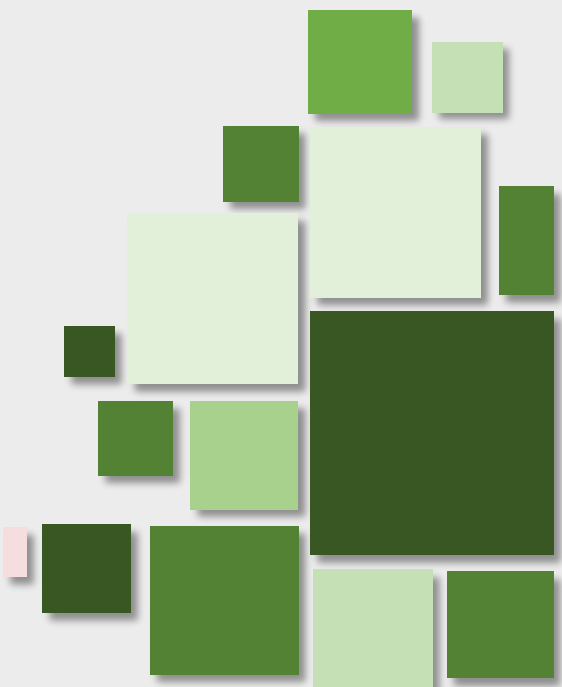
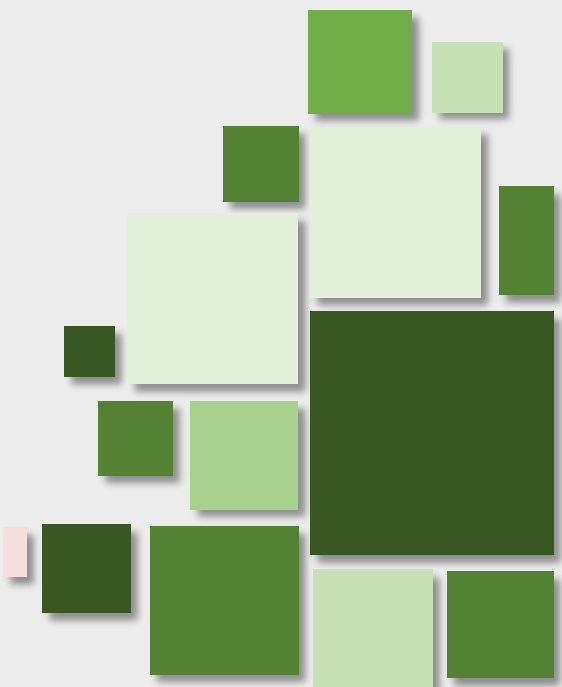


1. Deceased Donation after Brain Death in the Kingdom of Saudi Arabia



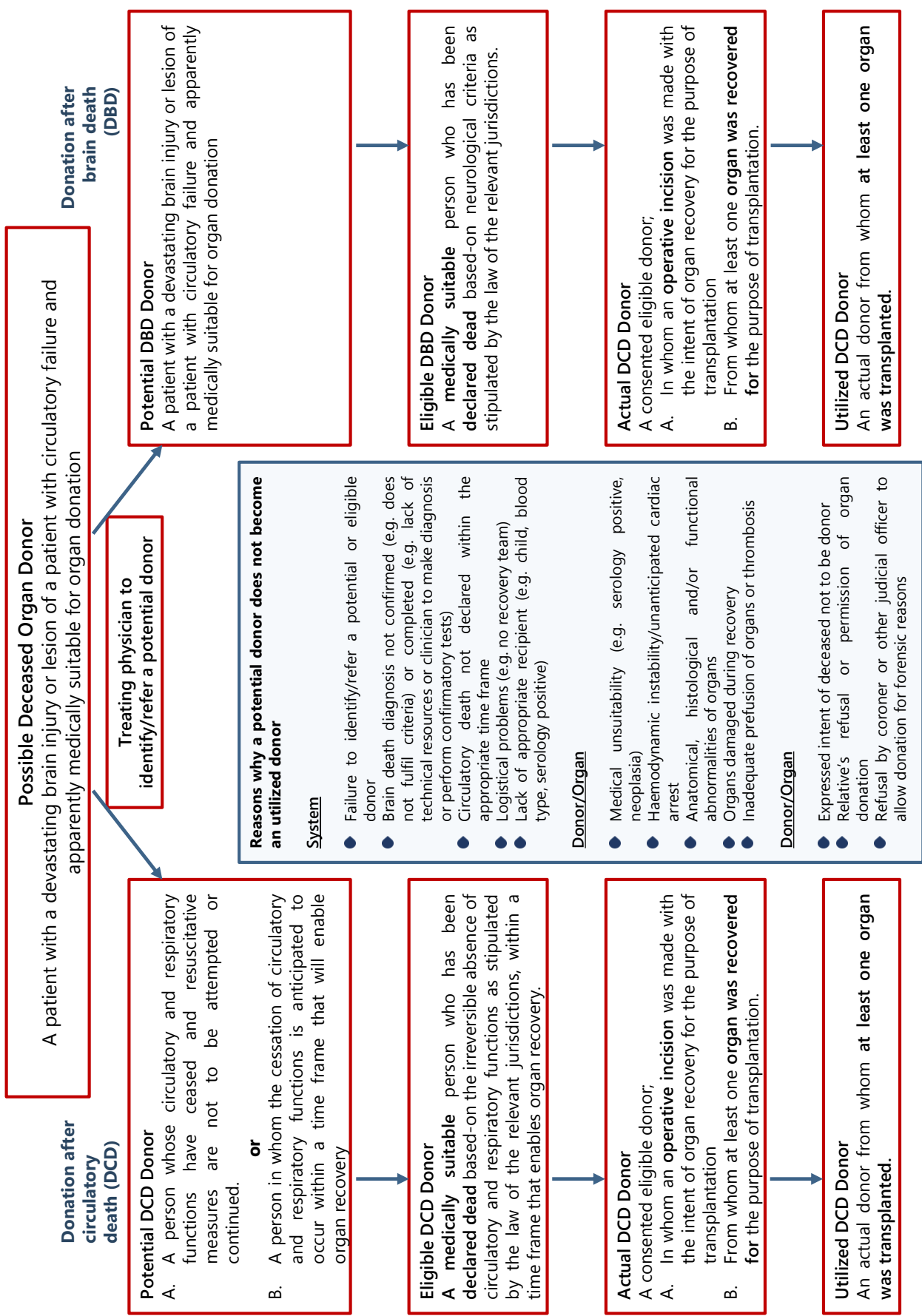


Critical Pathways for Organ Donation



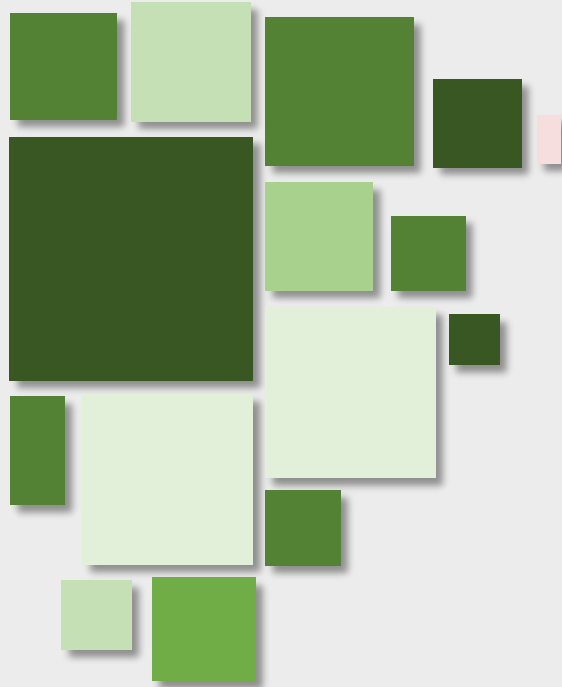


Clinical Pathways for Deceased Organ Donation



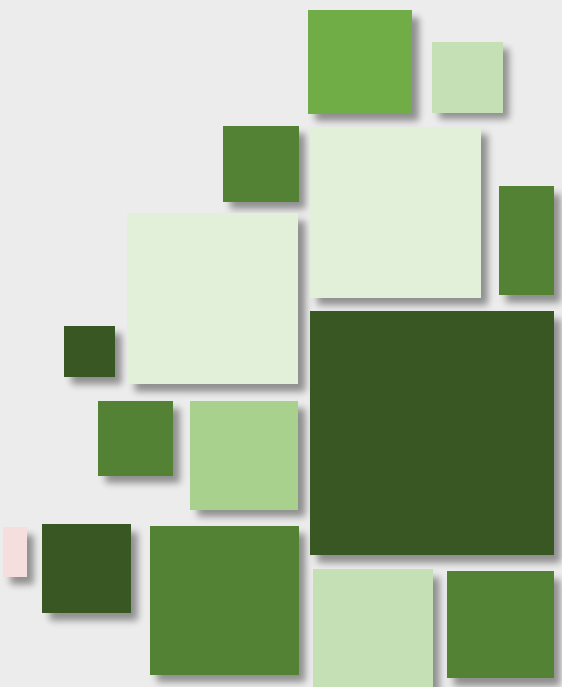
*The "dead donor rule" must be respected That is, patients may only become donors after death, and the recovery of organs must not cause a donor's death

Figure 1.1.1 Critical pathways of deceased organ donation



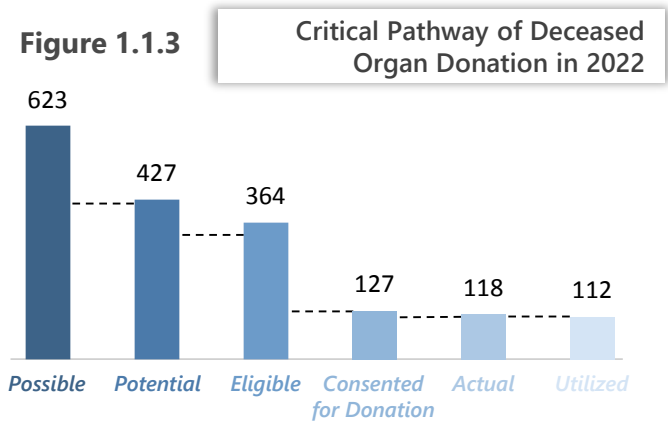
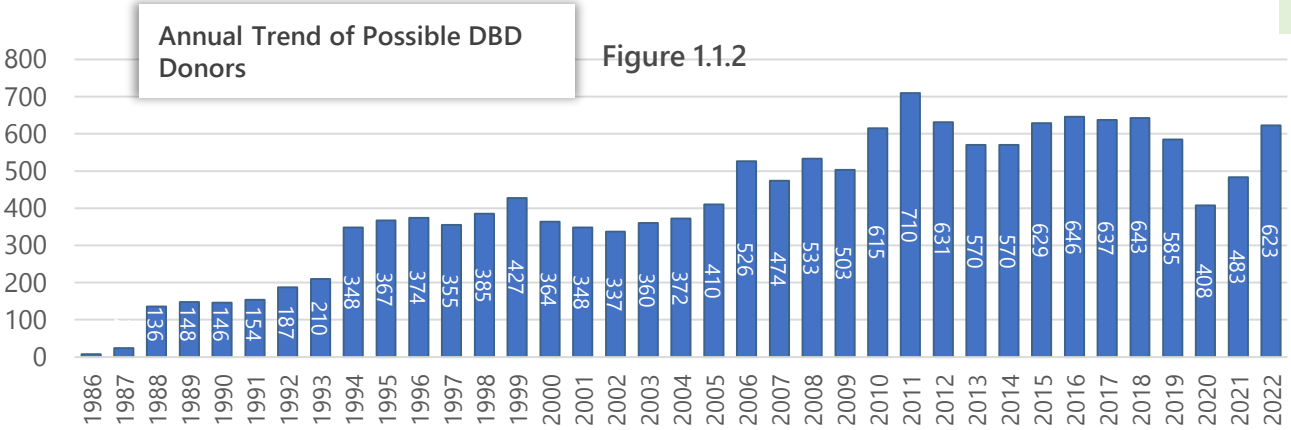
1.1 Possible DBD Donors

A patient with devastating brain Injury or lesion and apparently medically suitable for Organ Donation



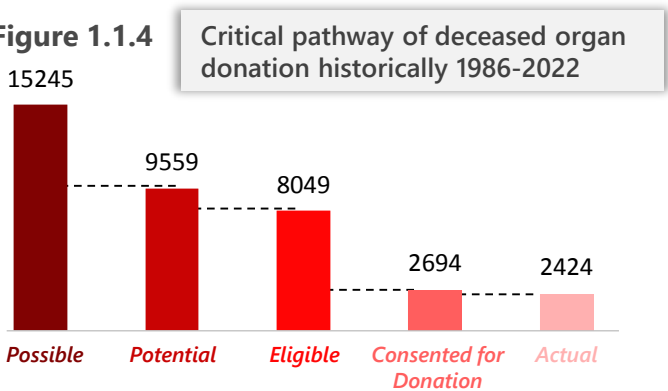


Deceased Donation after Brain Death and Organ Donation



In 2022, the Critical Pathways of Deceased Organ Donation recorded 623 possible DBD donors, 427 potential, 364 eligible, 127 consents, 118 actual and 112 Utilized donors (see figure 1.3). Since 1986, the deceased donors recorded were 15,245 possible, 9,559 potential, 8,049 eligible, 2,694 consents and 2,424 actual donors (see figure 1.4).

Annual trend of possible DBD recorded the highest possible DBD donors was in 2011 with 710 donors. (See figure 1.2).



In 2022, the highest number of DBD donors recorded was from Riyadh region with 210 possible, 151 potential, 128 eligible, 37 consents, 33 actual and 32 utilized donors recognizing its highest performance region wise (see table 1.1.1).

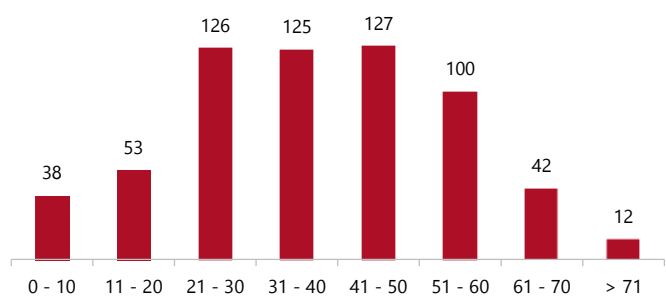
Region	Possible	Potential	Eligible	Consented	Actual	Utilized
CENTRAL	220	154	130	37	33	32
WESTERN	149	86	76	16	16	14
EASTERN	125	92	75	21	20	19
SOUTHERN	44	22	15	4	3	3
NORTHERN	38	26	21	2	2	2
OUTSIDE (GCC)	47	47	47	47	44	42
TOTAL	623	427	364	127	118	112

Table 1.1.1: Critical pathway of deceased organ donation, region wise in 2022



Figure 1.1.5

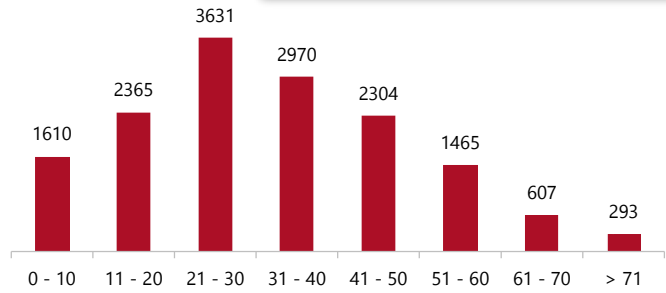
Age Distribution of Possible DBD Donors in 2022



In 2022, analysis of the age distribution of the possible DBD donors shows that the majority of the DBD donors were in the age group between 21-50 yrs. composing 61% of the cases, with the highest number in age group between 41-50 yrs., having 20% of the possible DBD donors (see figure 1.1.5). Cumulatively, since 1986, the majority of possible DBD donors were mainly from age group between 21-40 years composing 43% of the cases (see figure 1.1.6).

Figure 1.1.6

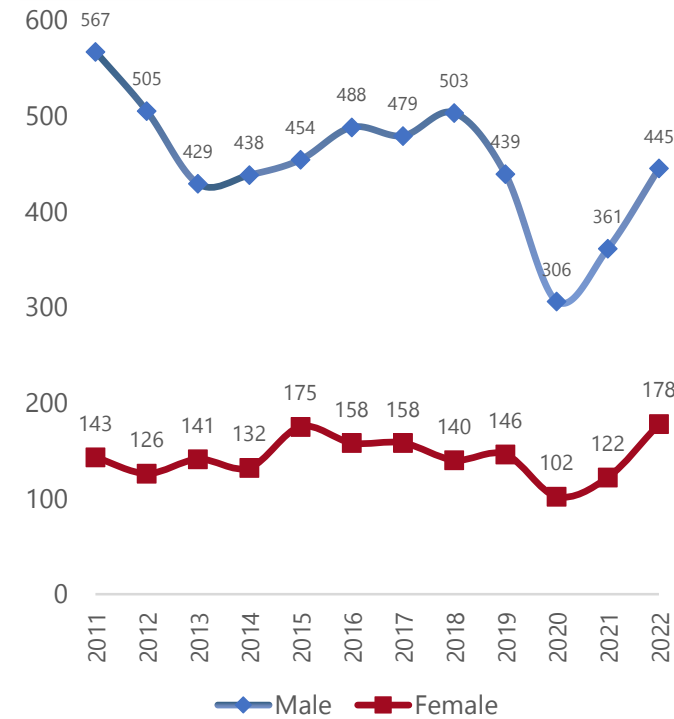
Age Distribution of Possible DBD Donors, 1986-2022



Gender analysis during the year among BD donors have shown that 71% of DBD donors were males and 29%. Since 1986, the males represent 78% of the possible DBD donors and females represent 22% with a male to female ratio of 4:1 (see figures 1.1.7 & 1.1.8).

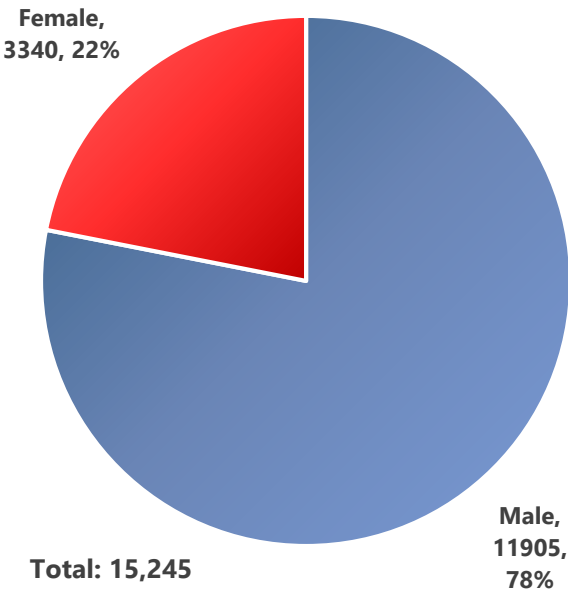
Gender Distribution in Possible DBD Donors, 2000-2022

Figure 1.1.7



Gender Distribution in Possible DBD Donors, 1986-2022

Figure 1.1.8



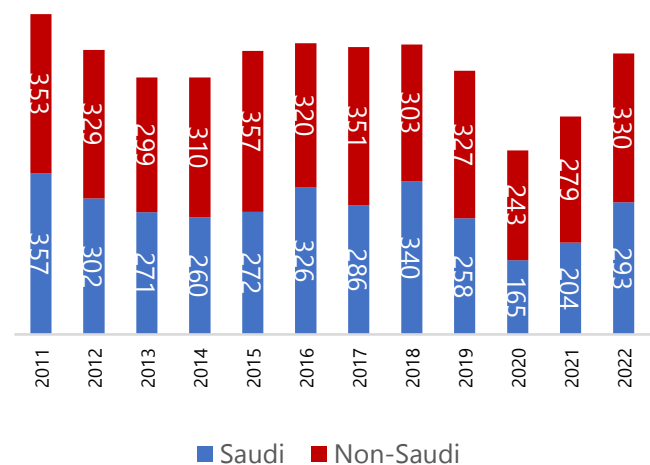


Deceased Donation after Brain Death and Organ Donation

In 2022 Nationality distribution among possible DBD donors have shown that Saudi Nationals comprises 293 (47%) of the total DBD donors while 330 (53%) were non-Saudis. Since 1986, Saudi's comprises 52% of the possible DBD donors and non-Saudis with 48% of the total DBD donors (see figures 1.1.9 and 1.1.10).

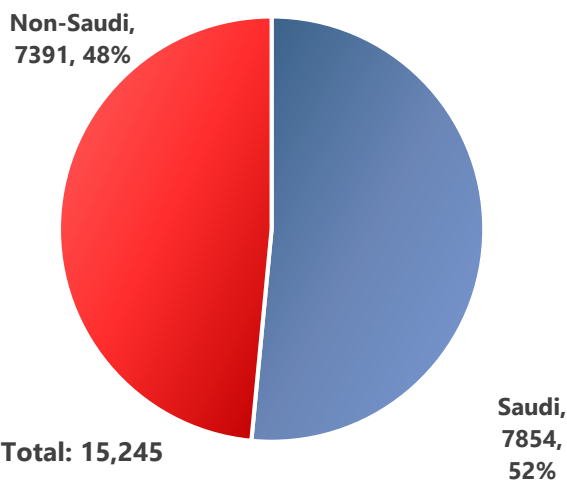
Nationality Distribution in Possible DBD Donors, 2000-2022

Figure 1.1.9



Nationality Distribution in Possible DBD Donors, 1986-2022

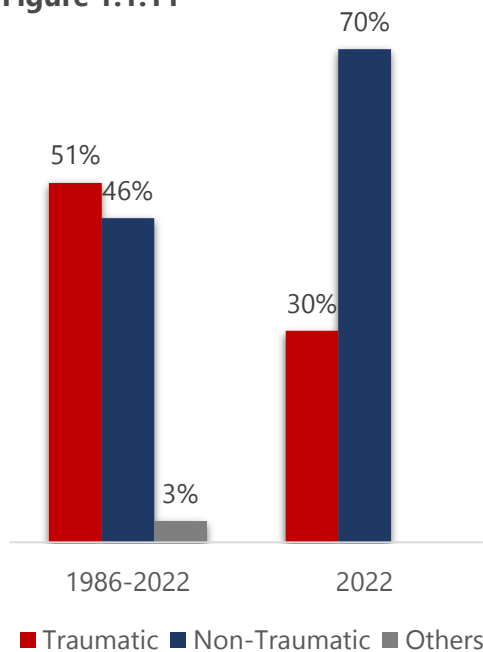
Figure 1.1.10



Analysis of the causes of death among possible DBD donors in 2022 shows that traumatic cause of death were 188 (30%) and death from non-traumatic causes were 436 (70%). Majority of the traumatic causes were due to Motor Vehicle Accident (MVA) 78% while non-traumatic causes were mainly due to Cerebrovascular Accident (CVA) 68% (See table 1.1.2)

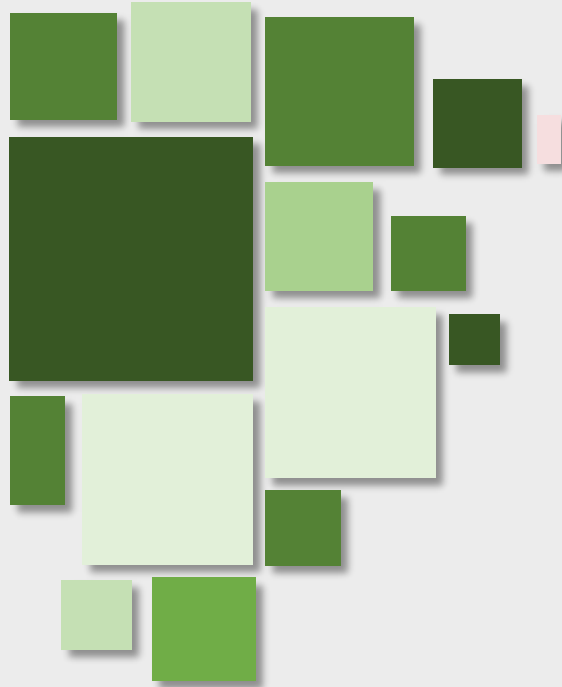
Historical Comparison of Cause of Death among Possible DBD Donors

Figure 1.1.11



Cause of Death	Number	
	1986-2022	2022
Traumatic	7,723	188
• MVA	6,263	143
• FFH	900	31
• DHT	399	5
• Gunshot	150	2
• Electric Shock	2	0
• Stab wound	1	0
• Drowning	8	7
Non-Traumatic	7,116	435
• CVA	4,784	304
• Anoxia	1,803	116
• CNS Tumor	527	13
Others	408	2
Total	15,245	623

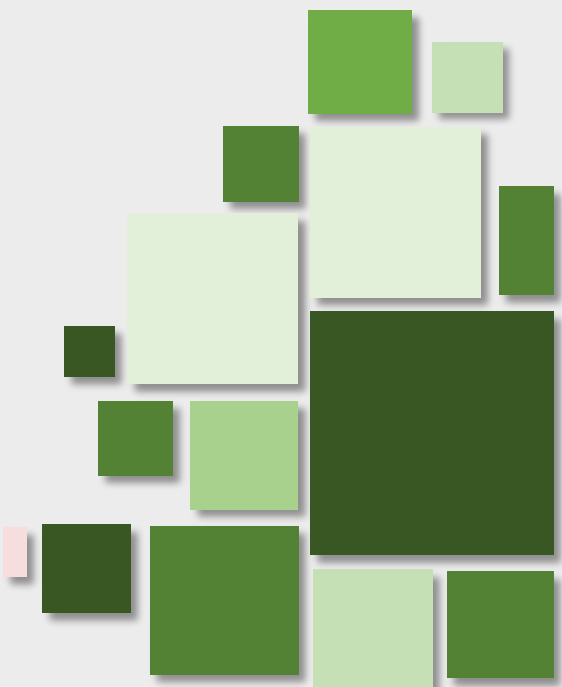
Table 1.1.2: Cause of death among possible DBD donors in 1986-2022 and 2022

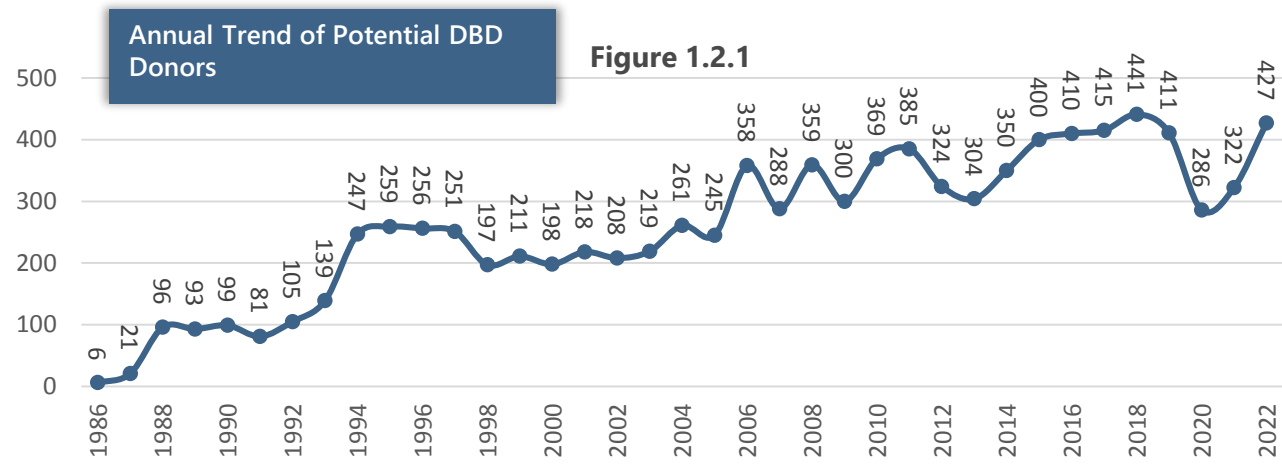


1.2 Potential DBD Donors

(A person whose clinical condition is suspected to fulfill brain death criteria)

Death Documented by Neurological Criteria Deceased Donors

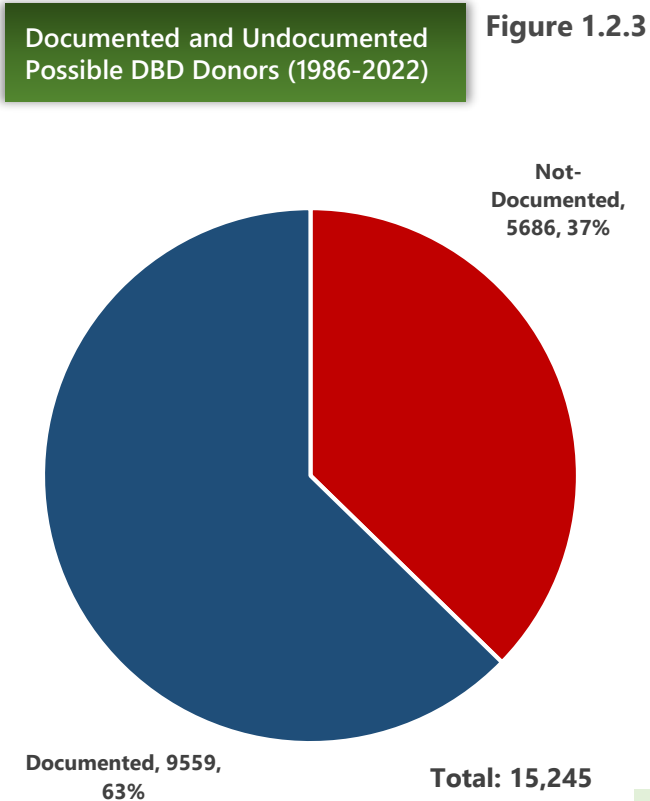
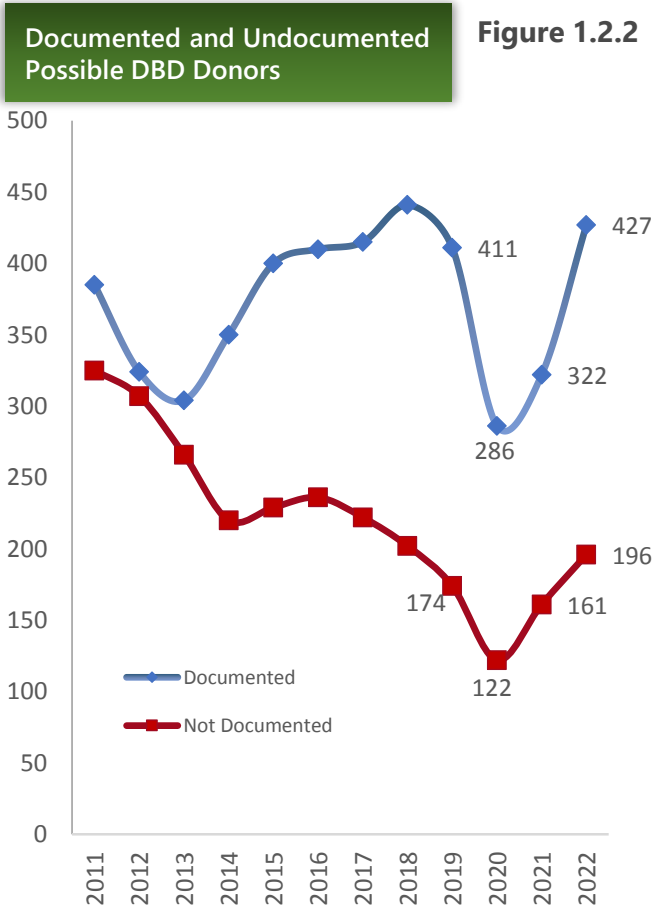


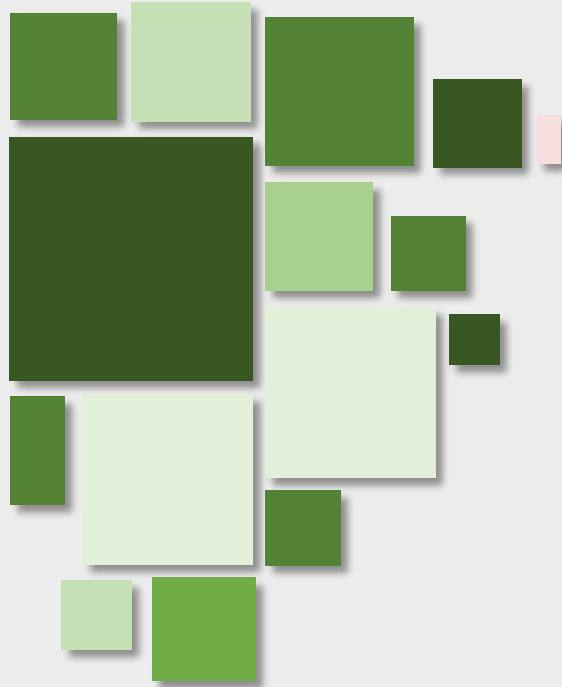


1.2 Potential DBD Donors

In 2022, there were 427 potential DBD donors and the annual trend of potential DBD donors since 1986 has shown a total of 9,559 potential DBD donors reported to SCOT. (See figure 1.2.1).

The 427 potential DBD donors were fully documented based on the Saudi National Protocol for Diagnosis of Death by Brain Function Criteria. Documenting a BD donor has shown that it is slowly improving since the COVID pandemic in 2020. (see figure 1.2.2 & 1.2.3 cumulative).

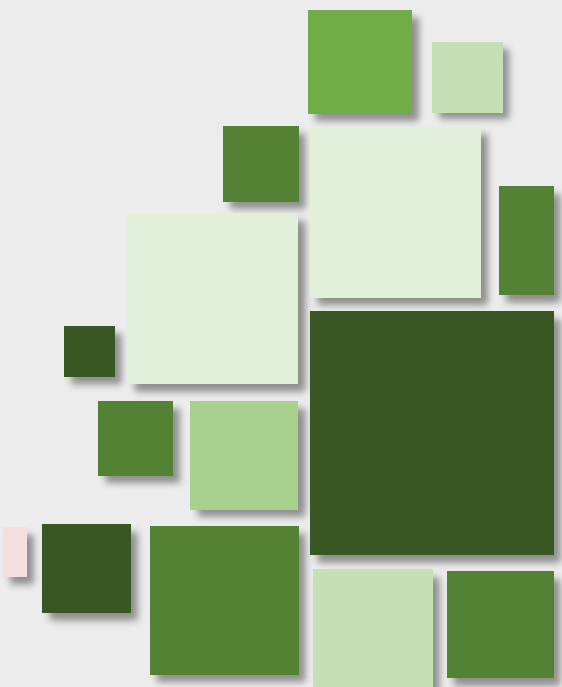




1.3 Eligible DBD Donors

(A medically suitable person who has been declared dead based on neurological criteria as stipulated by the law of the relevant jurisdiction)

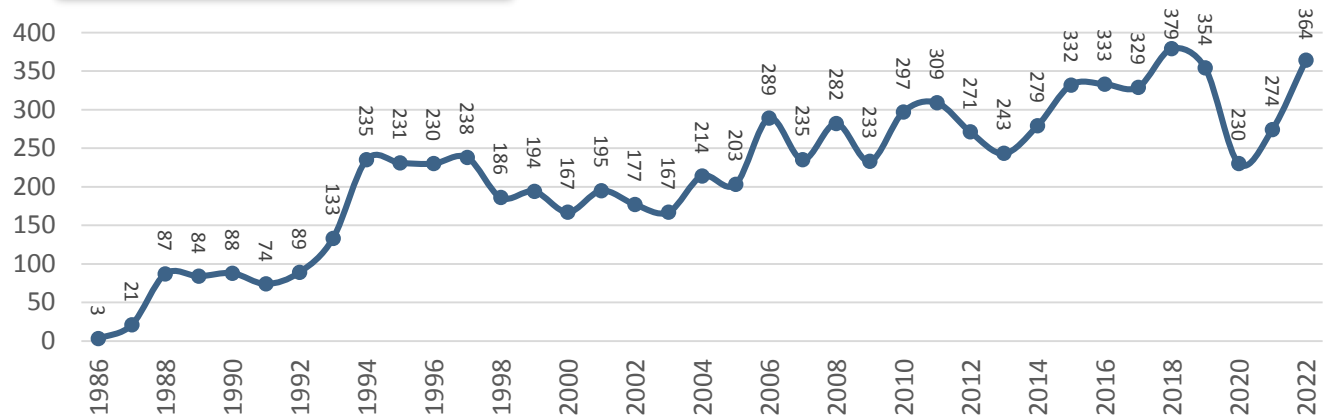
Confirmed brain death by neurological criteria patients and family were approached for Organ donation





Annual Trend of Approached Eligible DBD Donors

Figure 1.3.1



1.3 Eligible DBD Donors

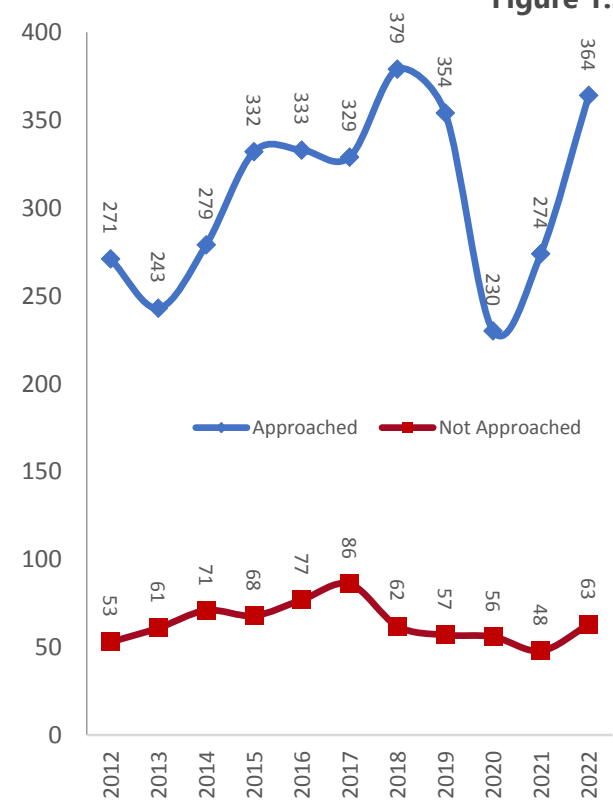
In 2022, there were 364 eligible DBD donors (the donors next of kin was approached for organ donation) and since 1986, a total of 8,049 eligible DBD donor's kin were approached for organ donation (see figure 1.3.1). Approached and not approached families of DBD donors for organ donation were also documented yearly and cumulatively from 1986.

Approached and Not-Approached Eligible DBD Donors

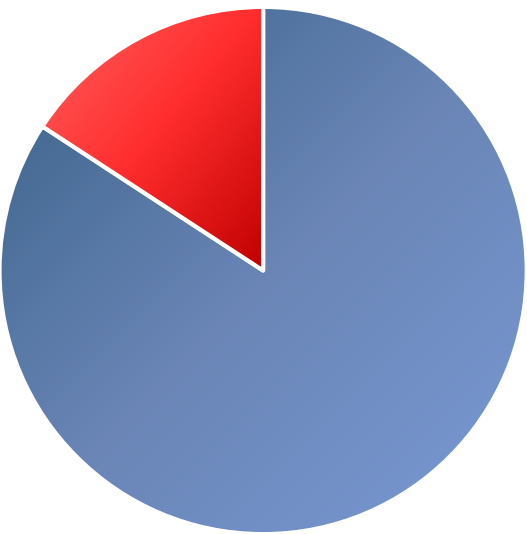
Approached and Not-Approached Eligible DBD Donors (1986-2022)

Figure 1.3.2

Figure 1.3.3



Not-Approached,
1510, 16%

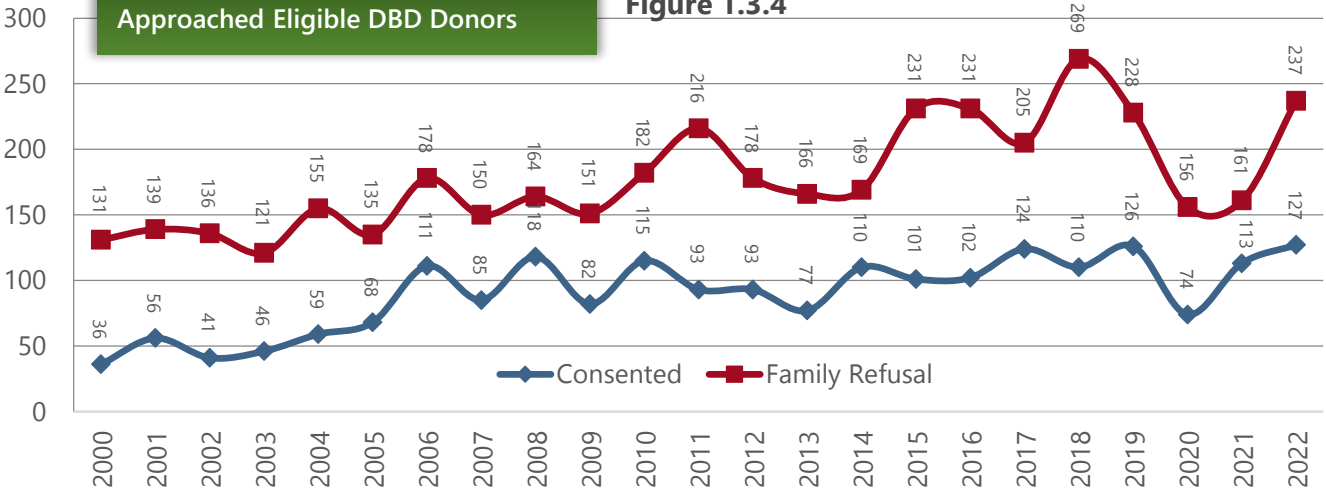


Approached,
8049, 84%

Total: 9,559

Consented and Non-Consented
Approached Eligible DBD Donors

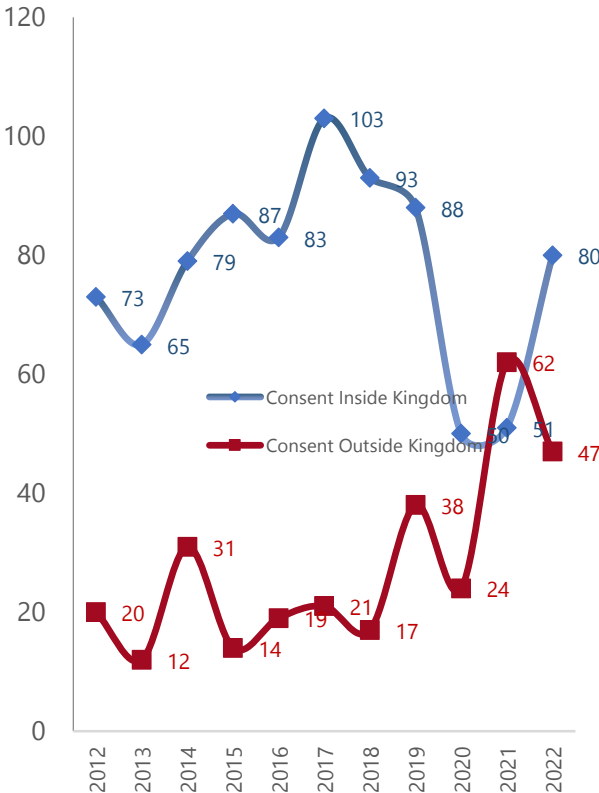
Figure 1.3.4



In 2022, there were a total of 127 (35%) consented cases for organ and tissue donation of the 364 approached eligible DBD donors the highest recorded consent DBD donors over the last 20 years. (see figure 1.3.5 & 1.3.6 cumulatively). The trend of consented eligible DBD donors including the consents from outside the Kingdom of Saudi Arabia in 1997-2022 is shown in (figure 1.3.4).

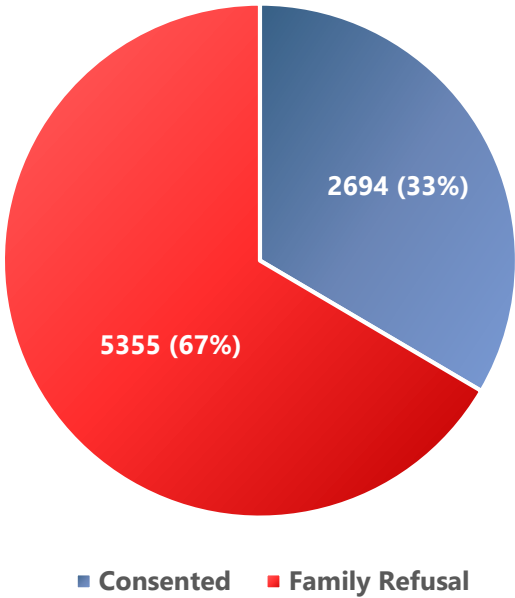
Annual Trend of Consented
Eligible DBD Donors

Figure 1.3.5

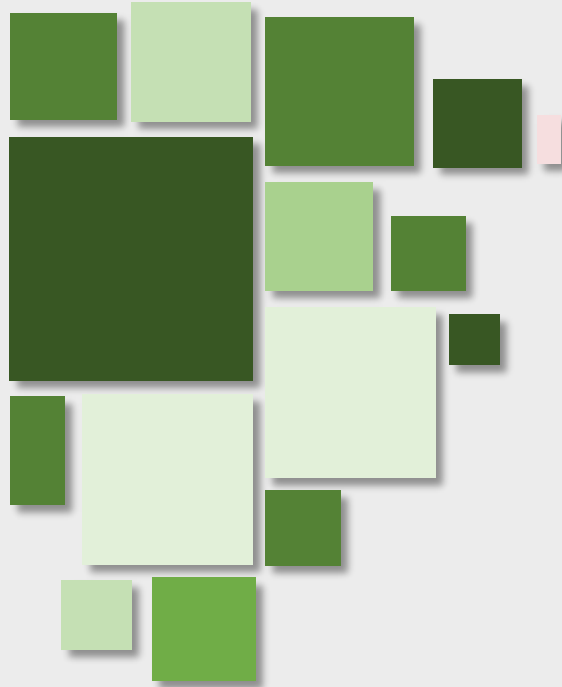


Consented and Non-Consented
Approached Eligible DBD Donors
(1986-2022)

Figure 1.3.6



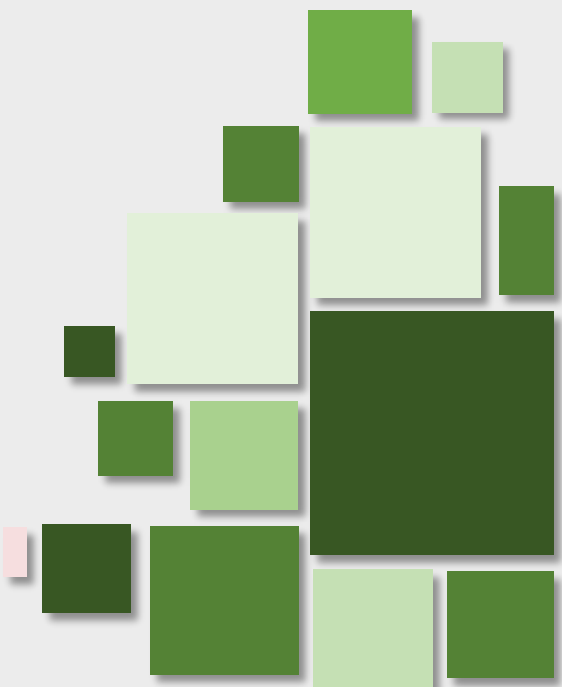
Total: 8,049

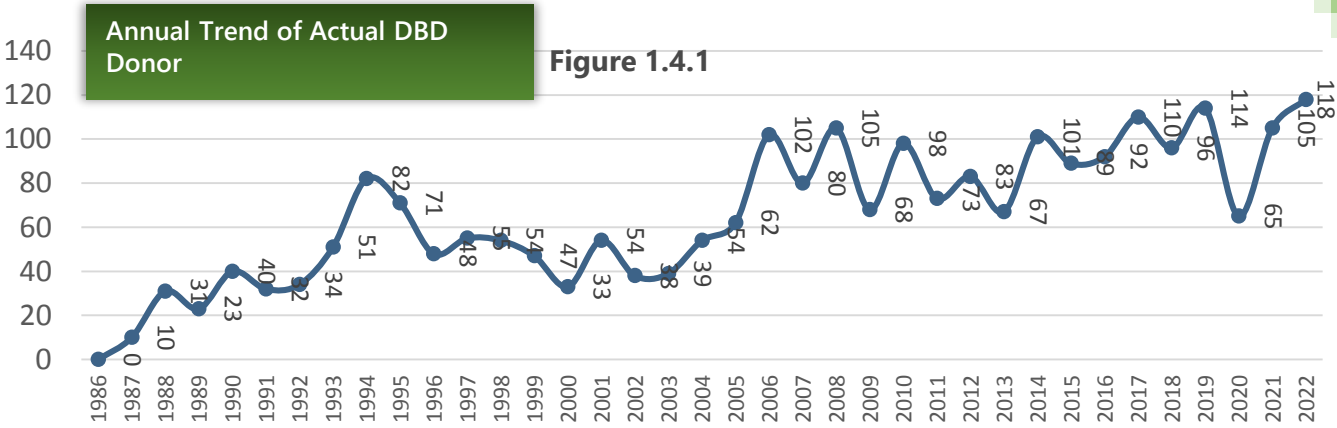


1.4 Actual DBD Donors

A consented eligible donor:

- A. An operative incision was made with intent of organ recovery for transplantation
- B. From whom at least one organ was recovered for transplantation



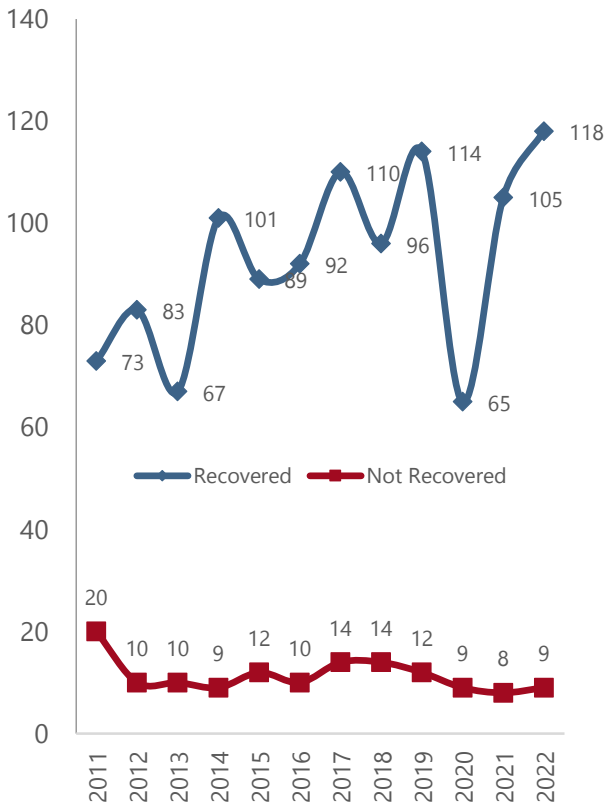


1.4 Actual DBD Donors

In 2022, 127 deceased donors were consented for organ donation wherein, 118 (93%) were converted to actual DBD donors with 9 non-recovered donors (figure 1.4.2). Since 1986, a total of 2,306 consented eligible DBD donors were recovered and 261 donors were non-recovered (figure 1.4.3). The annual trend of actual DBD donors is shown in (figure 1.4.1).

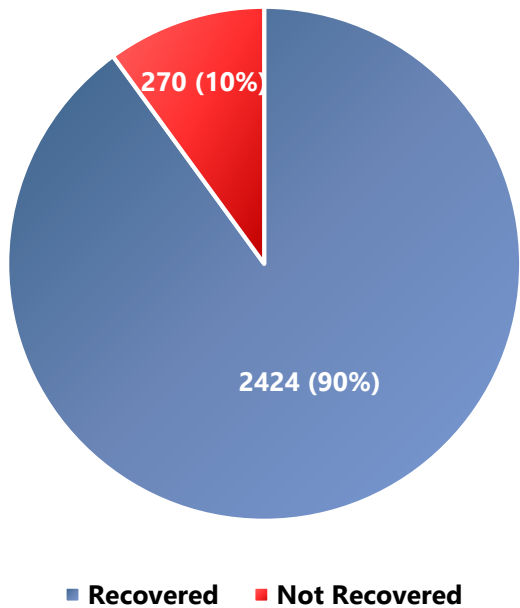
Recovered and Non-Recovered Consented Eligible DBD Donor

Figure 1.4.2

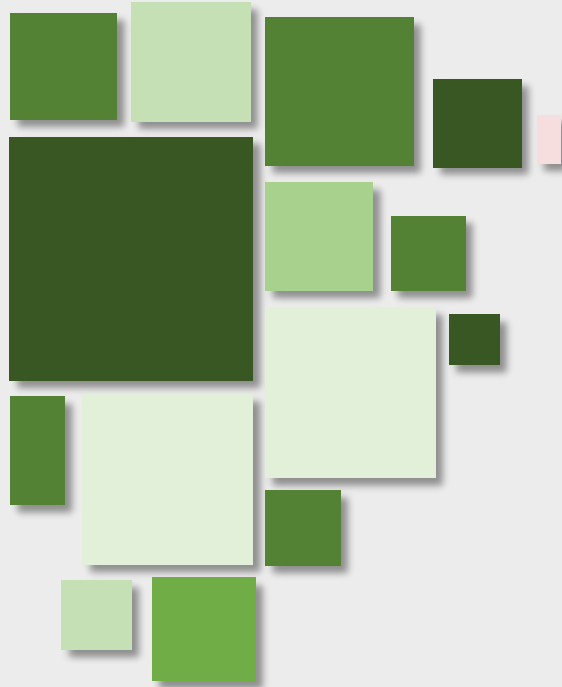


Recovered and Non-Recovered Consented Eligible DBD Donor (1986-2022)

Figure 1.4.3

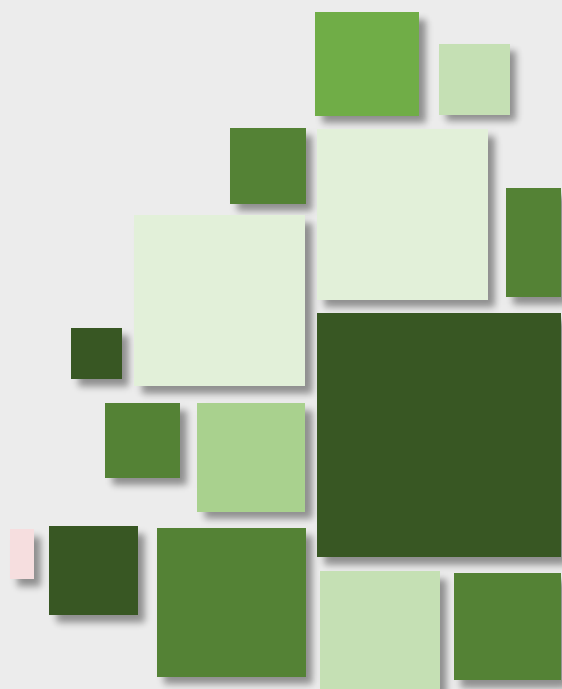


Total: 2,694



1.5 Utilized DBD Donors

(An actual donor from whom at least one organ was transplanted)



1.5 Utilized DBD Donor

From the 118 actual DBD donors; 112 donors were utilized; wherein, 70 donors were utilized from inside the KSA and 42 deceased donors were from GCC countries (it is worth mentioning that out of 42 utilized donors offered from GCC countries 13 donors were utilized only by them). Non-utilized donors were 6 wherein, 2 were donors from GCC country, details of the not utilized actual DBD donors are listed in table 1.5.1. There was an increased in utilized deceased cases compared to last year.(see figure 1.5.1).

DONOR COUNTRY	DONOR DEMOGRAPHICS	Reason for Non-Utilized
UAE	57 YRS/FEMALE/CVA	Body opened, tb positive
UAE	45 YRS/FEMALE/CVA	Body opened, donor arrested, long CPR organs not recovered
KSA-JEDDAH	64/MALE/CVA	Organs discarded not fit for tx
KSA-JEDDAH	28/MALE/BRAIN ANOXIA	Organs discarded, query viral meningitis
KSA-RIYADH	34/MALE/RTA	Organs discarded due to biopsy result
KSA-EASTERN	47/FEMALE/CVA	Blood culture positive

Table 1.5.1: Reasons for not utilized actual DBD Donors

Utilized and Non-Utilized Actual DBD Donors 2022

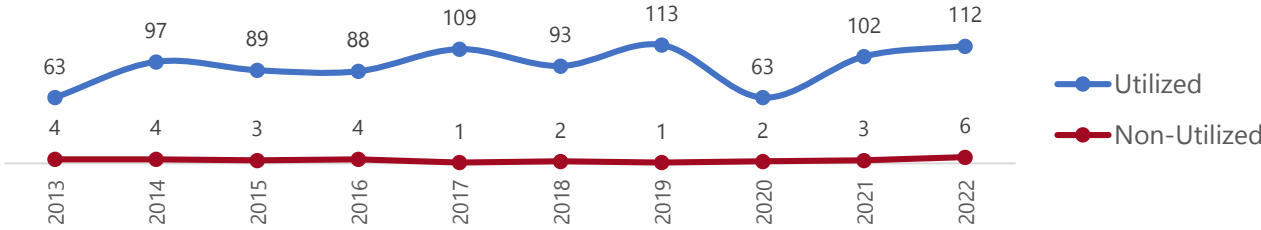
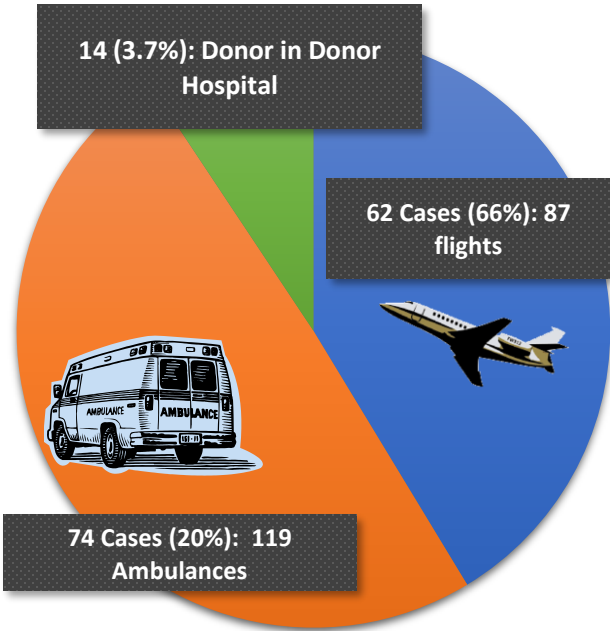


Figure 1.5.1 Utilized and Non-Utilized DBD Donors 2013-2022

1.5.1 Logistics

Transportation and logistics plays an important role in the success of organ donation program. Ambulances and Medevacs were used to transport personnel and organs in and out of the Kingdom. In 2022, 87 medevac flights were used in 62 cases. 119 ambulance transports in 74 cases and 14 cases the donor was in transplant center. (see figure 1.5.2 for transportation used during organ recovery).



1.6 Key Performance Indicators

The ministry of Health (MOH) is keen on the quality of health service provided and started an initiative to measure the key performance indicator (KPI) among health practices in the Kingdom. SCOT managed to include the deceased organ donation process into this initiative and had a list of quality criteria and KPI which will allow identifying rooms for improvement to maximize the deceased organ donation process overall.

The quality indicators are the following :

1. Identification and Reporting of Possible Deceased Donors

- Donor Medical Coordinator should notify all comatose patients with devastating brain injury on mechanical ventilation admitted to ICU apparently suitable for organ donation to Saudi Center for organ transplantation (SCOT)
- **Key Performance Indicator (KPI):** Number of comatose patients with devastating brain injury on mechanical ventilation admitted to ICU who are referred to SCOT / Number of comatose patients with devastating brain injury on mechanical ventilation admitted to ICU should be at least **75%**
- Donor Medical Coordinator should refer to the Directory of regulation of organ transplantation in kingdom of Saudi Arabia on the referral criteria and clinical triggers.

2. Death Declaration by neurological Criteria:

1.1. Number of Death Declaration by neurological Criteria:

- Donor Medical Coordinator should follow Death declaration by neurological criteria according to Saudi national protocol for referred possible donors to SCOT
- **Key Performance Indicator (KPI):** Number of patients declared dead by neurological criteria according to Saudi national protocol/Number of patients referred as possible donors to SCOT should be at least **75%**.
- Donor Medical Coordinator should refer to Directory of regulation of organ transplantation in kingdom of Saudi Arabia on the Saudi national protocol for death declaration by neurological criteria.

1.2. Time of Death Declaration by neurological Criteria

- **Key Performance Indicator (KPI):** Patients referred as possible donors to SCOT should be declared dead by neurological criteria according to Saudi national protocol within **24** hours from time of referral.

1.3 Post Death Declaration (Breaking bad news)

- **Key Performance Indicator (KPI):** Families of patients declared dead by neurological criteria according to Saudi national protocol should be informed about death of their relatives within **12** hours from time of death declaration.

3. Management and maintenance of Deceased Organ donor

3.1 Management Protocol

- **Key Performance Indicator (KPI):** All Hospitals should **apply** the Saudi national protocol for management and maintenance of deceased organ donor to all Patients referred as possible donors to SCOT during the whole hospital / ICU stay

3.2 Unexpected Cardiac Arrest

- **Key Performance Indicator (KPI):** Number of Patients referred as possible donors to SCOT who suffered unanticipated cardiac arrest / Number of Patients referred, as possible donors to SCOT during the whole hospital/ ICU stay should be maximum **5%** if applicable.
- Unanticipated cardiac arrest is cardiac arrest that occurs from the moment at which brain death is suspected or afterwards and that is not attributable to multi-organ failure / sepsis.

4. Family Approach

- Donor Administrative Coordinator should interview Families of patients declared dead by neurological criteria according to Saudi national protocol
- **Key Performance Indicator (KPI) :** Number of patients' families declared dead by neurological criteria according to Saudi national protocol who were interviewed by DAC for organ donation within **12** hours from breaking bad news / Number of patients declared dead by neurological criteria according to Saudi national protocol should be at least **90 %**
- Donor Administrative Coordinator should refer to Directory of regulation of organ transplantation in kingdom of Saudi Arabia on family approach for organ donation.

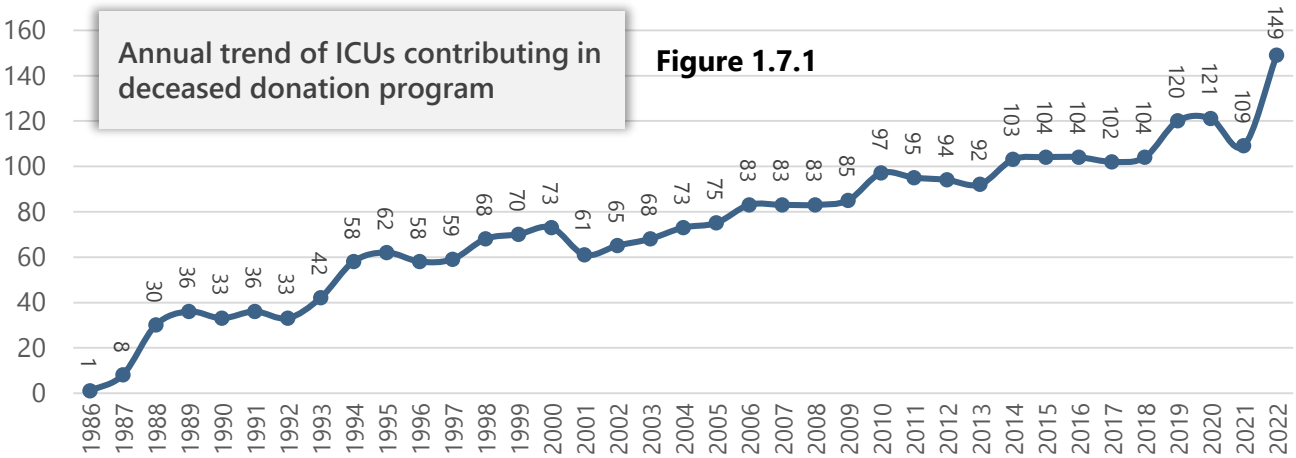
5. Consent

- Donor Administrative Coordinator should follow the process of obtaining written consent from next of kin.
- **Key Performance Indicator (KPI):** Number of no opposition / Number of families interviewed should be at least **50 %**.
- Donor Administrative Coordinator should refer to Directory of regulation of organ transplantation in kingdom of Saudi Arabia on getting consent for organ donation.



Hospital Contribution in Organ Donation Program





In 2022, 149 ICU's reported a possible DBD donors to Saudi Center for Organ Transplantation (SCOT). These ICU's were divided into three categories; large (>20 ICU beds), medium (10-20 ICU beds) and small (<10 ICU beds). The top 3 hospital with the most consented cases are mentioned below with their corresponding ICU beds.

Total Number of DBD Donor for All Type Hospitals **Table 1.7.1**

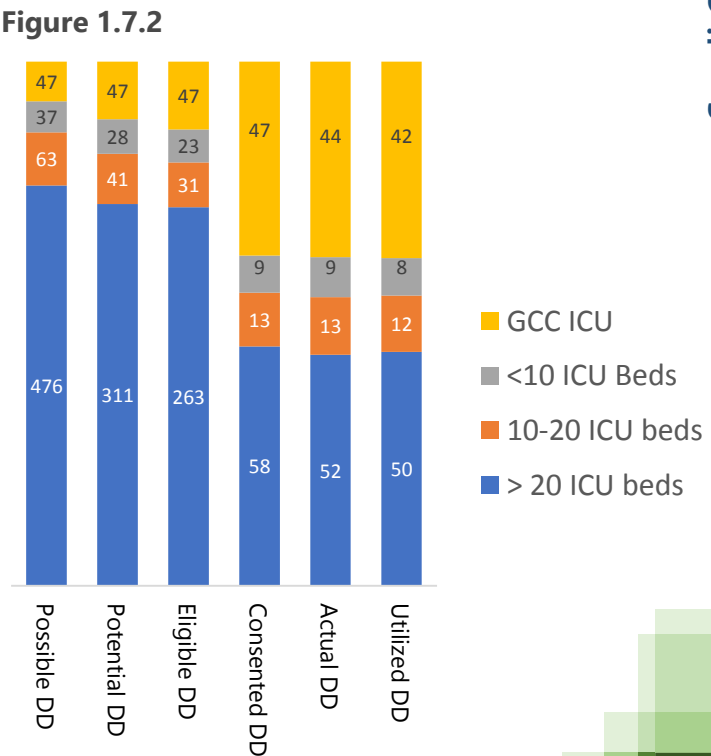
Hospital Category	No. of ICU	Possible	Potential	Eligible	Consented	Actual	Utilized
Greater than 20 ICU Beds	86	476	311	263	58	52	50
10 - 20 ICU Beds	29	63	41	31	13	13	12
Less than 10 ICU Beds	17	37	28	23	9	9	8
GCC Countries	17	47	47	47	47	44	42
TOTAL	149	623	427	364	127	118	112

Hospitals with >20 beds (86) reported 476 cases (76% possible donors), of which 311 (65%) were documented as BD, 58 (22%) were consented for donation.

In this group, The King Saud Medical City, is a consistent top contributing hospital of deceased organ donors, with 59 possible, 41 potential (documented) and 12 consented and 10 utilized donors, followed by King Abdulaziz Medical City National Guard Riyadh with 26 possible, 22 potential and 2 consented-utilized donors.

Other hospitals with high reporting numbers were, King Fahad Hospital Jeddah, King Fahad Medical City Riyadh, King Fahad University Hospital Alkhobar, King Abdulaziz Jeddah, and Prince Mohammed Bin Abdulaziz Hospital Riyadh.

Deceased Organ Donation by Hospital ICU Capacity



In 2022, 86 hospitals in the Kingdom with more than 20 ICU beds capacity has reported 476 possible donors, documented 311 donors as Brain death per neurological criteria, approached 263 families of the eligible donors for organ donation, of which 58 donors were consented for organ donation, wherein, 52 were converted to actual donors and 50 donors were utilized or donors from whom at least 1 organ was transplanted. Below were the list of hospitals were arranged in sequence from highest reporting hospital. Moreover, some hospitals with low reporting rate had an excellent conversion rate from possible to consented donor such as King Faisal Hospital Taif of 5 possible donors 3 were consented for donation and John's Hopkins Aramco with 3 and 2 consented donors. (see table 1.7.2)

Table 1.7.2 Hospitals with ICU's Having More than 20 Beds

No.	HOSPITAL NAME	POSSIBLE	POTENTIAL	ELIGIBLE	CONSENTED	ACTUAL	UTILIZED
1	KING SAUD MEDICAL CITY RIYADH	59	41	36	12	10	10
2	KING ABDULAZIZ MEDICAL CITY NATIONAL GUARD RIYADH	26	22	18	2	2	2
3	DAMMAM MEDICAL COMPLEX	23	17	13	3	3	3
4	KING FAHAD HOSPITAL JEDDAH	22	10	8	3	3	3
5	AL NOOR SPECIALIST HOSPITAL MAKKAH	19	10	10	3	3	3
6	KING FAHAD MEDICAL CITY RIYADH	19	14	13	2	2	2
7	KING FAHAD UNIVERSITY HOSPITAL AL KHOBAR	18	15	14	3	2	2
8	KING ABDULAZIZ HOSPITAL JEDDAH	17	4	4	0	0	0
9	PRINCE MOHAMMED BIN ABDULAZIZ HOSPITAL RIYADH	17	12	11	2	2	2
10	AL IMAN GENERAL HOSPITAL RIYADH	12	7	4	4	3	2
11	KING FAHAD HOSPITAL JIZAN	12	2	1	0	0	0
12	KING FAHAD HOSPITAL HOFUF	12	9	6	1	1	1
13	EAST JEDDAH HOSPITAL	11	6	5	1	1	1
14	PRINCE MUTAIB BIN ABDULAZIZ HOSPITAL AL JOUF	10	7	6	2	2	2
15	KING ABDULLAH MEDICAL COMPLEX JEDDAH	10	4	4	0	0	0
16	KING KHALID HOSPITAL HAIL	9	6	4	0	0	0
17	AL HADA MILITRY HOSPITAL TAIF	8	8	7	0	0	0
18	KING KHALID UNIVERSITY HOSPITAL RIYADH	8	5	5	0	0	0
19	KING ABDULLAH MEDICAL CITY MAKKAH	8	7	6	1	1	1
20	KING ABDULAZIZ HOSPITAL MAKKAH	7	5	3	0	0	0
21	KING FAHAD SPECIALIST HOSPITAL QASSIM	7	2	2	0	0	0
22	KING ABDULLAH HOSPITAL BISHA	6	3	2	0	0	0
23	KING KHALID HOSPITAL TABUK	6	5	4	0	0	0
24	KING FAISAL HOSPITAL TAIF	5	4	4	3	3	3
25	KING KHALID GENERAL HOSPITAL NAJRAN	5	4	3	0	0	0
26	ASSIR CENTRAL HOSPITAL	4	3	3	1	0	0
27	DR. SULAIMAN AL HABIB HOSPITAL AL KHOBAR	4	4	4	0	0	0

Table 1.7.2 Hospitals with ICU's Having More than 20 Beds (Continuation)

No.	HOSPITAL NAME	POSSIBLE	POTENTIAL	ELIGIBLE	CONSENTED	ACTUAL	UTILIZED
28	DR. SULAIMAN AL HABIB HOSPITAL AL SWEIDI	4	3	2	0	0	0
29	DALLAH HOSPITAL RIYADH	4	3	3	1	1	1
30	KING FAISAL HOSPITAL MAKKAH	4	3	2	0	0	0
31	KING FAISAL SPECIALIST HOSPITAL RIYADH	4	2	1	0	0	0
32	MATERNITY AND CHILDREN HOSPITAL MAKKAH	4	2	2	0	0	0
33	IMAM ABDULRAHMAN AL FAISAL HOSPITAL RIYADH	4	3	3	1	1	1
34	AL QURAYYAT GENERAL HOSPITAL	4	0	0	0	0	0
35	QATEEF CENTRAL HOSPITAL	4	2	2	1	1	1
36	JOHN HOPKINS ARAMCO HEALTH CARE	3	3	3	2	2	2
37	AL MOWASAT HOSPITAL RIYADH	3	2	2	1	0	0
38	DR. SULAIMAN AL HABIB HOSPITAL AL RAYAN	3	2	2	1	1	1
39	KING ABDULAZIZ MEDICAL CITY NATIONAL GUARD JEDDAH	3	3	3	0	0	0
40	KING FAHAD HOSPITAL MADINAH	3	2	2	0	0	0
41	SANAD HOSPITAL RIYADH	3	1	1	1	1	1
42	SAUDI GERMAN HOSPITAL DAMMAM	3	3	3	0	0	0
43	AL HAMADI HOSPITAL SWAIDI	2	2	2	0	0	0
44	DR. ERFAN AND BAGEDO GNERAL HOSPITAL JEDDAH	2	2	1	0	0	0
45	KING FAHAD HOSPITAL AL BAHA	2	2	1	0	0	0
46	KING FAHD HOSPITAL TABUK	2	2	2	0	0	0
47	KING SALMAN MILITARY HOSPITAL TABUK	2	2	2	0	0	0
48	MATERNITY AND CHILDREN HOSPITAL BURAI DA	2	1	0	0	0	0
49	PRINCE MISHARI BIN SAUD HOSPITAL BALJURASHI	2	0	0	0	0	0
50	PRINCE SAUD BIN JJALAWI HOSPITAL HOFUF	2	1	1	0	0	0
51	SECURITY FORCES HOSPITAL DAMMAM	2	1	1	0	0	0
52	SPECIALIZED MEDICAL CENTER RIYADH	2	2	1	1	1	1
53	ARMED FORCES HOSPITAL SOUTHERN REGION KHAMIS MUSHAYT	2	1	1	0	0	0
54	AL MOUWASAT HOSPITAL QATIF	2	1	0	0	0	0
55	KING ABDULAZIZ MEDICAL CITY AL AHS A	2	0	0	0	0	0
56	PRINCE MOHAMMED BIN FAHAD HOSPITAL QATEEF	2	2	1	0	0	0
57	KING FAHAD MILITARY MEDICAL COMPLEX DH AHRAN	2	2	1	0	0	0
58	AL HAMADI HOSPITAL AL NUZHA	1	1	1	0	0	0
59	AL YAMAMAH HOSPITAL RIYADH	1	1	0	0	0	0
60	AR AR CENTRAL HOSPITAL	1	1	1	0	0	0
61	BURAI DA CENTRAL HOSPITAL	1	0	0	0	0	0
62	CARE NATIONAL HOSPITAL	1	1	1	0	0	0
63	DR. SULAIMAN AL HABIB HOSPITAL AL QASSIM	1	1	1	0	0	0
64	KING ABDULAZIZ SPECIALIST HOSPITAL AL JOUF	1	1	1	0	0	0

Table 1.7.2 Hospitals with ICU's Having More than 20 Beds (Continuation)

No.	HOSPITAL NAME	POSSIBLE	POTENTIAL	ELIGIBLE	CONSENTED	ACTUAL	UTILIZED
65	KING ABDULAZIZ UNIVERSITY HOSPITAL JEDDAH	1	1	1	1	1	1
66	KING FAHAD ARMED FORCES HOSPITAL JEDDAH	1	1	1	0	0	0
67	KING FAHAD SPECIALIST HOSPITAL DAMMAM	1	1	1	1	1	1
68	KING FAISAL SPECIALIST HOSPITAL JEDDAH	1	1	1	0	0	0
69	MATERNITY AND CHILDREN HOSPITAL ABHA	1	1	0	0	0	0
70	MATERNITY AND CHILDREN'S HOSPITAL JEDDAH	1	0	0	0	0	0
71	MATERNITY AND CHILDREN'S HOSPITAL MADINAH	1	1	1	1	1	1
72	PRINCE SULTAN MILITARY MEDICAL CITY	1	1	1	0	0	0
73	SECURITY FORCES HOSPITAL MAKKAH	1	0	0	0	0	0
74	SECURITY FORCES HOSPITAL RIYADH	1	1	1	0	0	0
75	KING SALMAN SPECIALIST HOSPITAL HAIL	1	0	0	0	0	0
76	PRINCE ABDUL MOHSIN HOSPITAL AL ULLAH	1	1	1	0	0	0
77	AL QUNFUDAH GENERAL HOSPITAL	1	1	1	1	1	0
78	PRINCE MOHAMMED BIN NASSER HOSPITAL GIZAN	1	1	1	0	0	0
79	NAJRAN GENERAL HOSPITAL	1	1	1	1	1	1
80	AL MOWASAT HOSPITAL MADINAH	1	1	1	1	1	1
81	KING ABDULAZIZ HOSPITAL TAIF	1	0	0	0	0	0
82	AL MOWASAT HOSPITAL JUBAIL	1	1	1	0	0	0
83	DR. SULAIMAN FAKEEH HOSPITAL JEDDAH	1	0	0	0	0	0
84	GIZAN GENERAL HOSPITAL	1	0	0	0	0	0
85	DR. ABDULRAHMAN BAKHSH HOSPITAL JEDDAH	1	0	0	0	0	0
86	KING SALMAN BIN ABDULAZIZ MEDICAL CITY MADINAH	1	0	0	0	0	0
TOTAL HOSPITALS: 86		476 (76%)	311	263	58 (46%)	52	50

¹Percentage from total possible donors
²Percentage from total consented donors

In 2022, 29 medium size hospitals in the Kingdom with 10-20 ICU beds capacity has reported 63 possible donors, documented 41 donors as Brain death per neurological criteria, approached 31 families of the eligible donors for organ donation, of which 13 donors were consented for organ donation, wherein, 13 were converted to actual donors and 12 donors were utilized or donors from whom at least 1 organ was transplanted. Below were the list of hospitals were arranged in sequence from highest reporting hospital. Moreover, some hospitals with low reporting rate had an excellent conversion rate from possible to consented donor such as Al Mana General Hospital Dammam of 3 possible donors 3 were consented for donation and Saudi German Hospital Riyadh with 8 and 2 consented donors. (see table 1.7.3)

Table 1.7.3 Hospitals with ICU's Having 10 to 20 Beds

No.	HOSPITAL NAME	POSSIBLE	POTENTIAL	ELIGIBLE	CONSENTED	ACTUAL	UTILIZED
1	KING SALMAN HOSPITAL RIYADH	9	6	5	0	0	0
2	SAUDI GERMAN HOSPITAL RIYADH	8	5	5	2	2	2
3	KING KHALID GENERAL HOSPITAL HAFAR AL BATIN	7	5	4	1	1	1
4	AL MANA GENERAL HOSPITAL DAMMAM	3	3	3	3	3	3
5	SAUD ALBABTAIN CARDIAC CENTER	3	0	0	0	0	0
6	YANBU GENERAL HOSPITAL	3	2	2	0	0	0
7	AL ZAHRA GENERAL HOSPITAL-QATEEF	2	1	0	0	0	0
8	FAMILY CARE HOSPITAL RIYADH	2	1	0	0	0	0
9	KHAMIS MUSHAYAT GENERAL HOSPITAL	2	2	1	1	1	1
10	KING KHALID HOSPITAL AL KHARJ	2	1	1	1	1	1
11	ROYAL COMMISSION HOSPITAL JUBAIL	2	2	2	1	1	1
12	SAUDI GERMAN HOSPITAL JEDDAH	2	1	1	1	1	0
13	SAUDI GERMAN HOSPITAL HAIL	2	2	1	0	0	0
14	AL QUWAYYAH GENERAL HOSPITAL	1	0	0	0	0	0
15	AL MANA GENERAL HOSPITAL AL KHOBAR	1	1	0	0	0	0
16	AL MANA GENERAL HOSPITAL ALAHS	1	0	0	0	0	0
17	AL NARIYA GENERAL HOSPITAL	1	0	0	0	0	0
18	DR. SAMIR ABBAS HOSPITAL JEDDAH	1	0	0	0	0	0
19	KING KHALID HOSPITAL MAJMAAH	1	1	1	1	1	1
20	TADAWI GENERAL HOSPITAL DAMMAM	1	1	0	0	0	0
21	OBEID SPECIALIST HOSPITAL AL AHS	1	0	0	0	0	0
22	ALI BIN ALI HOSPITAL RIYADH	1	1	1	0	0	0
23	AL MOUWASAT HOSPITAL ALKHOBAR	1	1	1	0	0	0
24	GAMA HOSPITAL AL KHOBAR	1	0	0	0	0	0
25	WADI AL DAWASIR HOSPITAL	1	1	0	0	0	0
26	HOTAT BANI TAMIM RIYADH	1	1	1	1	1	1
27	OBEID SPECIALIST HOSPITAL RIYADH	1	1	0	0	0	0
28	AL MUSTAGBAL HOSPITAL JEDDAH	1	1	1	0	0	0
29	AHAD RUFAIDAH HOSPITAL ABHA	1	1	1	1	1	1
TOTAL HOSPITALS: 29		63 (10%)	41	31	13 (8%)	13	12

¹Percentage from total possible donors
²Percentage from total consented donors

In 2022, 17 small size hospitals in the Kingdom with less than 10 ICU beds capacity has reported 37 possible donors, documented 28 donors as Brain death per neurological criteria, approached 23 families of the eligible donors for organ donation, of which 9 donors were consented for organ donation, wherein, 9 were converted to actual donors and 8 donors were utilized or donors from whom at least 1 organ was transplanted. Below were the list of hospitals were arranged in sequence from highest reporting hospital. (see table 1.7.4)

Table 1.7.4 Hospitals with ICU's Having Less than 10 Beds

No.	HOSPITAL NAME	POSSIBLE	POTENTIAL	ELIGIBLE	CONSENTED	ACTUAL	UTILIZED
1	AL MOWASAT HOSPITAL DAMMAM	5	3	2	0	0	0
2	JUBAIL GENERAL HOSPITAL	5	5	4	2	2	2
3	AL MOOSA SPECIALIST HOSPITAL AL HASSA	3	3	3	2	2	1
4	ELITE HOSPITAL RIYADH	3	2	2	2	2	2
5	DAR AL SHIFA HOSPITAL RIYADH	3	3	3	2	2	2
6	GHAFFAN N. PHARAON HOSPITAL JEDDAH	3	3	3	0	0	0
7	AL AHSA HOSPITAL	2	1	1	0	0	0
8	AL MANA GENERAL HOSPITAL JUBAIL	2	2	2	1	1	1
9	JEDDAH NATIONAL HOSPITAL	2	2	1	0	0	0
10	KING ABDULAZIZ AIRBASE HOSPITAL DHAHRAN	2	2	2	0	0	0
11	ABHA PRIVATE HOSPITAL	1	0	0	0	0	0
12	KHAFJI GENERAL HOSPITAL	1	0	0	0	0	0
13	ROYAL COMMISSION YANBU MEDICAL CENTER	1	0	0	0	0	0
14	MOHAYEL GENERAL HOSPITAL	1	1	0	0	0	0
15	TATHLEETH GENERAL HOSPITAL	1	0	0	0	0	0
16	HAYAT HOSPITAL RIYADH	1	1	0	0	0	0
17	SABIA GENERAL HOSPITAL GIZAN	1	0	0	0	0	0
TOTAL HOSPITALS: 17		37 (6%)	28	23	9 (7%)	9	8

¹Percentage from total possible donors
²Percentage from total consented donors

Hospitals with ICU's Organ Sharing from GCC Countries

Deceased organ sharing is well established within the GCC countries and this year 17 Hospital in UAE had contributed 47 possible donors, documented (potential) 47 donors and utilized 42 organ donors. It is worth mentioning that out of 42 utilized donors offered from UAE 13 donors were utilized only by them).

Table 1.7.5 Hospitals outside the Kingdom of Saudi Arabia

No.	HOSPITAL NAME	POSSIBLE	POTENTIAL	ELIGIBLE	CONSENTED	ACTUAL	UTILIZED
1	RASHID HOSPITAL UAE	8	8	8	8	8	8
2	SHEIKH SHAKBOUT MEDICAL CITY	8	8	8	8	7	7
3	CLEVELAND CLINIC ABUDABI	5	5	5	5	5	4
4	TAWAM HOSPITAL AL AIN UAE	4	4	4	4	4	3
5	SHEIKH KHALIFA MEDICAL CITY	3	3	3	3	3	3
6	AL QASSIMI HOSPITAL SHARJAH UAE	3	3	3	3	3	3
7	DUBAI HOSPITAL	2	2	2	2	2	2
8	SAUDI GERMAN HOSPITAL DUBAI	2	2	2	2	1	1
9	KHOR FAKHAN HOSPITAL SHARJAH	2	2	2	2	2	2
10	NMC SPECIALITY HOSPITAL DUBAI	2	2	2	2	2	2
11	AL KUWAITI HOSPITAL SHARJAH-UAE	2	2	2	2	2	2
12	ZULEKHA HOSPITAL DUBAI	1	1	1	1	1	1
13	NMC ROYAL DIP HOSPITAL DUBAI	1	1	1	1	1	1
14	AL ZAHRA HOSPITAL DUBAI	1	1	1	1	1	1
15	AMERICAN HOSPITAL DUBAI	1	1	1	1	1	1
16	AL JALILA CHILDREN'S SPECILAITY HOSPITAL DUBAI	1	1	1	1	1	1
17	AL RAHBA HOSPITAL ABU DHABI	1	1	1	1	0	0
TOTAL HOSPITAL: 17		47 (8%)	47	47	47 (4%)	44	42

¹Percentage from total possible donors

²Percentage from total consented donors

In 2022 a total of 149 hospitals has contributed to the deceased donation program in the Kingdom of Saudi Arabia. It is worth mentioning that of these 149 hospital, 17 hospitals in UAE has contributed in the program. From Hospitals in the KSA; region wise; 576 possible donors were reported, 80 were consented and 74 were converted to actual donors. Most of the cases were reported from central region (38%), consented 37 (48%) and 33 (45%) converted to actual cases. Eastern region follows with the most consented case in spite of reporting only 125 cases compared to 149 reported cases in Western region (see table 1.7.6). Moreover, sector wise, ministry of health hospitals has been a constant pool of deceased donors in the Kingdom reporting 69% of possible donors, 65% of consents, and 65% actual donors, followed by private sectors in the Kingdom. (see table 1.7.7).

Table 1.7.6 Distribution of possible, consented and actual deceased donors according to region 2022

Region	No. of Hospitals	Possible DD	Consent for Organ Donation	Actual DD
Central (Riyadh and Qassim)	37	220	37	33
Western (Jeddah, Makkah, Madinah, Qunfudah & Taif)	34	149	16	16
Eastern (Eastern, Al Ahsa, Hafar Al Batin)	34	125	21	20
Northern (Tabuk, Al Jouf, Hail, Qurrayat and Northern Borders)	10	38	2	2
Southern (Assir, Al Bahah, Bishah, Gizan & Najran)	17	44	4	3
Outside KSA (UAE)	17	47	47	44
Total	149	623	127	118

Table 1.7.7 Deceased Organ Donation Activity in KSA by Sector 2022

Region	Number of hospitals	Possible DD	Consent for Organ Donation	Actual DD
Ministry of Health	69	395	52	48
Government Non-MOH (Military, National Guard, Universities, Royal Commission, King Faisal Specialist, Aramco)	20	89	9	8
Private sectors	43	92	19	18
Total in KSA	132	576	80	74
GCC country	17	47	47	44
Total Overall KSA and GCC	149	623	127	118