

Ethics of Organ Transplantation

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Objectives:

- Where we are in Jordan?
- Different types of organ donation.
- Ethical and legal issues control organ donation.

GLOBAL ACTIVITY IN ORGAN DONATION & TRANSPLANTATION ESTIMATIONS 2024

Kidney	Liver	Heart	Lung	Pancreas	S. bowel
110 467	42 497	10 287	8 236	2 066	174

≈ 173 727 solid organ transplants

≈ 2 % increase vs 2023

≤ 10% of global needs

37% living kidney transplants

23% living liver transplants

47 180 deceased donors (33 814 DBD and 13 366 DCD donors)

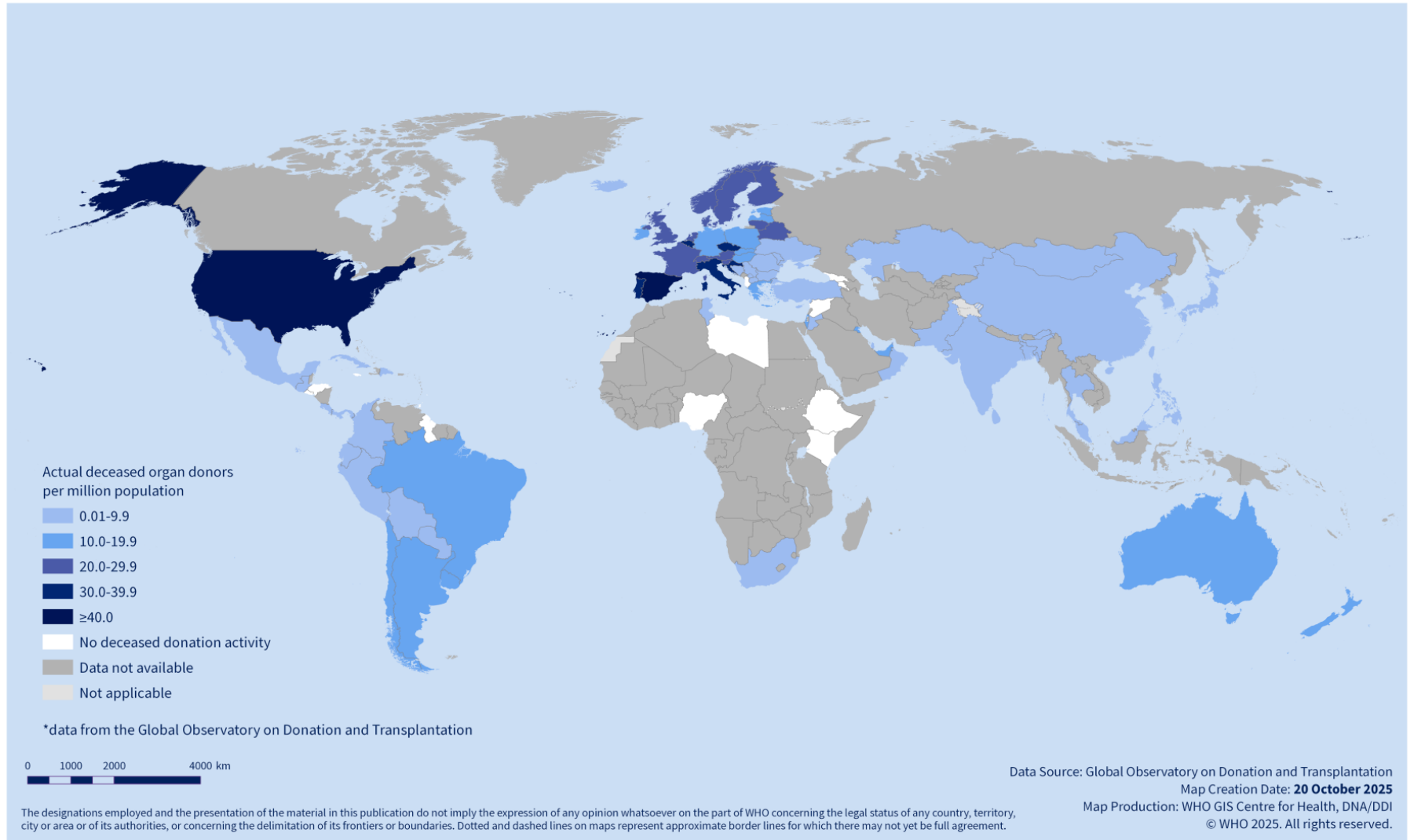
DBD: Donor after Brain determination of Death

DCD: Donor after Circulatory determination of Death

Statistics in Jordan 2019

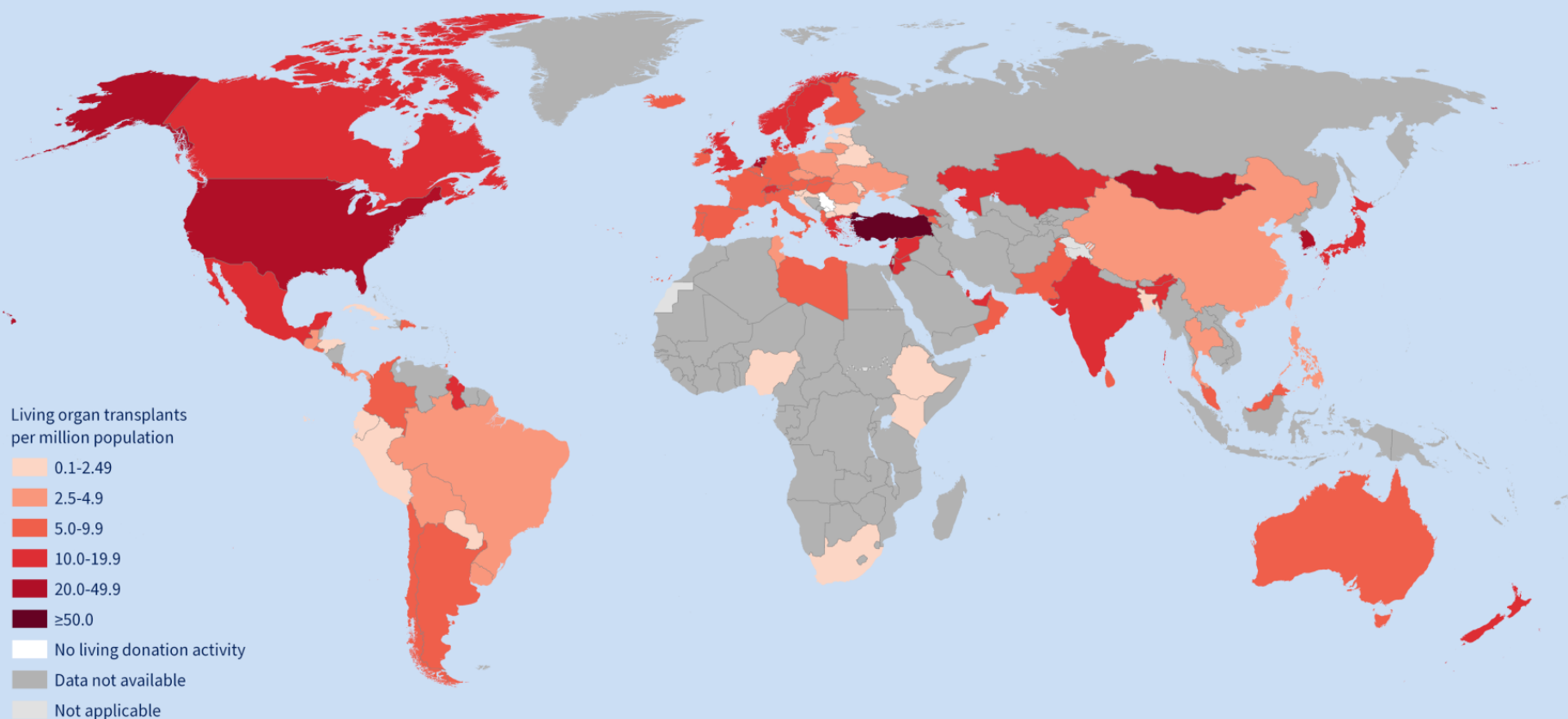
- Organ donations from living donors in the Kingdom account for **99 per cent** of total donations and only **1 percent** come from brain dead persons
- **175 organ transplant** operations were performed in the Kingdom last year, both for Jordanians and non-Jordanians, including **160 kidney transplants and 15 liver transplants.**

Actual donors from deceased persons, 2024*



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Organ transplantation from living donors, 2024*



*data from the Global Observatory on Donation and Transplantation

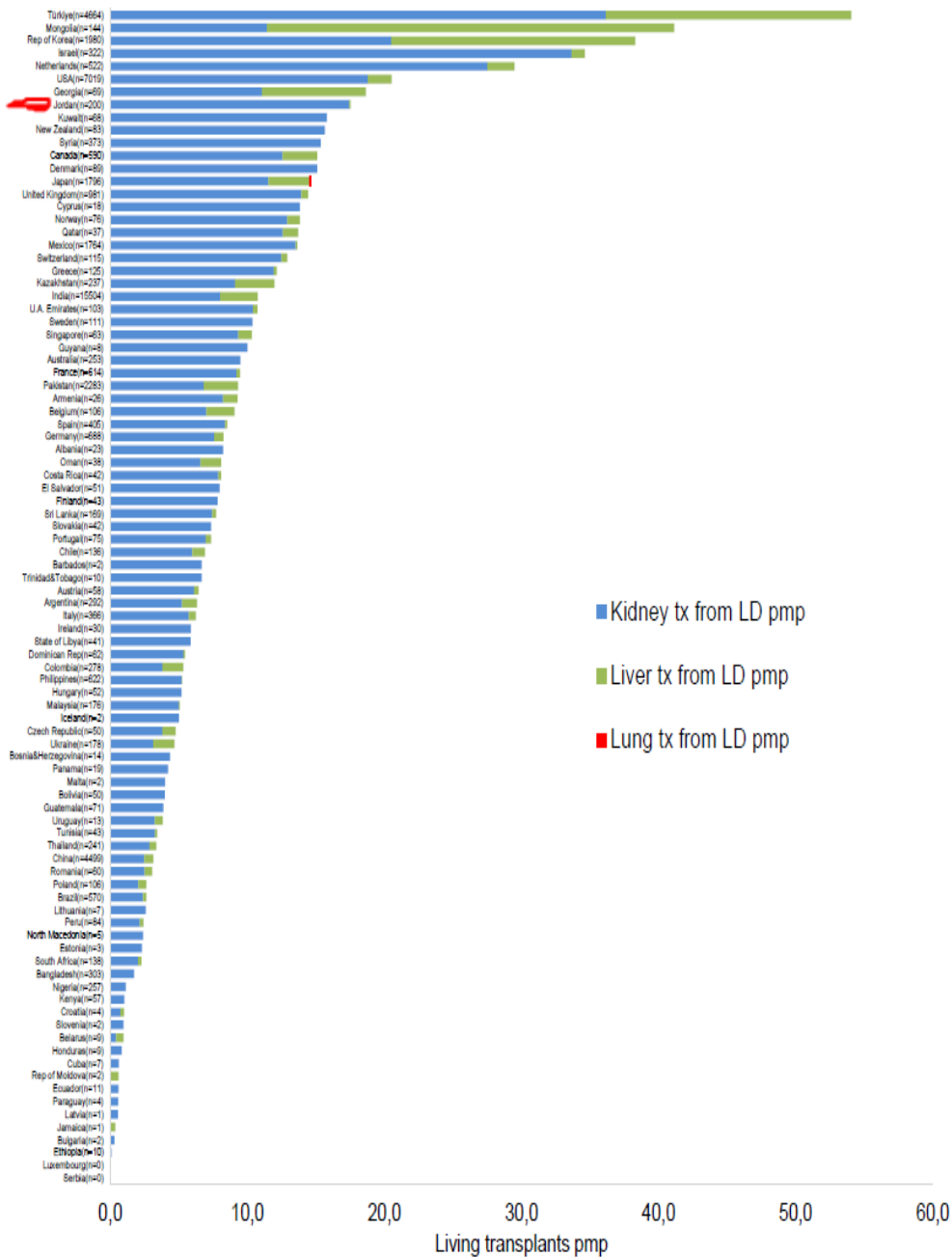
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Data Source: Global Observatory on Donation and Transplantation

Map Creation Date: **10 September 2025**

Map Production: WHO GIS Centre for Health, DNA/DDI

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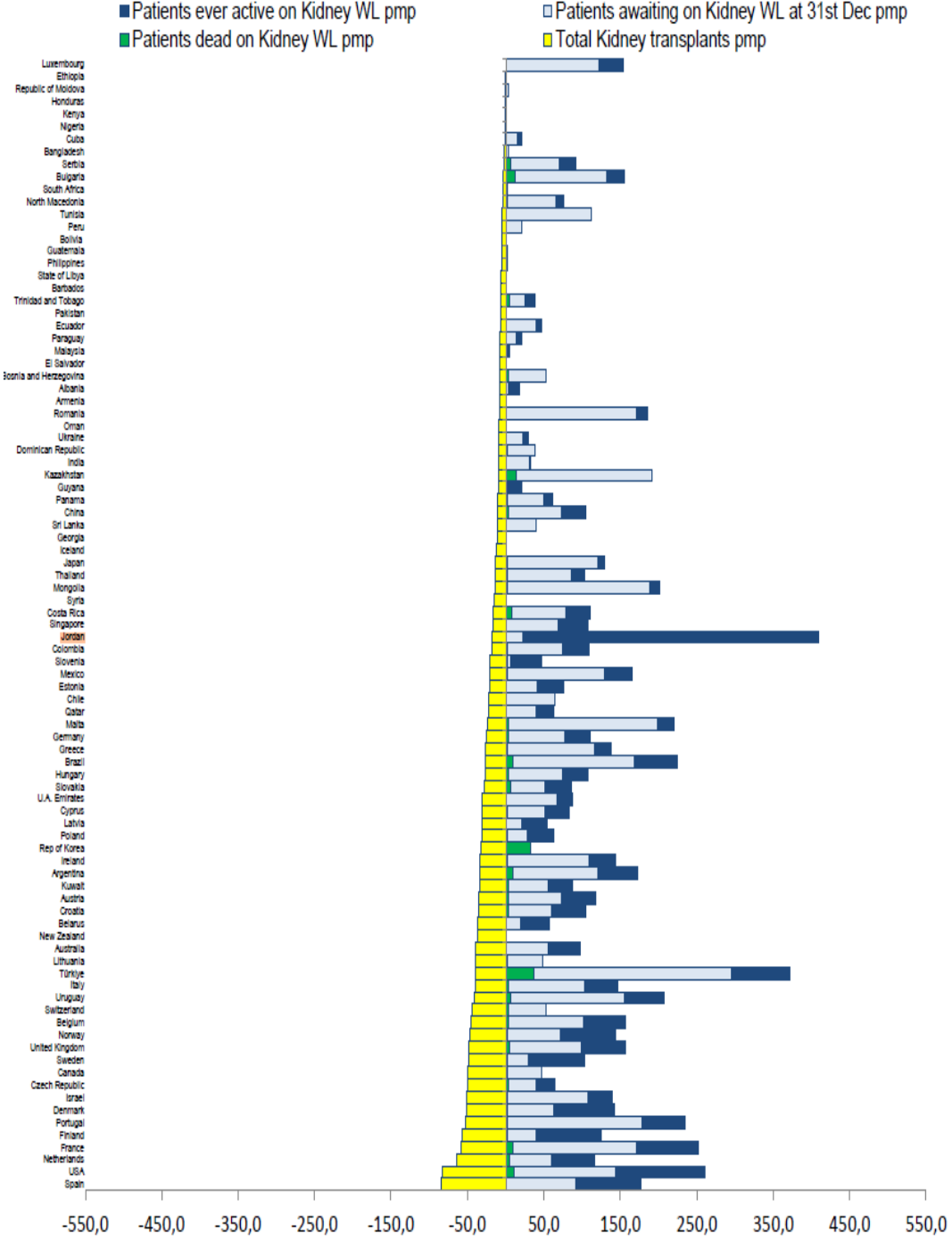


TRANSPLANTS FROM LIVING DONORS BY ORGAN TYPE (PMP) 2024

Total number of living donor transplants:

40 995 kidney transplants
9 865 liver transplants
18 lung transplants

Living transplants performed in 90/92 countries



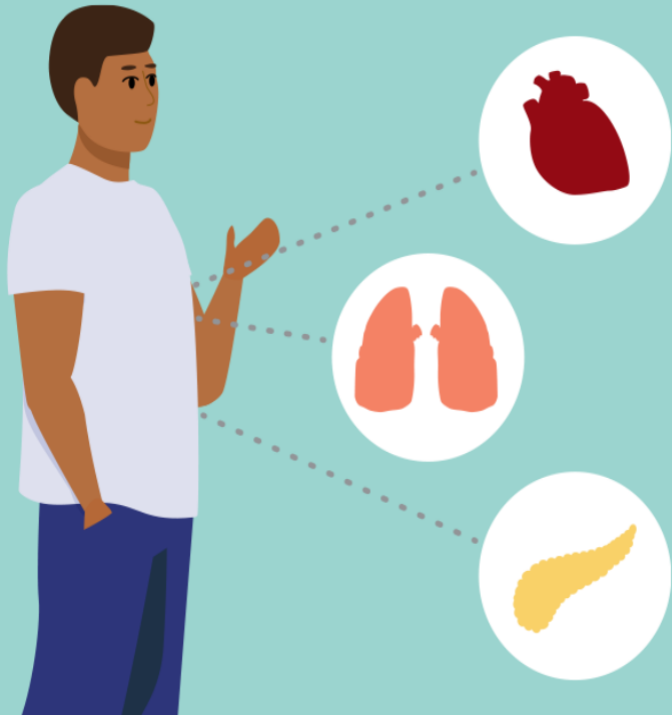
PATIENTS ON THE KIDNEY WL VS KIDNEY TRANSPLANTS (PMP) 2024

91 countries with any transplant activities and/or any information reported on the WL

Patients ever active on WL: Patients who have been active on the WL at any moment along the year. A patient active on the WL is defined as a candidate eligible to receive organ offers for transplantation at a given point in time.

Patients awaiting on the WL at 31st Dec: Patients who are active on the WL at the end of the year.

Patients dead on the WL: Patients who have died while on the WL along the year.



**Every donor can save 8 lives and
enhance over 75 more.**

YOU can help.

Organ transplantation

- An organ transplant is a surgical operation in which a failed or damaged organ in human body is removed and replaced with a functioning one. The donated organ may be from a deceased donor, a living donor or an animal.
- **Organs** that can be transplanted are the heart, kidneys, liver, lungs, pancreas, intestine and thymus.
- **Tissues** include bones, tendons, cornea, skin, heart valves, nerves and veins.
- Worldwide, the **kidneys** are the most commonly transplanted organs, followed by the liver and then the heart.

Organ transplantations: challenges

- **Lack of Donor Organs:** There are more patients needing organs than available donors.
- **Organ Rejection:** The body's immune system may attack the transplanted organ because it sees it as foreign.
- **Immunosuppressive Drugs:** Patients need lifelong medicines to prevent rejection, but these drugs can cause infections and other side effects.
- **High Cost:** Transplant surgery and medications are very expensive.
- **Limited Organ Preservation Time:** heart (4-6h), kidney (24-36h)

Organ transplantations: chalanges

- **Ethical Issues:** Questions may arise about fair organ distribution, consent, and organ donation.
- **Organ Trafficking:** Illegal buying and selling of organs is a serious problem in some countries.
- **Compatibility Problems:** Donor and recipient must be properly matched to reduce rejection risk.
- **Cultural and Religious Concerns:** Some individuals or communities may refuse organ donation because of cultural beliefs or religious concerns.

Legal rules have been followed before blood transfusion

The first discussion of this issue was on starting *blood transfusion* early in the twentieth century. when a person loses blood due to an injury, a blood disease or during surgical interference.

Conditions

- No alternative method of treatment
- No harm or damage to the donor
- Consent of the donor
- Under medical supervision
- The donor should be clinically free from a transmissible disease

Sources of organ

- **CADAVERIC ORGAN DONATION:** Organs taken from deceased people are called cadaveric organs. Cadaver is Latin for “a dead body.” A person becomes a cadaveric organ donor by indicating that they would like to be an organ donor when they die. This decision can be expressed either on a driver’s license or in a health care directive.
- **LIVING ORGAN DONATION** Living people who wish to donate their organs can donate in two ways:
 - 1. Donate one-half of a paired organ set. Example: Kidney
 - 2. Donate a portion of an organ that will still be able to function without it. Example: A portion of the liver. Example: A lobe of the lung

Types of organ transplantation :

1. Auto-transplantation:- (to him or back to him)

- It involves the transplantation of tissue from one individual back to the same individual (e.g., skin, teeth, hair...etc). No tissue rejection.

2. Isotransplant: Transplant of organ/tissue from a donor to genetically identical recipient is called isograft. There will not be any immune response hence no transplant rejection.

3. Allo-transplants:- (genetically different ones)

- Transplants from one individual into another genetically different one, it including cornea, teeth, bone....etc.
- Due to the genetic difference, the donor's organ will be treated as foreign by the recipient and will try to destroy it. This is called s rejection.

4. Xenograft:- (between different species)

- Where grafts between different species have been performed in the part for skin & heart valves.

Types of organ transplantation :

5. **Split transplant:** An organ like liver retrieved from the deceased donor can be divided between two recipients, usually an adult and a child.
6. **Domino transplant:** When the lungs are to be transplanted, surgically it is easier to replace them along with the heart. If the recipient's original heart is healthy, it can be transplanted into another recipient in the need of one.
7. **ABO incompatible transplantation:** The immune system of young children aged below 12 months might have developed fully. They can receive organs from incompatible donors.

Transplantation from a living person to another living one

- There should be no harm or danger on the donor's life.
- The operation should be done in a recognized hospital.
- Well experienced surgical team.
- All essential investigations should be done.
- It is expected that the recipient will get benefits from the operation.

Cadaveric organ donation

- Medical definition of death:
- Until the 1960s, the *cessation of circulation and respiration* was the unchallenged definition of death.
- Due to the development of *resuscitation techniques*, the definition of death is changed from just *cessation* to *irreversible cessation of respiratory and heart activity following modern resuscitation attempts*.
- The development of *life-sustaining equipment* that and advanced life sustaining equipment capable of maintaining blood pressure, circulation and respiration in individuals with severe brain injury led to appearance of *brain death*.
- **Brain death**: is irreversible brain injury, incapable of sustaining spontaneous respiration and/or circulation, had to be revised to include what is now defined as *brain death*.
- As the vital centers responsible for regulation of respiratory and cardiovascular function are present in the brain stem, it is called *brain stem death*.

- Almost, there are 2 circumstances of death.
- One whose heart arrested outside hospital or in emergency département.
- The other who is in intensive care unit in coma and on advanced life support equipment.
- In the first case, cardiac death diagnosis is the basis for diagnosis of death.
- In the second case, brain stem death diagnosis has to be done.

Process for the clinical determination of death

1. CARDIOCIRCULATORY ARREST

- Unresponsiveness
- Not breathing
- Absence of circulation

CARDIOPULMONARY RESUSCITATION

Failed

Not attempted

Absence of circulation confirmed by the following means

CLINICAL DIAGNOSIS

Absence of a central pulse on palpation + Absence of heart sound on auscultation + Absence of breathing + absence of pupillary responses to light

The development of transplant surgery and the need of viable organs have resulted in the need for accurate determination of the medical criteria of brain death.

The medical criteria of brain stem death

- Know cause of coma: structural brain damage.
- Exclusion of **reversible causes** of coma as toxic or metabolic.
- No hypothermia: temp more 36C.
- Absent brain stem reflexes:
 - No motor response within cranial nerves areas.
 - No pupillary response to light.
 - No corneal reflex.

- No oculovestibular reflex.
- No oculocephalic reflex
- No gag reflex
- Apnea test

the rules that should be followed are:

- 1. Death certificate should be signed by three physicians of good qualification and not from transplant team.
- 2. The dead person should have given a will **وصية** before death or permission for transplantation or.
- 3. Consent of his relatives.

These rules are put to prevent abuse and loss of confidence in physicians.



منظمات المجتمع المدني في الأردن
Guide to Civil Society Organizations in Jordan



ت

مبسطة

اطمات أصحاب العمل <

اطمات مهنية <

اطمات متخصصة <

مليات خيرية

مركز الدراسات والأبحاث

اطمات أجنبية

اطمات مجتمعية وحقوق الانسان

مليات عمالية

مليات خاصة

مجلة وتصميم MENA CIRCLE

الجمعية الأردنية لتشجيع التبرع بالأعضاء

منظمات الرعاية الصحية «

سنة التأسيس: 1987

الاهداف: تشجيع المواطنين على التكافل فيما بينهم لتخفيف المعاناة التي قد يسببها فقدان احد أعضاء جسم الإنسان، وتشجيع أولياء أمور الأفراد الذين توفاهم الله للتبرع بالأعضاء التي يمكن أن يستفاد منها في إنقاذ حياة إنسان آخر أو تحسين نمط حياته و هذه الأعضاء هي (القلب، الكليتين، القرنيتين)، وإبراز مدى أهمية التبرع بالأعضاء لدى المواطنين من خلال قيام الأطباء المختصين و علماء الدين و قادة الرأي في المجتمع بإعداد المحاضرات الخاصة في هذا المجال، ودعم البحوث العلمية المتعلقة بزراعة الأعضاء والعمل على إبراز النماذج الحية المجسدة لأهمية التبرع بالأعضاء من خلال القيام بحملات إعلامية بمختلف الوسائل.

عدد الاعضاء: 80 عضو

الفروع: لا يوجد

رئيس: الأمير رعد بن زيد

أعضاء الهيئة الإدارية: نائب الرئيس: احمد جميل.

أمين السر: رانيا جبر القرم.

أمين الصندوق: أديب عكروش.

مدة الدورة الانتخابية: 3 سنوات

تاريخ آخر انتخابات: 2016

تغيير اللغة: English

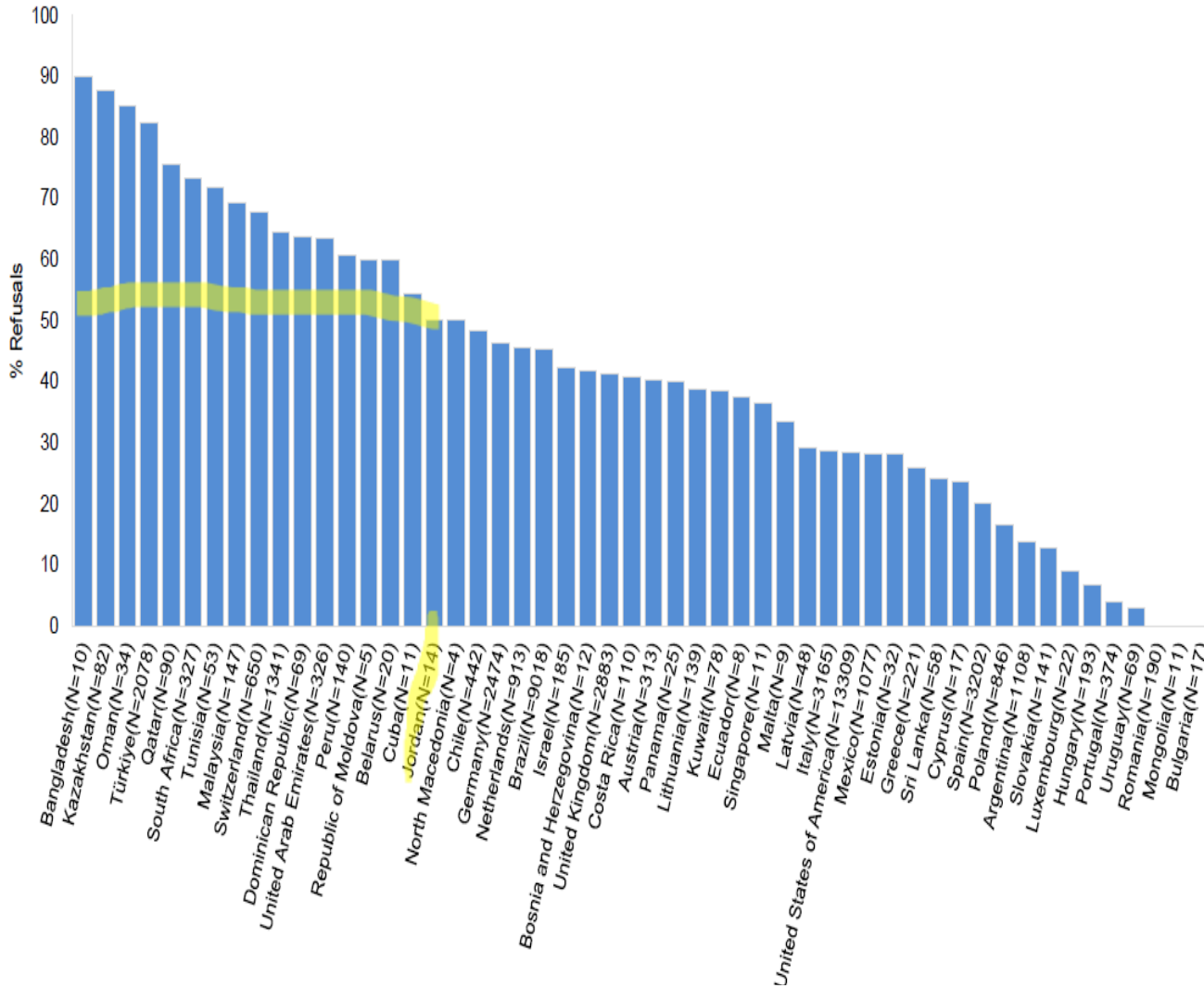
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REFUSALS TO DECEASED DONATION (%) 2024



52/92 countries provided information on refusals to deceased donation and family interviews

**Number of interviews is presented in brackets.*

THANK YOU

