultimately, we believe strongly that language should be crafted to balance patient and system safety, while granting access to life-saving procedures. The current language, whilst well intentioned, will result in a small number of otherwise good candidates missing out.

Thank you for soliciting feedback from ASTS on this issue. If you have any questions, please do not hesitate to contact Emily Besser, Associate Director, Advocacy & Professional Practices, at emily.besser@asts.org.

Sincerely,

Ginny L. Bumgardner, MD, PhD
President, American Society of Transplant Surgeons