Tools for Vigilance and Surveillance of Organs

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Eurotransplant International Foundation

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EFRETOS project and organ vigilance

EFRETOS

UNIFYING DATA COLLECTION
CREATING NEW KNOWLEDGE

European Framework for the Evaluation of Organ Transplants

Health Programme 2008-2013

EFRETOS COUNTRIES AND PARTNERS

COLLABORATING PARTNERS:
- Deutsche Stiftung Organtransplantation, Germany
- De Nederlandse Transplantatie Stichting, The Netherlands
- Hellenic National Transplant Organization, Greece
- Poltransplant, Poland
- Czech Transplantation Society (Česká transplantační společnost)
- Derer University Hospital, Slovakia
- Autoridade para os servicos de sangue e de transplantacao, Portugal
- Universitair Medisch Centrum Groningen, The Netherlands
- University of Padua, Italy
- Slovenija Transplant, Slovenia

= coordinating and associated partners
= collaborating partner
= not covered by EFRETOS

Objectives EFRETOS

- Prepare specifications registry of registries for evaluating outcome of post-mortem solid organ transplantation
- Provide common definitions of terms and methodology.
- Set up a quality assurance system for obtaining high quality data on transplantation outcomes
- Prepare a set of recommendations for an organ vigilance system

What makes organ transplantation special regarding organ vigilance and surveillance

Special aspects of organ transplantation with regard to vigilance

- There is no “risk-free” donor procedure
- Some risks are assumed or even known and taken nevertheless (“calculated risk”)
- Donor risk factors are shared by all recipients
- Risk profile can change after transplantation

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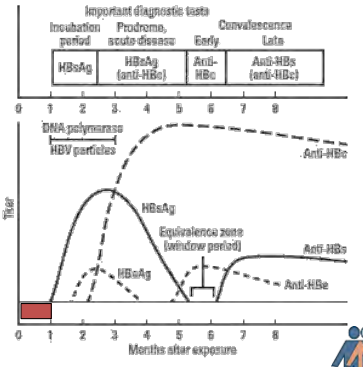
No “risk-free” donor

- Donor characterization is necessarily incomplete due to time constraints in the donation and transplantation process
- Even with optimal diagnostic tools there is a “diagnostic window” during which certain diseases are missed even with optimal tests



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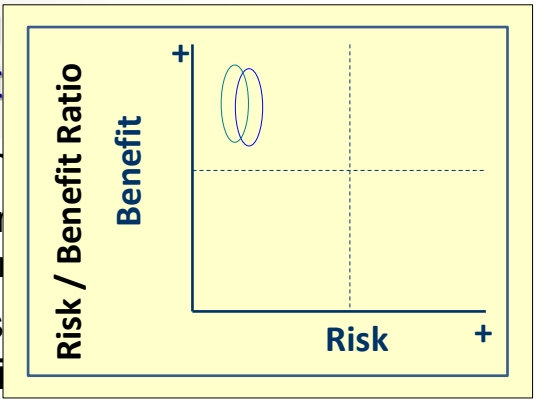
Why taking organ t



- Scarcity of organ
  - -> Patients deter waiting to be tra
- Time constraints and transplantati
- **=> Balance the potential risk of disease transmission by accepting an organ offer against the risk derived from not proceeding with the transplantation**

RISK OF DONOR TRANSMITTED DISEASES (Italy, CNT)

Unacceptable risk (absolute contraindication)
Donor not suitable for transplantation

Increased but acceptable risk
Donor with transmissible organisms or diseases identified during the evaluation process, but organ utilization is justified due to the recipient specific health situation or the severity of his/her clinical condition

Calculated Risk (criteria referring to protocols for elective transplants)
Donor with transmissible diseases, but transplantation is allowed for a recipient with the same disease or with a protective serologic status, independently of the severity of his health conditions. Donors with meningitis who received targeted antibiotic therapy during at least 24 hours and those with documented bacteremia who received targeted antibiotic therapy are included

Not assessable risk
Donor in whom the evaluation process does not allow an appropriate risk assessment for transmissible diseases

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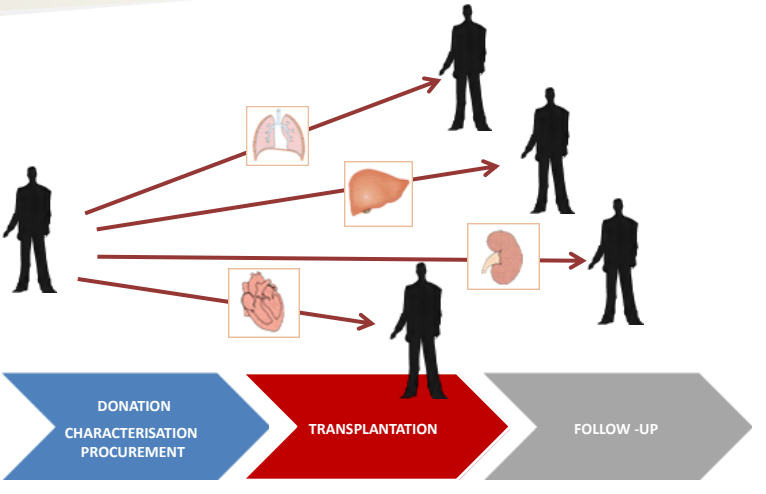
Donor risks are shared and can have an influence on all recipients



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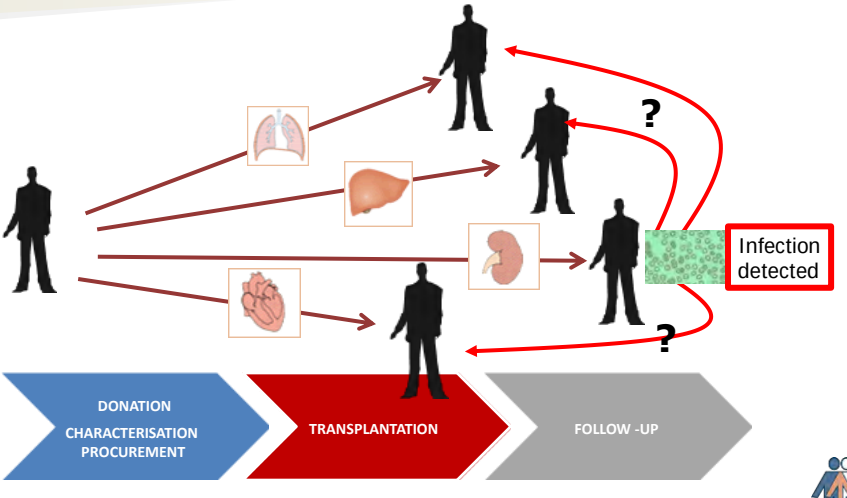
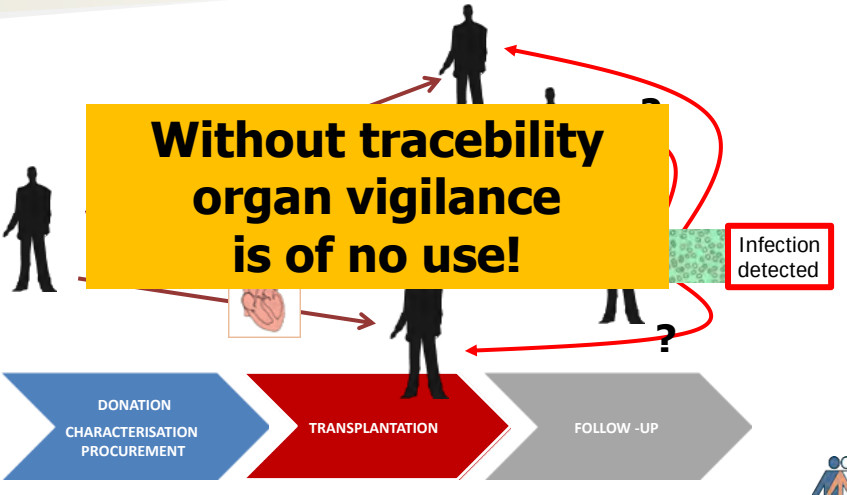


Practical aspects / tools of an organ vigilance system

Traceability

Donor risks are shared and can have an influence on all recipients



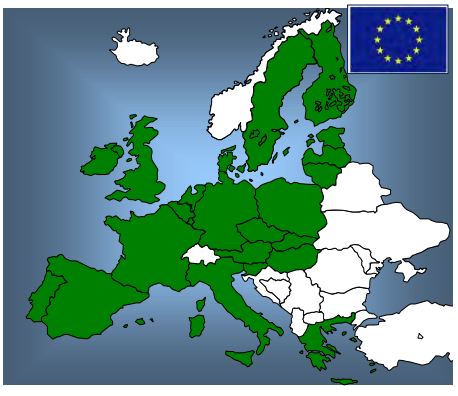
Traceability - relevant articles in the directive 2010/53/EC - Art 3(s):

- 'Traceability' means the ability to locate and identify the organ at each stage in the stage in the chain from donation to transplantation or disposal, including the ability to:
  - Identify the donor and the procurement organisation
  - Identify the recipient(s) at the transplantation centre(s) and
  - Locate and identify all relevant non-personal information relating to products and materials coming into contact with that organ.

Traceability and reporting systems in EU-MS (+ Turkey & Norway)

SANCO SURVEY 2003 (N=29)

- **25 have a national registry** containing data on the origin and destination of organs
  18 mandatory in legislation
- **20 have a system of reporting adverse events / reactions**
  8 mandatory in legislation
- **No system allowing tracing in cross-border cases**
  - **(except in existing multinational cooperations like ET and Scandia-transplant)**
    (> 4,000 organs exchanged between MS each year



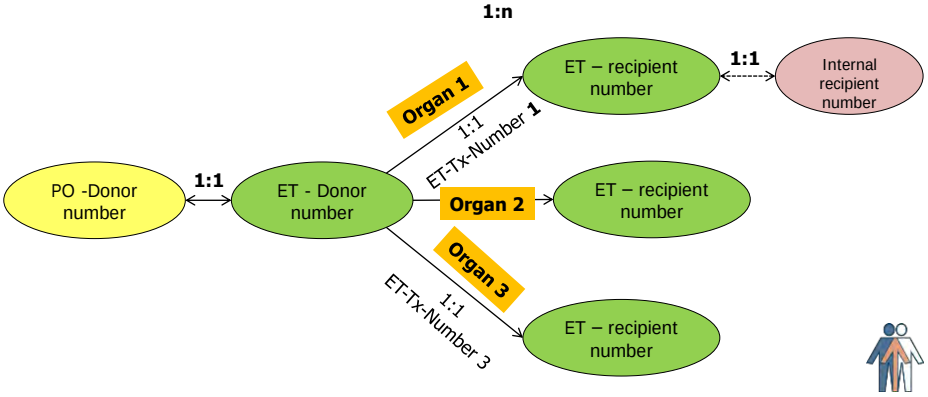
2003 DG SANCO

Traceability within the ET countries Donor -> Recipient

Procurement Organization

Organ exchange organisation - ET

Transplant center Recipient

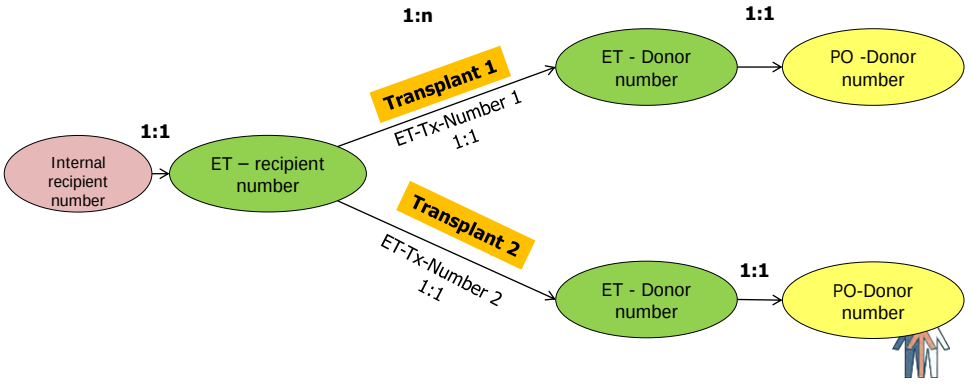


Traceability in the ET countries
Recipient -> Donor

Transplant center Recipient

Organ exchange organisation - ET

Procurement Organization



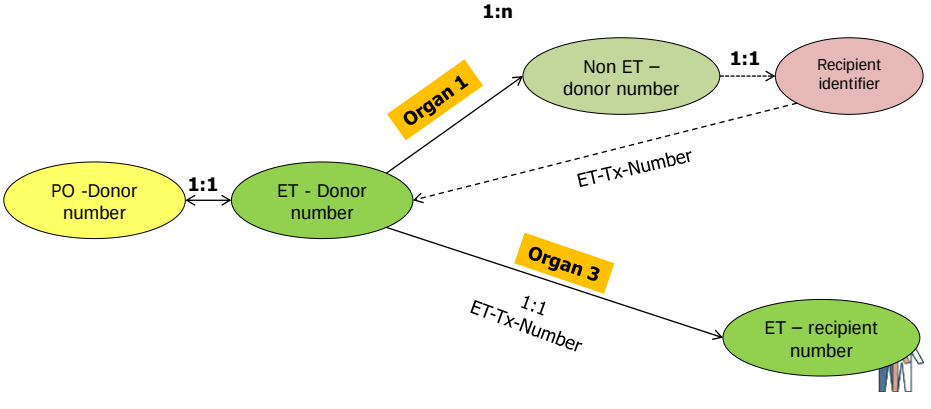
Traceability - Organ exchange with other organ exchange organizations

Procurement Organization - PO

Organ exchange organisation - ET

Organ exchange organisation – non ET

Transplant center Recipient

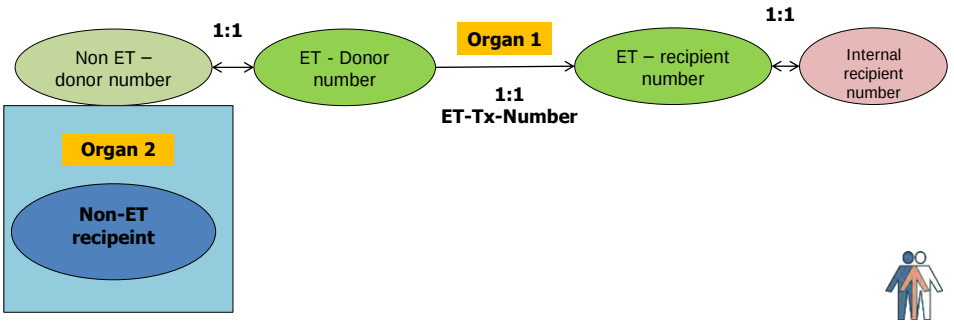


Traceability - Organ exchange with other organ exchange organizations

Organ exchange organisation – non ET

Organ exchange organisation - ET

Transplant center Recipient

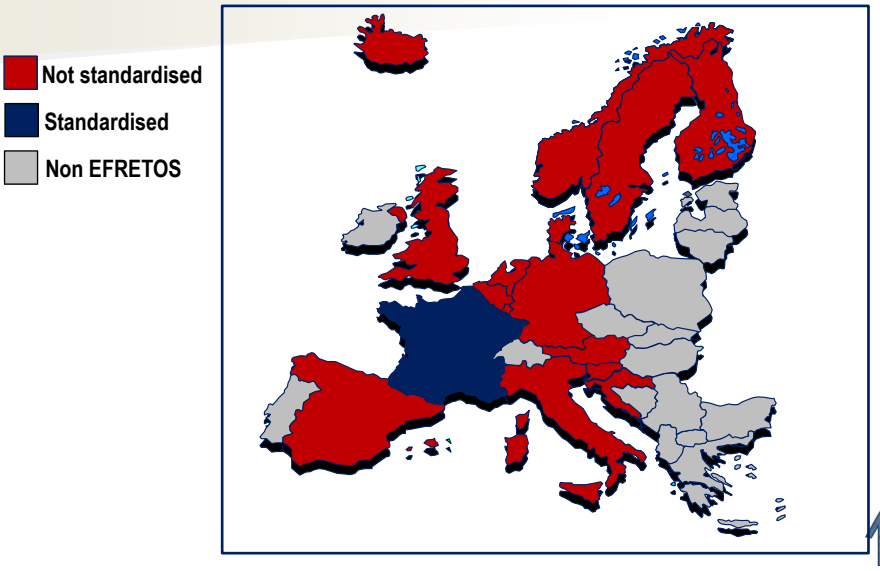


Organ vigilance and surveillance systems

Vigilance - relevant provisions in the directive 2010/53/EC - Rec (15):

- "The transplantation system should ensure traceability of organs from donation to reception and should have the capacity to raise the alert if there is any unexpected complication. A system should therefore be put in place to detect and investigate serious adverse events and reactions for the protection of vital interest of the individuals concerned."

Organ V&S system in EFRETOS countries



Objectives of a vigilance system

- **PREVENTION**
  (primary, secondary and tertiary).
  - The immediate preventive action regards affected or potentially affected patient
- **Risk management**
  - Analysis of pooled data may provide indicators and information on stratification of the risks (concept of surveillance)
    - Example: systematic follow-up of recipients transplanted with organs from non-standard risk donors

What to report?!

Severe Adverse Events (SAE)

Severe Adverse Reactions (SAR)

Areas of special relevance with regard to organ-vigilance / SAE+SAR
Donor/Case specific risks

- 1. SAE+SAR with (**potential) therapeutic consequences** for other recipients of organs/tissues from the same donor

Immediate information of all other recipients (via procurement organizations and/or recipient centers)

Areas of special relevance with regard to organ vigilance / SAE+SAR
General risks

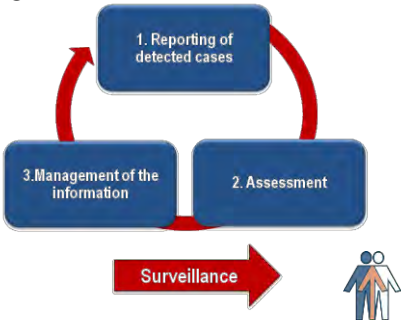
- Based on single cases or synopsis of several individual reports (SAE/SAR)
  - 2. **New medical risks** that might result in an

Information of other transplant centers (within organ exchange organization or beyond (regional, EU-level))

used procedures and diagnostic tests
    - Technical problems (transport box/device)
    - Preservation fluid
    - Screening tests…

Transition Vigilance - Surveillance

- Surveillance in general: Systematic and continuous collection, analysis, interpretation, and dissemination of health data, seeking to reduce morbidity and mortality and to improve the health of the population.
- Surveillance in transplantation: Analysis of pooled data may provide indicators and information for risk stratification
  - e.g. extended criteria donor
  - -> Registry of registries

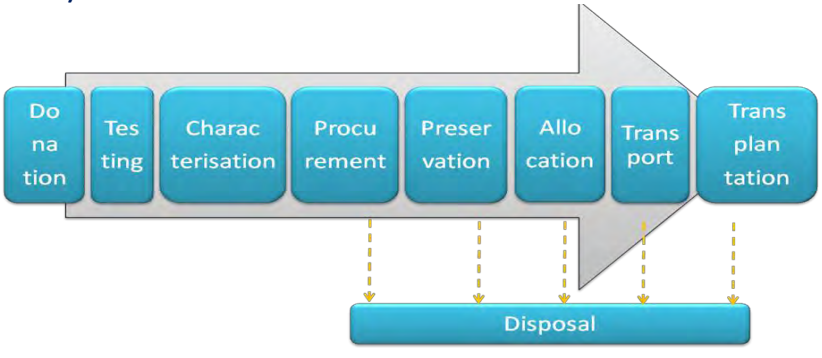


Data collection and reporting organ-vigilance

- Data collection and reporting has to be
  - Relevant
    - Goals of data collection have to be defined
  - Realistic
    - Items to be collected have to be defined
    - Dataflow has to be defined and uniform
    - Double reporting should be prevented
- => Minimum set of cases to be reported suggested by EFRETOS consortium

Reporting Criteria: Serious Adverse Event

a) Deviation from operating procedures or other AE during the chain from donation to transplantation that results on the deterioration of the quality/safety of the organs, when at least one patient has been transplanted or subjected to anesthesia for the purpose of transplantation (even if the organ has not been transplanted in the end)



Serious Adverse Event Reporting Criteria

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b) Infection or positive serological state discovered in an organ donor (deceased or living) when at least one organ has been transplanted …

c) Malignant tumor discovered in an organ donor (deceased or living) when at least one organ has been transplanted, …

d) Discovery of any other potentially transmissible disease in an organ donor (deceased or living) when at least one organ has been…

e) Other

Avoid to overburden!!!

Serious Adverse Reactions Reporting Criteria: Recipients

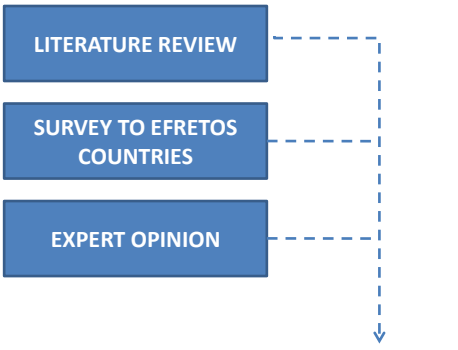
a) **Unexpected and serious immunological reactions**
b) **Abandoned transplantation procedure due to a deviation in an operating procedure in the process or to other AE involving unnecessary exposure to risk**
c) **Unexpected infection or serological conversion in an organ transplant recipient** that might be donor-transmitted or derived from the donation process
d) **Malignant tumor in an organ transplant recipient** that might be donor-transmitted
e) **Other unexpected disease in an organ transplant recipient that might be donor-transmitted**
f) **Other**

Situations not included in the minimum set of cases to be reported.

- Losses of donors and organs along the process extending from donation to transplantation, if there is not direct exposure to a health risk.
- Situations where certain risk is known and taken by the clinicians (and the patient) before transplantation is performed.
  - If a health problem associated with this risk occurs in the recipient, reporting should be limited to those situations which are unexpected or expected to occur infrequently.
- Cases that are to be reported to other V-Systems
  - Drug of device related SAEs and SARs

NON-STANDARD RISK DONORS

1. **Acute intoxication** as direct cause of death
2. **Past or present history of malignancy**
3. **Positive serology:**
   - Anti-HCV
   - HBsAg
   - Anti-HBc
4. **Risk factors for viral infectious disease / Serology pitfalls**
5. **Emergent infectious diseases**



Data collection in a Registry of Registries

Steps in handling SAE and SAR

Steps in handling SAEs and SARs
Initial reporting

- **Immediate** reporting of (suspected) SAE and SAR to other transplant centers receiving organs from the same donor (using tracebility system)
  - Standardized reporting in case of cross border exchange to be developed by EU (Implementing Measure)
- Reporting to Competent Authoritiy (or delegated body) **in due time**

Steps in handling SAEs and SARs
Final reporting

- Analysis of SAE/SAR involving information of all partners involved
  - Information has to be complete and verified
  - Attributability, severity
- Final report
  - To be sent to all parties involved and to CA
  - Proposal of corrective and/or preventive measures

Summary

- A dedicated organ vigilance system is crucial for the improvement of quality and safety in organ transplantation
- An accurate traceability system is prerequisite for an effective vigilance system
- The vigilance system has to take into account the specifics of organ transplantation to prevent overburdening of involved partners
- For adequate risk management the vigilance system should be accompanied by
  - Quality assurance system
  - National Registry and “Registry of registries”