

Attachment B

Exhibits for the Authorization Rate for Organ Donation Among Approached, Referred Potential Organ Donors in the Organ Procurement Organization's (OPO) Donation Service Area (DSA) in a Calendar Year

CBE ID #5603, Full Measure Submission, Spring 2026

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Measure Definitions

Exhibit 1: Measure Definitions

To facilitate uniformity and standardization in the proposed measures, the following list of definitions were developed in cooperation with Organ Procurement Organization (OPO) subject matter experts.

Term	Definition
Approach	Any type of conversation in person, over the telephone, or via telehealth with the intent to make donation a possibility after preliminary suitability has been determined by the OPO staff. This includes situations where the: • Patient appears to meet DBD criteria but is not formally declared; • Patient is declared to be brain dead and appears to be a suitable donor (at least one organ); or • OPO has determined patient is a suitable DCD candidate and has talked to family about organ donation. This definition does not change regardless of outcome or rule out circumstances (e.g., family declines, patient expiration, medical examiner denial, or other rule-out status). This does not include courtesy calls where a family has requested information about donation, but the OPO has already chosen not to investigate further or pursue donation.
Adverse Event	Adverse events include but are not limited to transmission of disease from a donor to a recipient, avoidable loss of a medically suitable donor for whom authorized donation has been obtained, or delivery to a transplant center of the wrong organ, an organ whose blood type does not match the blood type of the intended beneficiary, or an organ infected with a transmissible disease that should have been identified by the OPO prior to transplant.
Authorization	Written first-person authorization (donor designation), or agreement by the next of kin or by Uniform Anatomical Gift Act hierarchy of a donor to continue with first-person authorization for organ donation, or agreement by the next of kin on behalf of a donor to donate organs.
Calendar Year	Time between 12:00 a.m. on January 1 of a calendar year and 11:59 p.m. on December 31 of that same year. For Multiple Cause of Death (MCOB) and Scientific Registry of Transplant Recipients (SRTR) data, a death is attributed to the calendar year based on the time of death as recorded on the death certificate.
Contraindications to Donation	See Potential Donor Population.

Term	Definition
Donation Service Area (DSA)	A CMS designated geographical region where the OPO is responsible for coordinating organ donation. Hospitals may request a CMS waiver to participate in a DSA other than the one where they are geographically located.
Donor	A deceased individual from whom at least one organ was recovered for transplant, regardless of whether the organ was transplanted. An individual would also be considered a donor if only the pancreas is procured and is used for islet cell research or transplantation.
Donor Hospital	A hospital that has a signed agreement with an OPO to participate in referrals of organ donors .
Donor With Transplanted Organs	A deceased individual from whom at least one organ was recovered for transplant and transplanted into a recipient.
Eligible Death	See Potential Donor Population .
Hospital Waivers From Donation Service Area	Hospitals with a written waiver from CMS to work with an OPO other than the OPO in their geographic DSA .
Multiple Cause of Death File	Mortality data from the National Center for Health Statistics (NCHS) based on death certificate data for all deaths occurring in the United States. The provisional and final versions of this data are available at https://wonder.cdc.gov/mcd.html .
Organ	Human kidney, heart, lung, liver, pancreas, intestine, or a vascularized composite allograft .
Organs Available for Transplant	See Recovered Organs .
Organs Recovered for Research	The number of organs recovered and placed for research at an institution or organization that has an ongoing program of research to improve transplantation or support the discovery of cures for organ-related conditions, such as diabetes.
Potential Donor	A hospitalized patient that meets the following clinical criteria for donation: • Brain death or imminent death from severe brain injury or trauma, cerebrovascular insult, anoxic injury, amyotrophic lateral sclerosis, or • Assist device dependent (e.g., extracorporeal membrane oxygenation (ECMO)), or • Referred as outlined in each OPO to Hospital Memorandum of Understanding (MOU).¹

¹ OPOs maintain MOUs with donor hospitals regarding hospital notification of imminent deaths. These MOUs are specific to each hospital, and generally require hospitals to make referrals within 1 to 3 hours of a ventilated patient meeting any of the following established clinical triggers and prior to the withdrawal of mechanical and/or pharmacological support: a) patient with a neurological and/or life-threatening injury, or b) loss of neurological function without sedation, or c) patient meeting a Glasgow Coma Scale (GCS) of 5 or less, or d) anticipated family meeting to discuss end-of-life care, or e) prior to the discontinuation of ventilator support, the family asks to discuss donation options.

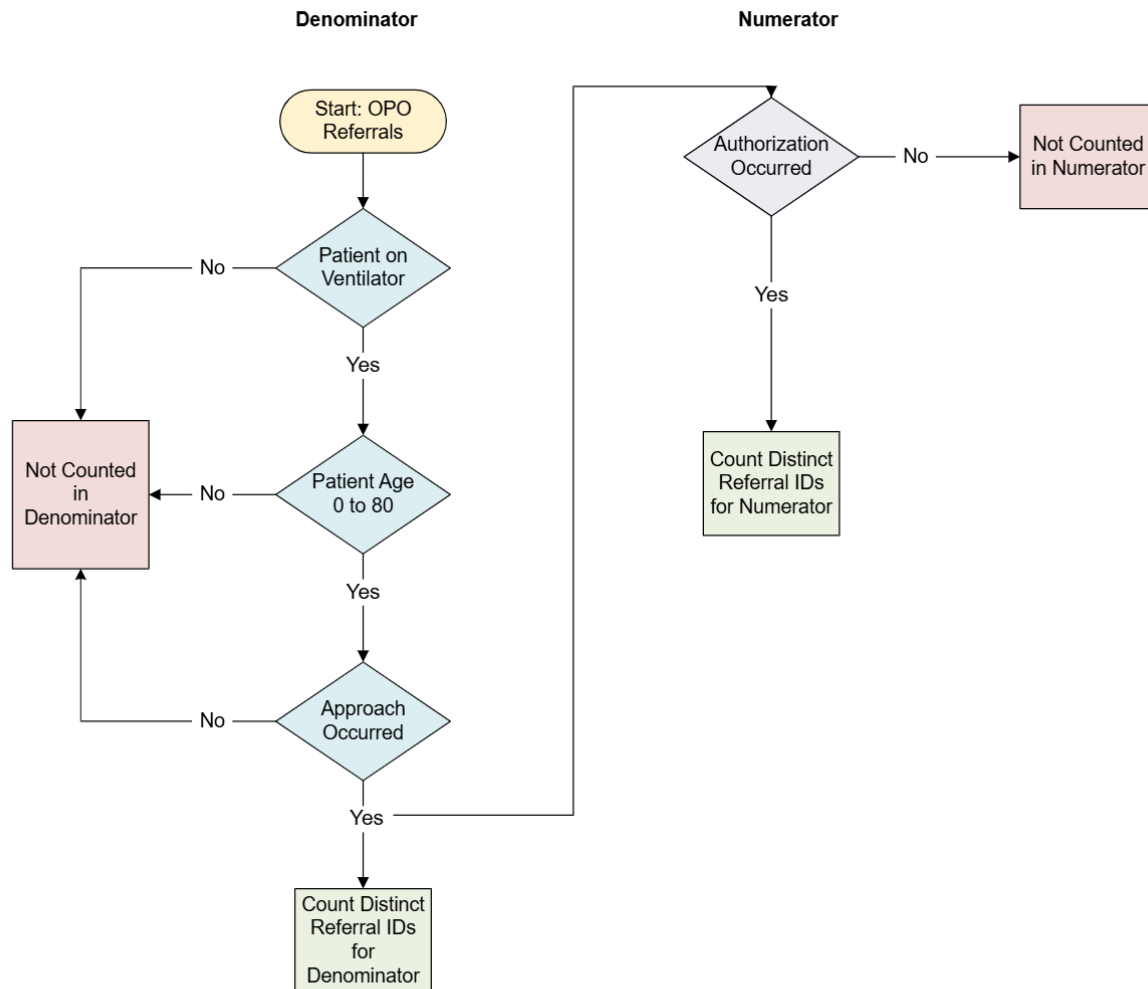
Potential Donor Population	The potential donor population is calculated by using the NCHS Provisional National Vital Statistics System (NVSS) Multiple Cause of Death (MCOD) file and following these steps: • Determine which deaths are within a DSA. • Exclude deaths of anyone: ◦ Over the age of 80; or ◦ With no discernible cause of death; or ◦ Who died outside a hospital. • Identify deaths with one of the following ICD–10–CM codes listed as the primary cause of death: ◦ I20–I25 (ischemic heart disease); or ◦ I60–I69 (cerebrovascular disease); or ◦ V01–Y89 (external causes of death): blunt trauma, gunshot wounds, drug overdose, suicide, drowning, and asphyxiation. • From that pool of deaths, remove any deaths with any of the following ICD–10–CM codes listed among any of the multiple causes of death: ◦ Bacterial: ▪ A15-A19, B90 (tuberculosis) ▪ K46.1, K45.1 (gangrenous bowel) ▪ K63.1 (perforated bowel) ▪ A40-A41 (intra-abdominal sepsis) ◦ Viral: ▪ B20 (HIV infection by serologic or molecular detection)² ▪ A82 (rabies) ▪ A83-86, B33.3, B97.3 (retroviral infections including viral encephalitis) ▪ B27 (acute Epstein-Barr virus (mononucleosis)) ▪ A92.3 (West Nile virus infection) ▪ A98.4 (Ebola virus) ◦ Fungal: ▪ B45 (active infection with cryptococcus) ◦ Parasites: ▪ B55 (leishmania) ▪ B78.7 or B78.9 (strongyloides – widespread infection) ▪ B50-B54 (malaria (plasmodium sp.)) ◦ Prion: ▪ A81.0 (Creutzfeldt-Jakob disease) ◦ D60-D61 (aplastic anemia) ◦ D70 (agranulocytosis) ◦ C00-C97 (current malignant neoplasms, except non-melanoma skin cancers, such as basal cell and squamous cell cancer, and primary CNS tumors without evident metastatic disease) ◦ Z85.820 (history of melanoma) ◦ Hematologic malignancies: ▪ C90.1, C91-C95 (leukemia) ▪ C81 (Hodgkin’s disease)
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Term	Definition
	▪ C82-C88 (lymphoma) ▪ C90.0 (multiple myeloma)
Recovered Organs	Organs recovered for the purpose of transplant, regardless of whether transplanted or used successfully.
Referral	The telephonic or electronic notification by a donor hospital of a potential donor based on clinical criteria. A referral is attributed to a calendar year based on the date of the referral, not the date of death. Referred potential donors are counted as referrals regardless of whether the referral was made using accurate clinical criteria for donation (donor referral triggers).
Registration	The written provision of first-person authorization to a state, other legally recognized registry, physician, or hospital of the person's intent or wish to become an organ donor .
Terminal Conversation	See Approach .
Transplant	Organ transplants include solid organ transplants and islet infusions. An organ transplant begins at the start of organ anastomosis or the start of an islet infusion. An organ transplant procedure is complete when any of the following occurs: • The chest or abdominal cavity is closed and the final skin stitch or staple is applied. • The transplant recipient leaves the operating room, even if the chest or abdominal cavity cannot be closed. • The islet infusion is complete.
Vascularized Composite Allograft	A body part that includes multiple types of tissue, such as skin, bone, muscle, nerves, and blood vessels (see organ).

² HIV is not a contraindication to donation where HIV-positive donors and donor organs are able to be matched with an HIV-positive recipient. Therefore, we propose excluding HIV-positive donors from the potential donor population count for the purposes of calculation because this would have a neutral impact on the calculations of the measure that utilizes this definition.

1.18a Measure Score Calculation Diagram

Exhibit 2: Measure Score Calculation Diagram



Authorization Rate Per 100:

$$\frac{\text{Number of Authorizations for OPO in Calendar Year}}{\text{Number of Approaches for OPO in Calendar Year}} \times 100$$

We stratified scores by demographic information for gender, race and age.

See measure specifications for detailed coding and definitions.

2.4 Performance Gap

Exhibit 3: Authorization Rates by OPO

	OPO 1	OPO 2	OPO 3	OPO 4	OPO 5	OPO 6
Measure Rate per 100	64	47	59	52	73	63
N of Entities	1	1	1	1	1	1
N of Persons*	2,909	6,890	953	2,407	2,395	1,560

* These are counts of ventilated referrals where the age is not missing and the age is 0 to 80 years old.

5.1.3 Characteristics of Measured Entities

Exhibit 4: OPO Characteristics

OPO Performance Tiers	Testing OPOs	All OPOs
1 – Passing	3	30
2 – Underperforming	3	16
3 – Failing	0	10
OPO Population Sizes		
Less than 2.9 million	1	13
2.9 to 5 million	1	13
5 to 7.2 million	1	13
Greater than 7.2 million	3	17
OPO Locations		
States and territories*	6	56

* OPOs provide donation services across all 50 states, plus the District of Columbia, the U.S. Virgin Islands, and Puerto Rico.

5.1.4 Characteristics of Units of the Eligible Population

Exhibit 5: OPO Data Demographic Table (2021–2024,* Ages <=80)

Age	OPOs Vented Authorizations Only*		OPOs Vented Approaches Only*	
	Count	%	Count	%
0 to less than 1	78	0.81	224	1.31
1 to 17	439	4.58	897	5.24
18 to 24	660	6.88	1,018	5.95
25 to 69	8,013	83.56	13,731	80.23

	OPOs Vented Authorizations Only*		OPOs Vented Approaches Only*	
70 to 75	260	2.71	786	4.59
76 to 80	140	1.46	458	2.68
Total	9,590	100	17,114	100
Race	Count	%	Count	%
Non-Hispanic White	6,961	72.59	11,002	64.29
Non-White**	2,561	26.70	5,885	34.39
Unknown	68	0.71	227	1.33
Total	9,590	100	17,114	100
Gender	Count	%	Count	%
Female	3,724	38.83	6,656	38.89
Male	5,866	61.17	10,458	61.11
Unknown	N/A	N/A	N/A	N/A
Total	9,590	100	17,114	100

* One OPO provided less than 4 full years of data (2021–2024).

** Due to variation in coding for race across OPOs, “Hispanic” was coded as a mutually exclusive race and included in the “Non-White” counts.

5.3.3 Method(s) of Validity Testing

Exhibit 6: Authorizations by OPO and SRTR Recovered Organs (2021–2024)

	Authorized by OPO	SRTR Recovered Organs (2021–2024)
OPO 1	1,869	1,343
OPO 2	3,204	2,741
OPO 3	558	523
OPO 4	1,244	1,009
OPO 5	1,739	1,130
OPO 6	976	717
Total	9,590	7,463

5.4.3 Variable Distribution Across Measured Entities

Exhibit 7: Demographic Tables (2021–2024,* Vented Only, Ages <=80)

	OPOs Vented Authorizations Only*		OPOs Vented Approaches Only*	
Age	Count	%	Count	%
0 to less than 1	78	0.81	224	1.31
1 to 17	439	4.58	897	5.24
18 to 24	660	6.88	1,018	5.95
25 to 69	8,013	83.56	13,731	80.23
70 to 75	260	2.71	786	4.59
76 to 80	140	1.46	458	2.68
Total	9,590	100	17,114	100
Race	Count	%	Count	%
Non-Hispanic White	6,961	72.59	11,002	64.29
Non-White**	2,561	26.70	5,885	34.39
Unknown	68	0.71	227	1.33
Total	9,590	100	17,114	100
Gender	Count	%	Count	%
Female	3,724	38.83	6,656	38.89
Male	5,866	61.17	10,458	61.11
Unknown	N/A	N/A	N/A	N/A
Total	9,590	100	17,114	100

* One OPO provided less than 4 full years of data (2021-2024).

** Due to variation in coding for race across OPOs, "Hispanic" was coded as a mutually exclusive race and included in the "Non-White" counts.

5.4.6 Interpretation of Risk/Case-Mix Factor Findings

The Authorization Rate is created by dividing the total number of authorizations for the relevant category by the number of approaches in that category. The Authorization Rate can be interpreted as the number of authorizations per 100 approaches by the OPO.

The team used a stratification approach to better understand the risks for different demographic groups and how the approach rate varied based on different patient characteristics. Our work was guided by previous research and approaches to risk adjustment and stratification (CMS, 2023; CMS, 2025; NQF, 2014; HHS/ASPE, 2020; Vogel & Chen, 2018).

Our team conducted Chi-Square tests to see if the differences in proportions of authorizations to non-authorizations were statistically significantly different than zero. We then tested the difference in proportions for the overall rate and the rate for each stratification category. For the significance tests, we interpreted the differences in Male vs. Female and White (Non-Hispanic) and Non-White.

Due to the multiple age categories, we do not interpret our results for age because they are not meaningful.

The authorization counts by age reflect the general patterns in approach rates and authorization. Most authorizations were in the 25–69 age group, as displayed in Exhibit 8.

Exhibit 8: Authorization Counts by Age

Age Groups	0	1–17	18–24	25–69	70–75	76–80	Total
OPO 1	13	97	147	1,583	23	6	1,869
OPO 2	17	160	186	2,615	143	83	3,204
OPO 3	13	24	43	439	24	15	558
OPO 4	21	53	93	1,046	25	6	1,244
OPO 5	5	70	138	1,511	9	6	1,739
OPO 6	9	35	53	819	36	24	976
Total	78	439	660	8,013	260	140	9,590
Average	13	73	110	1,336	43	23	1,598
Median	13	62	116	1,279	25	11	1,492

Authorization Rates are fairly consistent across all age groups, including in the younger and older ages. At the point in the donation process when authorization is requested, the rates are consistent, which makes intuitive sense. There does not appear to be any bias in the authorizations by age. (Authorizations apply to a subset of the total approaches made by the OPO to their hospital referrals.) See Exhibit 9.

Exhibit 9: Authorization Rates per 100 by Age

Age Groups	0	1–17	18–24	25–69	70–75	76–80	Non-Stratified Rate
OPO 1	32	63	69	65	58	43	64
OPO 2	27	43	59	49	28	24	47
OPO 3	68	55	69	59	46	58	59
OPO 4	36	36	53	53	45	50	52
OPO 5	29	58	78	74	45	60	73
OPO 6	35	56	68	66	36	42	63
Overall Rate	35	49	65	58	33	31	56

Authorization counts by race are consistently higher for people in the Non-Hispanic White group. There are also a small number of people of “unknown” race included in our counts (Exhibit 10).

Exhibit 10: Authorization Counts by Race

Race Groups	Non-Hispanic White	Non-White	Unknown	Total
OPO 1	1,187	654	28	1,869
OPO 2	2,252	949	3	3,204
OPO 3	344	214	0	558
OPO 4	1,023	217	4	1,244
OPO 5	1,276	433	30	1,739
OPO 6	879	94	3	976
Total	6,961	2,561	68	9,590

Authorization Rates by race are relatively consistent but slightly higher for Non-Hispanic Whites. The Unknown race category has the lowest Authorization Rates. The rates follow the pattern of the counts, with all Authorization Rates higher for Non-Hispanic Whites than Non-Whites. For all Chi-Square tests, all OPOs had statistically significant differences comparing Non-Hispanic White and Non-White to the overall rate, with one exception. For comparisons between Non-Hispanic White and Non-White, all tests showed a significant difference from zero. (Authorizations apply to a subset of the total approaches made by the OPO to their hospital referrals.) Please refer to Exhibit 11.

Exhibit 11: Authorization Rates per 100 by Race

Race Groups	Non-Hispanic White	Non-White	Unknown	Non-Stratified Rate
OPO 1	73	54	34	64
OPO 2	53	37	7	47
OPO 3	73	44	0	59
OPO 4	62	29	36	52
OPO 5	79	62	36	73
OPO 6	65	46	43	63
Overall Rate	63	44	30	56

Authorization counts are somewhat higher for males, which is expected based on the higher death rates for men and the higher approach rates for men. This pattern holds true across all OPOs (Exhibit 12).

Exhibit 12: Authorization Counts by Gender

Gender Groups	Male	Female	Total
OPO 1	1,145	724	1,869
OPO 2	1,946	1,258	3,204

Gender Groups	Male	Female	Total
OPO 3	324	234	558
OPO 4	740	504	1,244
OPO 5	1,106	633	1,739
OPO 6	605	371	976
Total	5,866	3,724	9,590

Authorization Rates are almost exactly equal by gender, despite the higher number of males that were authorized for donation. The Chi-Square tests showed no significant differences when comparing gender to the overall rate. When comparing rates for males and females, only one test showed a significant difference. The tests show no meaningful difference between the rates based on gender (Exhibit 13).

Exhibit 13: Authorization Rates per 100 by Gender

Gender Groups	Male	Female	Non-Stratified Rate
OPO 1	65	64	64
OPO 2	47	46	47
OPO 3	58	60	59
OPO 4	50	55	52
OPO 5	72	74	73
OPO 6	63	62	63
Overall Rate	56	56	56

In summary, stratification by race showed the most statistically significant differences of the different stratification risk factors. Authorization Rate by race is a potentially useful process measure for OPOs that want to better understand how they are reaching their potential donor population.

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Acronyms

Exhibit 14: Acronym List

Acronym	Definition
ACIN	AOPO Confirmation Information Network
AHRQ	Agency for Healthcare Research and Quality
AOPO	Association of Organ Procurement Organizations
API	Application Programming Interface
ASPE	Office of the Assistant Secretary for Planning and Evaluation
BD	Brain Death
CBE	Consensus-Based Entity
CMS	Centers for Medicare & Medicaid Services
DBD	Donation after Brain Death
DCD	Donation after Circulatory Death
DCU	Donor Care Unit
DMG	Donor Management Goals
DSA	Donation Service Area
DUA	Data Use Agreement
ECMO	Extracorporeal Membrane Oxygenation
EDR	Electronic Donor Record
EHR	Electronic Health Record
EMS	Emergency Medical Services
FPA	First-Person Authorization
FRaT	Family Readiness Assessment Tool
GCS	Glasgow Coma Scale
HCT	Health Care Team

Acronym	Definition
HIPAA	Health Insurance Portability and Accountability Act
HIV	Human Immunodeficiency Virus
HRSA	Health Resources & Services Administration
ICC	Intraclass Correlation Coefficient
ICD-10-CM	International Classification of Diseases, Tenth Revision, Clinical Modification
MCOD	Multiple Cause of Death
ME	Medical Examiner
MOU	Memorandum of Understanding
NASEM	National Academies of Sciences, Engineering, and Medicine
NCHS	National Center for Health Statistics
NRP	Normothermic Regional Perfusion
NTIS	National Technical Information Service
NVSS	National Vital Statistics System
OPO	Organ Procurement Organization
OPTN	Organ Procurement & Transplantation Network
OR	Operating Room
QA	Quality Assurance
SRTR	Scientific Registry of Transplant Recipients
TEP	Technical Expert Panel
UAGA	Uniform Anatomical Gift Act