Increasing Organ Transplant Access (IOTA) Model Achievement Domain Methodology & Sample Calculation (Performance Year 1)

Disclaimer: This document is intended only to provide clarity to the public regarding existing regulatory requirements for IOTA participants. The contents of this document do not alter the existing regulatory requirements or create new binding obligations.

IOTA Model Performance Assessment

IOTA participant performance is measured across three domains: (1) achievement domain; (2) efficiency domain; and (3) quality domain. As finalized at 42 CFR 512.422(a)(1), CMS establishes the performance measures described in §§ 512.424, 512.426, and 512.428 to assess IOTA participants in the achievement domain, efficiency domain and quality domain. CMS assigns each set of metrics within a domain a point value with the total possible points awarded to an IOTA participant across the three domains equaling 100, as described in §§ 512.424, 512.426, and 512.428.

Achievement Domain Methodology

Achievement domain

As defined at 42 CFR 512.402, the achievement domain is the performance assessment category in which CMS assesses the IOTA participant's performance based on the number of transplants performed relative to the transplant target.

Transplant Target Methodology

In accordance with §§ 512.424(b)(1) and (2), CMS determines the IOTA participant's transplant target for each performance year (PY) as follows:

- CMS analyzes the baseline years for the relevant PY and identifies:

    (i) The mean number of deceased donor kidney transplants furnished by the IOTA participant to patients 18 years of age or older across the baseline years, as defined at § 512.402; and

    (ii) The mean number of living donor kidney transplants furnished by the IOTA participant to patients 18 years of age or older across the baseline years, as defined at § 512.402.

- CMS sums the mean numbers of deceased donor kidney transplants and living donor kidney transplants furnished by the IOTA participant to patients 18 years of age or older across the baseline years.

National Growth Rate Calculation

National growth rate, as defined at § 512.402, means the percentage increase or decrease in the number of kidney transplants performed over a 12-month period by all kidney transplant hospitals except for pediatric kidney transplant hospitals, as defined at § 512.402.

In accordance with § 512.424(b)(3), CMS calculates the national growth rate, as defined at § 512.402, using the baseline years for the relevant PY as follows:

- Subtracts the total number of kidney transplants furnished to patients 18 years of age or older during the second baseline year from the total number of kidney transplants furnished to patients 18 years of age or older during the third baseline year.
- Divides the amount resulting from the calculation by the total number of kidney transplants furnished to patients 18 years of age or older during the third baseline year. The resulting amount is the national growth rate for the relevant PY.

Calculation of Transplant Target

In accordance with § 512.424(b)(4), If the national growth rate calculated is—

- Positive, CMS multiples that national growth rate by the sum of the mean (average) number of deceased donor kidney transplants and living donor kidney transplants furnished to patients 18 years of age or older during the relevant baseline years. The resulting amount is an IOTA participant's transplant target for the relevant PY; or
- Negative, CMS does not multiply the national growth rate by the sum of the mean (average) number of deceased donor kidney transplants and living donor kidney transplants furnished to patients 18 years of age or older during the relevant baseline years. The IOTA participant's transplant target for the relevant PY is the sum of the mean (average) number of deceased donor kidney transplants and living donor kidney transplants furnished to patients 18 years of age or older during the baseline years.

Sample Achievement Domain Transplant Target Calculations

Sample Calculation of Transplant Target (Positive National Growth Rate)

Using the sample data from Table 1 below for IOTA participant A in PY 1 –

- The mean (average) number of deceased donor kidney transplants furnished to patients 18 years of age or older at the time of transplant is 125.
- The mean (average) number of living donor kidney transplants furnished to patients 18 years of age or older at the time of transplant is 60.

The *sum of the mean values* for IOTA participant A in PY 1 is 185 (125+60).

Table 1: IOTA participant A transplant numbers for PY 1 relevant baseline years Sample Data

PY 1 Baseline Years	Deceased	Living
July 1, 2021 – June 30, 2022	100	55
July 1, 2022 – June 30, 2023	125	50
July 1, 2023 – June 30, 2024	150	75
Totals	375	180
Mean (Totals / 3)	**125**	**60**

Using the sample data from Table 2 below, the national growth rate for PY 1 is 6.7% (((27,332-25,500) / 27,332)).

Table 2: PY 1 National Growth Rate Sample Data[1]

PY 1 Baseline Years	Deceased	Living	Totals
July 1, 2022 – June 30, 2023	19,636	5,864	25,500
July 1, 2023 – June 30, 2024	21,042	6,290	27,332

The national growth rate is then trended forward for an IOTA participant by trending forward the sum of the mean numbers of deceased donor and living donor transplants furnished to patients 18 years of age or older across the baseline years for the IOTA participant (185) by the national growth rate (1.067).

The *transplant target* for IOTA participant A in PY 1 is 197 (1.067*185).

Sample Calculation of Transplant Target (Negative National Growth Rate)

When determining individual transplant targets for PY 1 of the model, if an IOTA participant's sum of the mean number of deceased donor kidney transplants and the mean number of living donor kidney transplants furnished to patients 18 years of age or older across the relevant baseline years equals 185, and the national growth rate was negative, then the transplant target for that IOTA participant would be 185.

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[1] Please note that the data in this table is for illustrative purposes only and does not reflect the actual growth rate for PY 1. The data used in Table 2 shows OPTN data for Transplants by Donor Type through January 16, 2025. The data reflects the total number of all kidney transplants (pediatrics and adults) performed in calendar years 2022 and 2023. The data in this table was retrieved directly from the OPTN website (https://optn.transplant.hrsa.gov/data/view-data-reports/national-data/#) with the following filters: Category (Transplant), Organ (Kidneys), Transplant by Donor Type.

Appendix

Calculating Transplant Target Example (positive national growth rate)[2]

Step 1: For each IOTA participant, CMS will calculate the transplant target for PY 1 by first determining the mean of the total number of deceased donor kidney transplants and living donor kidney transplants furnished to patients 18 years of age or older across the baseline years, as defined at § 512.402. The relevant baseline years for PY 1, as illustrated in Table 3 below, include the following time frames:

- July 1, 2021 – June 30, 2022
- July 1, 2022 – June 30, 2023
- July 1, 2023 – June 30, 2024

Step 2: CMS will then sum the mean (average) number of deceased donor kidney transplants (125) and living donor kidney transplants (60) furnished to patients 18 years of age or older during the relevant baseline years for PY 1.

$$125 \ (Deceased \ donor \ kidney \ transplant \ mean) +$$
$$60 \ (living \ donor \ kidney \ transplant \ mean) = \ 185 \ (Sum \ of \ the \ Mean \ Values)$$

Step 3: CMS will then calculate the national growth for PY 1 using the relevant time frame, as illustrated in Table 3 below. To calculate the national growth rate for PY 1, CMS will do the following:

- First subtract the total number of kidney transplants furnished to patients 18 years of age or older from July 1, 2022, to June 30, 2023 (25,500), from the total number of kidney transplants furnished to patients 18 years of age or older from July 1, 2023, to June 30, 2024 (27,332).
    - 27,332 – 25,500 = 1,832
- Next, CMS would then divide that number (1,832) by the total number of kidney transplants furnished to patients 18 years of age or older from July 1, 2023, through June 30, 2024, to determine national growth rate (27,332).
    - 1,832 / 27,332 = 0.67

Step 4: To create the transplant target for each IOTA participant for the relevant PY CMS would do the following:

1. Trend the national growth rate forward for an IOTA participant by multiplying the national growth rate (1.067) by the sum of the mean number of deceased donor and living donor transplants furnished to patients 18 years of age or older across the relevant baseline years for the IOTA participant (185).

    - 1.067 X 185 = 197

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[2] Please note that the data used in this example is for illustrative purposes only and is from Table 1 and Table 2.

2. The sum of step 2 (197) would be the transplant target for an IOTA participant.

Calculating Transplant Target Example (negative national growth rate)

If the national growth rate were negative, CMS would not trend the growth rate forward for PY 1 and the transplant target would be the sum of the mean number of living donor and deceased donor kidney transplants across the baseline years.

IOTA Model Performance Period Baseline Years for Calculation of Transplant Target

Table 3 outlines the performance years and corresponding baseline years for calculating the transplant target in the IOTA Model.

Table 3: BASELINE YEARS FOR CALCULATION OF TRANSPLANT TARGET

Performance Year	Baseline Years	Mean Number of Living + Mean Number of Deceased from Baseline Years	Trended by National Growth Rate from
1	July 1, 2025 — June 30, 2026	July 1, 2021 – June 30, 2022 July 1, 2022 – June 30, 2023 July 1, 2023 – June 30, 2024	July 1, 2023 – June 30, 2024 / July 1, 2022 – June 30, 2023
2	July 1, 2026 — June 30, 2027	July 1, 2022 – June 30, 2023 July 1, 2023 – June 30, 2024 July 1, 2024 – June 30, 2025	July 1, 2024 – June 30, 2025 / July 1, 2023 – June 30, 2024
3	July 1, 2027 — June 30, 2028	July 1, 2023 – June 30, 2024 July 1, 2024 – June 30, 2025 July 1, 2025 – June 30, 2026	July 1, 2025 – June 30, 2026 / July 1, 2024 – June 30, 2025
4	July 1, 2028 — June 30, 2029	July 1, 2024 – June 30, 2025 July 1, 2025 – June 30, 2026 July 1, 2026 – June 30, 2027	July 1, 2026 – June 30, 2027 / July 1, 2025 – June 30, 2026
5	July 1, 2029 — June 30, 2030	July 1, 2025 – June 30, 2026 July 1, 2026 – June 30, 2027 July 1, 2027 – June 30, 2028	July 1, 2027 – June 30, 2028 / July 1, 2026 – June 30, 2027
6	July 1, 2030 — June 30, 2031	July 1, 2026 – June 30, 2027 July 1, 2027 – June 30, 2028 July 1, 2028 – June 30, 2029	July 1, 2028 – June 30, 2029 / July 1, 2027 – June 30, 2028