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www.coorenor.eu
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## TABLE OF CONTENT

### FOREWORD

6

### PARTNERS

9

### DISSEMINATION OF THE PROJECT

10

1. Project website

10

2. Layman’s Brochure

10

Dissemination of the Project by single partners

11

Dissemination final results

13

### EVALUATION OF THE PROJECT

14

### CORE WORK PACKAGES

15

### INVESTIGATING, COMPARING AND BENCHMARKING NATIONAL / REGIONAL TRANSPLANTATION PROGRAMMES

15

Transplant systems

16

Transplant systems and activities

18

Safety management: Donor medical history and tests performed

22


26

Preliminary remarks and perspectives

26

Angles for futures initiatives

27

### CADAVERIC DONATION

28

Death diagnosis

28

Consent

29

Health care professional training

30

Quality assurance programs (QAPs)

31

Initiative to raise awareness on organ donation

33

Conclusions

34

### LIVING DONATION: MAXIMIZING SAFETY OF LIVING DONORS

35

Introduction

35

Survey conducted in 27 EU Member States

35

Experts’ meeting

36

Milestone 1: Description of current legal and social situation relating to living kidney donation

37

Milestone 2: Analysis of post-nephrectomy medical and psychological follow-up features

37

Milestone 3: Analysis of risk factors for preventing renal and cardiovascular complications in kidney living donors

38

Strategy aiming to increase living donor kidney transplantation

38

Conclusions

39

### CROSS BORDER ORGAN EXCHANGE

40

Introduction

40

The Questionnaire and Analysis

40

International Exchange Now

42

Proposed IT Portal

43

The Structure of the Portal

44

Workspace

46

The Portal Works

49

The First Case

50

### CONCLUSIONS AND FUTURE DIRECTIONS

52
The task of the Italian National Transplant Centre (CNT) during these years has been a simple and complex one at the same time. Activities have included the running of the front office, the handling of financial management and overview of ongoing activities. The management of risk has also taken quite some time from the handling of withdrawal of some partners during the proposal phase and later on during the project running to consequent redistribution of economic resources and delays in amendment approval.

A few words on the composition of the consortium and its value. The Council of Europe Transplant Newsletter data and previous literature have steadily highlighted how donation and transplant activities have different sizes in the consortium countries, as well as the fact that some programs (such as liver, heart, lung, pancreas and small bowel) are not running or not fully developed everywhere. In particular at the time of COORENOR planning some programs were not available at all in six consortium countries and whereas some countries like Belgium, France, Estonia, Italy had donation rates above 20 donors per million of population, in many others they ranged from 2.9 to 19.1 per million of population.

This situation has undoubtedly multiple causes: legal, cultural, organizational, economic and the recent widespread economic crisis has impinged on single national situations and it is also true that these years have seen the approval and transposition of Directive 2010/53/EU in all Member States. Despite this and irrespective of the important contribution that the single COORENOR work-packages have given in order to acquire a thorough knowledge and investigation of how the donation and transplant process is managed in each country, some overall positive successes of improved cooperation can however be accounted for.

First, a sound international cooperation network has been established with a number of countries and even if it is not possible to establish correlations, it is however a fact that during the project development, in a number of countries, namely Latvia, Lithuania, Poland, Romania donation rates have somehow increased and the activity of some life-saving programs such as liver, heart and lung started or however improved. Our hope is that the project has given its contribution to sharing expertise among EU Member States, thus resulting in long-lasting upward trends.

Secondly, a concrete result, that will have more important outcomes in the forthcoming FOEDUS Joint Action, is the setting up of a European tool for international organ exchanges: no doubt the difficulties of this cross border activity are several and high level solution should be found and need to be explored, but the consortium is aware of the progress done in order to put all the issues on the ground and start experimenting a new tool for this practice. The organ exchanges performed between August and November 2012 are a very first step of a long way, that can give very useful hints on all the practical, logistic and economic obstacles that European organ exchange organization should be overcome in order to have simple, streamlined procedures at international level.

In sum, the feeling is that the inputs from implementation of EU Directive: Action Plan and present and past Public health funded projects and COORENOR one in particular have contributed to give some impulse to donation and transplantation activities, even if more efforts are still needed in order to cope with the increasing needs of patients throughout an enlarging European Union. A common road is in front of us. A special thank to all partners that have taken us so far.
The system of Work Packages

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<th>Organisation</th>
<th>Country</th>
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<th>WP2</th>
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PARTNERS

LUP leaders

- Italy – Centro Nazionale Trapianti, Istituto Superiore di Sanità – CNT-ISS (Project coordinator, LUP1 leader)
- Hungary – Országos Vérellátó Szolgálat – OvSz (LUP2 leader)
- Poland – Poltransplant (LUP3 leader)
- France – Agence de la biomédecine – ABM (LUP4 leader)
- Poland – Medical University of Warsaw – MUW (LUP6 leader)
- Czech Republic – Koordinátní Středisko Transplantací – KST (LUP7 leader)

Associated Partners:

- Latvia – Pauls Stradins Clinical University Hospital, Latvian Transplantation Centre (PSCUH)
- Lithuania – Lithuanian National Transplantation Bureau – NTB
- Netherlands – Eurotransplant International Foundation (ETI)
- Romania – Institutul Clinic Fundeni – FCI
- Slovak Republic – Univerzitna Nemocnica Martin – UNM

Collaborating Partner

Renal Foundation Moldova

Advisory Board

- Council of Europe – Marta Lopez-Fraga
- ONT – Rafael Matesanz
- Scandiatransplant – Arnt Jakobsen
- UHNO – Luc Noel
DISSEMINATION OF THE PROJECT
Work Package 2
Leader: Hungarian National Blood Transfusion Service, Organ Coordination Office
Hungary

This WP had a main responsibility for the project's dissemination during the whole duration of the project. Each partner was responsible for the dissemination of the project in their own country by attending local and national conferences in order to present the project and its results to experts in the field and to communicate the findings to relevant stakeholders.

Dissemination activities:

Among the first tasks, this WP designed and proposed the project logo which symbolizes the cooperation in the field of organ transplantation within the European Union Member States. Next it devised a dissemination plan, where target groups were identified together with apt dissemination tools, for each group. In particular the following tools were developed:

1. Project website

The main tool was an ad hoc website [www.coorenor.eu](http://www.coorenor.eu) which has a private and a public area as well. The Public domain has general information about the project, the consortium, news and useful links to national transplant organization. The website is going to be accessible for 2 years after the end of the project.

The private area of the website accessible only with user-id and password, contained all deliverables, agendas and minutes of the meetings, easily downloadable and accessible to all consortium partners. Notifications were sent when a new document was uploaded on the website. The private area also had a forum that allowed all kind of communication among partners.

The COORENOR website is going to be accessible for 2 years after the end of the project.

2. Layman's Brochure

The Layman's Brochure was designed and printed at the very beginning of the project and explain in easy and understandable way contents and aims of the project. It was addressed to patients and general public as well. Each Partner also distributed it to transplant experts and relevant stakeholders in their own country.

The brochure is also available in electronic format on the project website.

According to the feedback of participating countries and based on the identification of target group in the dissemination plan the brochure was distributed in the following areas:
- National/Local Authorities
- National Transplant Organizations
- Ministries of Health
- Transplant Centres
- Donor Hospitals
- Patients Associations

### Dissemination of the Project by single partners

In order to support the dissemination activity of each Associated Partner WP 2 made a general presentation template about the Project which was downloadable from the project website. During 30 months of activities the partners found various ways to share the aims of the project. There were presentations, posters, interviews, discussions on 37 national and 20 international events. In addition the general public and the professional area have been reached either by interviews or by articles on different type of websites.

Although the task of the Project is going to be finished on the 24th of December 2012, the outcomes of the COORENOR will be presented by presentations, articles and proposed strategies in the near future. A detailed description of these dissemination activities carried out by consortium partners is shown in Table 1.

#### Table 1. Description of dissemination activities carried out by consortium partners

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**Dissemination final results**

The aims of the dissemination were:
- To ensure a smooth and effective communication flow among the partners
- To disseminate the project with its results to different stakeholders and target groups: general public, health care officials, scientific societies, national and international policy makers, European Institutions, National Institutions, also taking into account those countries not participating in the project.

In order to disseminate the results of 4 WPs, some publications were distributed to different experts in the field of donation, transplantation: recommendations on transplant programs, report on cadaveric donation and public campaigns, documents on common strategy for enhancing living kidney donation. Each LIP leader was in charge of writing and publishing them. The White Paper and the Newsletter can be a good tool to distribute summarized results of the Project. The dissemination task of the project cannot be completed without the support of other Associated Partners in the future as well.
The General Objective of Work Package 3 was to perform a systematic and continuous appraisal of the project in terms of project development and of the quality and impact of the results achieved by different WPs. The Polish Transplant Coordinating Centre - Poltransplant was leader of this work-package. The methodology applied for the evaluation of the project was agreed within the Poltransplant staff. The deliverables were assessed against a set of criteria, such as adherence to the schedule, quality and reliability of data, nature of conclusions, relevance of experts consulted, and applicability of the material produced of the project.

The problem of evaluation was discussed extensively among the partners and within Poltransplant itself at the beginning of the Project. As Poltransplant filled in national data for WPs 4, 6 and 7, an evaluator not involved in other work packages was employed to avoid bias. Moreover, the evaluation relies on an Advisory Board of four relevant external experts from non-involved institutions such as ONT, Scanditranplant, LIMSI and CoE.

The first evaluation report was issued at mid-project, summarizing COORENOR project milestones and deliverables due to the end of December 2011.

Evaluation of aforementioned items was executed on three different levels:

2. Internal evaluation by the members of the project attending projects meetings.
3. External evaluation by external independent peer-reviewers from the Advisory Board, which included:
   - Organization De Transplantation
   - Scanditranplant
   - World Health Organisation
   - Council of Europe

At the end of the project (December 2012) a final evaluation report will be issued, summarizing final deliverables:

- Final technical and financial reports
- Project dissemination
- Organ Transplantation Systems in the European Union: a selected overview
- Results of the survey on cadaveric organ donation and public campaigns
- Strategy aiming to increase living donor kidney transplantation in EU Member States
- Final report on cross border organ exchanges.

In general, evaluators’ rating of the COORENOR project realization is very high. It brought about some really important and valuable outcomes. A WP4 document summarizing a present status quo of the transplant medicine, with legal regulations, rules and organizational structure including the level of implementation of European regulations, easily accessible info on donation, procurement, allocation, transplantation, follow-up and safety precautions gives an excellent overview of the system in nearly all EU Member States and 6 other European countries (Albania, Croatia, Macedonia, Moldova, Norway and Switzerland). This is going to be an excellent manual for any EU official, lecturer or scientist who needs to consult quickly how transplantation system in some European country operates. Equally important is the general overview of deceased organ donation and public campaigns within the EU countries and the summary of living kidney donation activity throughout Europe, putting special attention on donors safety, outcomes and surveillance. As a consortium, we believe there is a lot to be done in this field and results of the Project show it clearly.

Finally, probably the most important achievement of the project was a setup of a web-based platform (https://coorenor.ders.cz) for international organ exchange outside of existing bi- or multilateral agreements. The platform proved itself easy to use and effective tool, and indeed some organs were already distributed over partner countries in this way. The platform allowed to avoid some organ loss in partner countries and definitely its activity and functionality needs to be continued and pursued in the future.
Overviews are based on common information that was available for all Member States, on answers to the questionnaire, main actors’ profile, existing legislation, transposition and implementation of the Directive 2010/53/EU, Eurobarometer survey on organ donation and transplantation, information provided by official websites and possibly national publications. National panoramas were designed in order not to overlap with other previous or on-going EU projects or working groups (e.g. Technical working group on organ donation and transplantation indicators piloted by DG SANCO, ODEQUIS).

Transplant systems

In these overviews, organ transplant programmes and organisational system are described at supranational/national/regional/local level considering key operational steps of each donation, allocation, transplantation and follow-up sub-process; the position and profile of the main actors responsible for each key step of these sub-processes is defined as well. Moreover, key steps were considered under different aspects of quality programmes such as training, procedures (to be followed), guidelines (recommendations) and audits (evaluations, inspections).

Additionally, national panorama also includes an extrapolated and simplified scheme of operational key steps designing each Transplant system (see figure 2).

![Simplified operational scheme of four different MS (A, B, C and D) transplant system and main organisational and responsibility levels](image)

As an example, Member State A has a regional and supranational system in place with a delegated body in charge of several actions including organ allocation and cross-border organ exchanges. Potential donors are notified to the Transplant Coordinator of the nearest regional transplant centre directly by the dedicated MD in charge of the donation at the intensive care unit of the hospital.

Indeed, the 2010/53/EU Directive, stipulates in article 17 that “Member States may delegate, or may allow a competent authority to delegate, part or all of the tasks assigned to it under this Directive to another body which is deemed suitable under national provisions. Such a body may also assist the competent authority in carrying out its functions”.

Member State B is currently developing a National system, having at this stage transplantation activities mostly performed within the capital city and having donation sites in all regions. Donation and retrieval steps are organised nationally by the Transplant Agency. In this system, MDs from the retrieval site are responsible for all the steps of this sub-process from the identification of
the donor, the consent to donation, the diagnosis of brain death and the donor maintenance until organ retrieval. Organ allocation is under the responsibility of the Transplant Agency. On site, MDs from the National Coordination (Transplant Agency) are responsible for the management of the waiting list, the coordination of organ proposal and allocation steps. The responsibility of each transplantation sub-process step relies entirely on MDs from the National Coordination. At that stage, clinical follow-up is under development and therefore hatched. Additionally, this MS can exchange organ either with other allocation platform of Transplant Agencies at national level or with other countries via a delegated body at supranational level.

Member State C has a transplant system involving three actors: hospitals at local level, Transplant Agency mainly at regional level, and a delegated body in charge of organ allocation at supranational level. In this MS, possible donors are notified by any hospital, notably thanks to the coordinators on site, reporting to their regional coordination. Transplant Coordinators who are appointed at the hospital for management of the donation (not in all hospitals yet) are specialists/senior physicians or senior nurses often in the field of intensive care medicine. Collecting the necessary medical information regarding donor and organ characterization is under the Transplant Agency responsibility. Then the Transplant Agency Coordinator is in charge of transferring these data to the supranational delegated body, allocating organs according to allocation rules in place and in respect of the dedicated patients’ waiting list. The supranational delegated body directly contacts the Transplant Centre corresponding to the selected recipient, which will in turn, after organ acceptance by the transplantation physician (MD), informs the patient. Then the transplantation steps are all managed locally by the Transplant Centre, which is in charge of the transplantation surgery, and of post-transplant follow-up.

Member State D, like MS C has a rather national system in place with a Transplant Agency involved in operational key steps. At local level (in hospitals), MDs and doctors in Science are the main actors involved in organ donation and procurement. Responsibilities of the allocation process are shared between several actors: MDs in Science, nurse and administrative personnel, mainly from the national coordination but also from the regional coordination and the transplant centre involved. Then organ proposal is coordinated by MDs and nurses of the retrieval site, the regional coordination and the national coordination. The transplantation itself is under the responsibility of MDs from the transplant centre and is performed according to regional procedures and guidelines. However, the responsibility of the different follow-up key steps is entirely on the transplant centre’s MDs, surgeons and nurses/chief nurses. Altogether, the EU overview shows wide organisational and operational practices among Member States (22 MS) regarding practical approach from donation to follow-up sub-processes. Analysis reveals that the majority of the operational steps selected are either mainly organized at National level (scheme B and D), or mainly at regional (scheme A and C) or local level (or even sometimes at supranational level) but combined with the national level.

These simplified schemes of transplant systems designed to facilitate understanding and seize our differences at first sight, as well as information gathered, are aiming at being useful not only for mutual understanding but also for any country starting up a given transplantation programme or about to redesign an existing one. Conveniently, it also informs on where to seek a specific expertise. Any country/region might benefit from re-examining its own system in the light of the different Transplant systems. (Transplant system of each Member State is detailed in the WP4 deliverable).

Transplant systems and activities

Acknowledging that each country developed its own system according to a specific environment, given needs and resources, they are different in practices but also in sizes (number of hospitals performing Transplantations and transplant programmes), see figure 3 and 4 and activities (figure 5).

The different figures on the health resources allocated to the Transplantation activity (number of hospitals and transplant programmes) and the reported level of activity, show variations between MS. In this regard, logistical issues were reported as a possible limitation of practices that would be likely to be increased by a greater level of resources within a single hospital (e.g. more teams available night and day for hearts transplantations). Additionally, the map includes countries having answered the questionnaire: i) 22 Member States out of 27, and Germany, ii) candidate countries: Croatia and Macedonia, and iii) potential candidate country: Albania. Among non EU countries are: Norway, Switzerland and Moldova. Among non EU countries are: Norway, Switzerland and Moldova.

1. Agence de la biomédecine, COORENOR, 2012, ESRI.
Considering 2010 raw data, when comparing the five MS reporting higher transplantation activities (i.e. DE, FR, IT, ES and UK), those MS have respectively averages of 3.1, 2.6, 2.3, and 1.8 transplant programmes per hospital and of 113.4, 71.9, 71.5, 77.2 and 123.3 transplantsations per hospital respectively. Comparing these figures suggests that the level of transplantation activities cannot simply be a direct consequence of the multiplication of transplant programmes in a single hospital.

To go further analysing these discrepancies, FR and UK that both have an average of 1.8 transplant programmes per hospital, show a quite different level of transplantation activity (and average of transplantation activity) per hospital. The very same year, both countries had for all organs 9 teams specifically dedicated to paediatrics transplantations, and this latter activity for kidneys accounted for 3.7% of the UK kidney transplantations and for 2.2% in FR. Furthermore, FR has roughly twice as much kidney transplant programmes (adults and paediatrics) than UK but respective kidney transplantation activities reported are 2892 and 2724. Transplant programmes specificity (organ considered) and distribution (adults and paediatrics) are to be taken into account as a partial explanation for EU discrepancies but are more than likely to not be the sole explanation.

Of course, the flow of the overall system is also highly dependent on the procurement activity and so on the number of (active) hospital performing organ retrieval. Interestingly, the country (DE) showing the higher level of transplantation activity is also the only one having the most of hospitals performing organ retrieval since in this country all hospitals can perform organ procurement (i.e. 1946 in 2010 for 1296 actual deceased organ donors including 87% of multiorgan donors). However, in 2010 FR reported 160 hospitals proceeding with organ recovery and UK above 200, having the very same year reported 1538 (including 86.4% of multiorgan donors) and 1015 (including 72.3% of multiorgan donors) actual deceased donors respectively.

This brief examination shows that analysing the efficiency of transplant systems is not so straightforward. Nevertheless, a hypothesis for discrepancies regarding those figures could lie in the distribution of deceased and living donors as shwon for kidney transplantations in figure 6. Indeed, DE, FR, IT, ES and UK respectively reported that in 2010, 22.6%, 9.8%, 10.7%, 10.8% and 37.7% of kidney transplantations were performed thanks to a living donation, that is to say 1026 kidneys transplantations out of 2724 in DE and 283 out of 2892 for FR. In overall, about 26% of transplantations in UK are performed thanks to a living donor for about 6% in FR.

Living donations follow paths in the transplant system that are different from the one followed by deceased organ donations and shall then increase kidney (and liver to a lesser extent) transplantation activities without overloading processes. Living donations are less demanding in terms of resources and are planned activities whereas deceased donations have to be performed on a 24/24 basis. Additionally there is no EU consensus on the definition of Transplant programme and transplant team; as a consequence both terms entail different resources.

Despite all above differences, most countries started to develop their transplant programme with kidney transplantations, which still remain nowadays the main activity of transplantation. In accordance, for 2010 activities, out of the 29 310 transplantations that were performed in the EU 27, 18 246 (62%) were kidney transplantations. Among those transplantations, more than half were performed thanks to a kidney given by a deceased donor in 25 MS and at least 75% of these kidney transplantations could be performed thanks to a deceased donation in 21 MS (see figure 6).

This ratio reflects the gap between kidney demand and offer (transplantation). The higher this ratio is, the more limited is the access to transplantation.

Indubitably, caution should be given to the interpretation of such indicator since total candidates shall consider in fact only active and transplantable patients: moreover, the registration policy on the waiting list is quite heterogeneous among the medical community of professionals, and additionally, the management of the waiting list which can be conducted at the local or regional or at the best at a national level shall also be taken into account.

Since most transplantations in EU are carried out mostly from a deceased donor, this EU overview is not only presenting the donation and retrieval system in place, but also the level of organ donation and retrieval activities. Indeed, the retrieval rate can also be used as an indicator (providing that data are available) to estimate the efficiency and organisation of the system, especially when comparing organ recovered versus transplanted. It contributes to reflect on the performance of the system in place.
together with hospitals active in organ donation and retrieval sites. All sub-processes upstream from transplantations can have an impact on transplantations activities. It would have been more interesting to analyse the efficiency of the donation sub-process according to potential, possible, actual and utilized donors6; however these data were not available for all Member States.

Regarding the donation sub-process, the donor pool is quite often displayed as actual deceased donors (from whom at least one organ was recovered) per million inhabitants (pmp: per million population), although such an analysis does not take into consideration national mortality, which reflects the potential of donation (even overestimated) among the deceased population rather than the alive population (pmp). It would have been more interesting to present the ratio of actual deceased donors and the in-hospital recorded cerebral death diagnosis and cardiac arrests. Unfortunately, these latter figures are either not collected nationally or available for all Member States.

Nevertheless, data regarding national death rates are collected and available in the Eurostat database of the European Commission. Those statistics show that mortality rates are uneven in Europe (the ratio of the number of deaths during the year to the average population in that year, the value is expressed per 1000 inhabitants) and not as constant as the demography through the years.

Therefore, for a more meaningful estimation of performances and organisation of the system, data regarding post-mortem organ donation are shown as actual deceased donors per thousand national deaths (-70 years old) through the EU, for the year 2010.

Figure 8: Number of Actual deceased Donors (donors from whom at least one organ was retrieved, including non-heart beating donors) per thousand national deaths (-70 years old) through the EU, for the year 2010.

Safety management : Donor medical history and tests performed

Evaluation of donor suitability and characterization of organ suitability are based on the collection of past and recent information on the medical health status, laboratory tests results notably for transmissible diseases, and on physical evaluation. The aim is to ensure that the recipient would not be exposed to unacceptable/ unidentified risks.

Indicators for the assessment of donor suitability among EU22 are compiled in figures 9, 10, 11, 12, 13.

Table: items systematically enquired: coloured cells: not common to at least half of the 22 MS having answered the questionnaire. Graph: illustration of table results.

Results show that 23 medical inquiries are common to more than half of the MS included in the survey and that 19 are common to more than 75% of the 22 MS. Importantly, 15 are common to 90% of the 22 MS. Out of the 5 medical criteria that were not systematically inquired, PSA (prostate specific antigen, item 18) dosages are usually recommended as systematic only for men older than 50 years old. As a complement, in order to fully characterize the donor, morphological tests are essentials (figure 10). ECG and chest radiography are systematically performed by almost 22 MS and abdominal and pelvic ultrasonographic examination by 68% of them (15 MS out of 22). Furthermore, more than half of the EU 22 carry out CT scan, echography and coronarography under specific conditions (second column). CT scan allows to perform morphological and vascular assessments and to detect possible tumours. This widely informative procedure is mostly convenient when concomitant to the cerebral angiography that can be used for the diagnosis of cerebral death. As for coronarography, its relevance has been demonstrated so far only for population showing a risk of coronaropathy5.

Figure 9: Donor medical history.
Among the 4 MS reporting never performing coronarography, one is not carrying out any heart transplantation activity, 2 perform echocardiography (under specific conditions, which could be for heart donation) and one systematically analyses troponin and CPK levels. For the assessment of organ and donor suitability, some virological statuses and protein levels are also either compulsory or of importance to meet safety and quality criteria, some of the most key indicators are listed in figure 11.

### Table: items systematically enquired; coloured cells: not common to at least half of the 22 MS having answered the questionnaire.

<table>
<thead>
<tr>
<th>Medical tests performed</th>
<th>Yes systematically</th>
<th>Yes, under specific conditions</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECG</td>
<td>21</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Chest radiography</td>
<td>22</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CT scan/body scan</td>
<td>8</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Echocardiography</td>
<td>10</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Coronarography</td>
<td>0</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>Abdominal and pelvic ultrasonographic examination</td>
<td>15</td>
<td>7</td>
<td>0</td>
</tr>
</tbody>
</table>

Out of the 7 listed medical tests that were not systematically performed (coloured cells in the table) some tests are linked to prevalence proportion within MS (e.g. malaria and HTLV), and some others can be linked to either extended criteria at case by case level, and likely to be considered in the light of contraindications applied – including dedicated legislation in place (e.g. HTLV1 in France) and the balance of benefit-risk for the recipient. As a complement to the 21 benchmarks listed in figure 11, supplementary tests could be run (see table in figure 11).

<table>
<thead>
<tr>
<th>MS</th>
<th>Yes, under specific conditions</th>
<th>Yes systematically</th>
<th>Relative contraindication/ in specific conditions</th>
<th>Absolute contraindication</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) West Nile fever</td>
<td>8</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>2) Dengue fever</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>3) Chikungunya fever</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>12</td>
</tr>
</tbody>
</table>

For the assessment of organ and donor suitability, some virological statuses and protein levels are also either compulsory or of importance to meet safety and quality criteria, some of the most key indicators are listed in figure 11.

<table>
<thead>
<tr>
<th>Tests systematically performed</th>
<th>Out of 22 MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Anti HIV Ab</td>
<td>21</td>
</tr>
<tr>
<td>2) HHV (PCR/NAT)</td>
<td>13</td>
</tr>
<tr>
<td>3) Anti HCV Ab</td>
<td>22</td>
</tr>
<tr>
<td>4) HCV (PCR/NAT)</td>
<td>14</td>
</tr>
<tr>
<td>5) HBs Ag</td>
<td>22</td>
</tr>
<tr>
<td>6) Anti HBs Ab</td>
<td>17</td>
</tr>
<tr>
<td>7) Anti HBc Ab</td>
<td>21</td>
</tr>
<tr>
<td>8) HAV (PCR/NAT)</td>
<td>13</td>
</tr>
<tr>
<td>9) HBV of patients HBs Ag positive</td>
<td>7</td>
</tr>
<tr>
<td>10) Syphilis (TPHA / VDRL)</td>
<td>21</td>
</tr>
<tr>
<td>11) Anti CMV (IgM and IgG)</td>
<td>20</td>
</tr>
<tr>
<td>12) HSV-1 (IgG)</td>
<td>6</td>
</tr>
<tr>
<td>13) HSV-2 (IgG)</td>
<td>5</td>
</tr>
<tr>
<td>14) EBV (Anti-VCA AS and Anti-EBNA Ab)</td>
<td>13</td>
</tr>
<tr>
<td>15) VZV (IgG)</td>
<td>5</td>
</tr>
<tr>
<td>16) TPHA(plasma) (Anti-tub)</td>
<td>15</td>
</tr>
<tr>
<td>17) Troponin</td>
<td>11</td>
</tr>
<tr>
<td>18) CPK</td>
<td>12</td>
</tr>
<tr>
<td>19) Anti HTLV Ab</td>
<td>8</td>
</tr>
<tr>
<td>20) Malaria</td>
<td>1</td>
</tr>
<tr>
<td>21) Rabies</td>
<td>0</td>
</tr>
</tbody>
</table>

Table: items systematically enquired; coloured cells: not common to at least half of the 22 MS having answered the questionnaire. Graph: illustration of table results. Results show that 14 of the listed medical tests systematically performed are common to more than half of the MS included in the survey and that 7 are common to more than 75% of the 22 MS. Hence, 6 are common to 90% of the 22 MS.

### Figure 10: Table listing additional morphological tests that could be performed.

### Figure 11: Medical tests systematically performed.

### Figure 12: Table listing additional medical tests that could be performed.

The majority (about 3/4) of the 22 MS does not systematically test for West Nile, dengue or Chikungunya fevers. Since these emerging diseases are limited to specific areas, tests are only performed under suspicion and in countries of prevalence (second column of the table in figure 11). In this regard, the biovigilance system in place is crucial when facing increase of emergent virus which spread out through Europe (for further information on MS vigilance system, see WP4 Deliverable).

In doubtful cases, when having to select a donor or an organ, 15 MS out of 22 (68%) have histopathologists or experts in infectious diseases to turn to for a second opinion, should they seek advices (column Yes in the table below).

<table>
<thead>
<tr>
<th>Tests systematically performed</th>
<th>Out of 22 MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Histopathologist</td>
<td>15</td>
</tr>
<tr>
<td>2) Oncologist</td>
<td>10</td>
</tr>
<tr>
<td>3) Coroner</td>
<td>8</td>
</tr>
<tr>
<td>4) Expert in infectious diseases</td>
<td>15</td>
</tr>
<tr>
<td>5) Others</td>
<td>4</td>
</tr>
</tbody>
</table>

### Figure 13: Table listing experts which could possibly be available should a second opinion be necessary.

In most countries (more than half of the 22 MS), these experts are not available on 24/7 basis. The risk of transmission is a critical issue in this field and should be supported on 24/7 basis by available experts. Risk levels were already defined in ALLIANCE-O as:

1. Unacceptable risk (absolute contraindication): the donor is not suitable for transplantation.
2. Increased but acceptable risk cases where transmissible organisms or diseases are identified during the evaluation process of the donor, but organ utilization is justified by the recipient specific health situation or by the severity of his/her clinical conditions.
3. Calculated Risk (referring to protocols for expanded criteria donors): presence of transmissible diseases, but the transplantation is allowed for a recipient with the same disease or with a protective serologic status independently from the severity of his health conditions.
4. Not assessable risk: the evaluation process does not allow an appropriate risk assessment for transmissible diseases.
5. Standard Risk: the evaluation process did not identify any transmissible disease. Experts could be
consulted if any doubt arises (second opinion). In this regard, although costly, 24/7 availability of experts for second opinion on doubtful cases is crucial.


Directive 2010/53/EU was notably set in order to increase security and quality of organ donations and transplantation, to fight against trafficking and to harmonise practices within and between Member States. This Directive aims in particular at setting provision for an authorization system dedicated to Hospital performing organ retrieval and for transplantation establishments as well, patients and donor follow-up, data reporting, traceability and biovigilance systems. Additionally, the Directive also calls for the nomination of a Competent Authority in each Member States: “Member States shall designate one or more competent authorities” (article 17). Competent Authority being defined in article 3 (b) as: “an authority, body, organisation and/or institution responsible for implementing the requirements of this Directive”.

As stated in point 24 of the Directive “The competent authorities of the Member States should have a key role to play in ensuring the quality and safety of organs during the entire chain from donation to transplantation and in evaluating their quality and safety throughout patients’ recovery and during the subsequent follow-up.”

This Directive was introduced in July 2010 and Member States had to comply with it before the 27 of August 2012. Therefore, this overview opportunity was also seized to report on potential problems that were either foreseen at that time or encountered by Member States during transposition or implementation stages.

Out of the 22 MS having answered the questionnaire, 5 MS were having or foreseeing problems for transposition due to: i) a lack of finances (2 MS), ii) variations from national laws (2 MS), iii) a lack of human resources (4 MS) and/or to iv) a lack of technical resources (2 MS). Regarding Directive Implementation, 4 MS out of 22 were having or foreseeing problems due to: i) a lack of finances (2 MS), ii) time frame and would experience a delay (1 MS), and/or to iii) a lack of human resources (3 MS).

In the end, unexpectedly, more than half of the MS demonstrated delays in transposing.

Preliminary remarks and perspectives

The COORENOR Project aims to establish a Coordinated Network between national programmes existing in the field of organ transplantation and mutual understanding appears to be compulsory to foster coordination of Eastern and Western European Countries. Since each country developed its own system according to a specific environment, given needs and resources, it was of importance to describe the different approaches and programmes that have been developed to address issues related to organ donation and transplantation and to choose indicators to specify the level of completion of key process or action (with the limitation to potential case-mix and subgroups included in the pool of data).

Organ shortage (inadequate supply) is regularly pointed out as the limiting factor of organ transplantation. As a partial solution, some MS have expanded donor criteria, developed strategies such as swapped/paired living kidney donations (that are handled / managed through different path) but when looking at national death rates and so to possible donor rau data – although keeping in mind that the real potential of donor lies in persons dying in ICU which are properly/ adequately equipped to ensure donor maintenance – could it firstly be that Transplant systems have not reached their full potential yet?

To optimise organ demand and supply many actions can be implemented. To start with, to increase donation: better detection of potential and possible donors, for soft presumed consent and explicit consent: better practises regarding family approach, etc. Actually, regarding this donation sub-process, in the recent years most advanced countries in the field have developed organisational processes and strategies for a better detection of donors by appointing “Key Donation Personnel” (donation coordinators).

So, each MS could wonder if the transplantation sub-process would follow. Will it be able to cope with an increase demand or urge of activity? Is there enough transplant programmes (and so teams) to cope with surgeries that as a consequence would be required?

Obviously, limitations to the development of transplant systems are more than likely to be due to a lack of finances (which include lack of human and technical resources), since those systems are highly dependent on available resources for the health care system in place at the national (or regional) level, although a direct link between the level of health resources and transplantation outcomes has not been demonstrated so far. Concerning quality and security programmes in this domain, common transplantations outcomes or graft or patients’ survival rates should after all be the keystone of any analysis of EU transplant system efficiency. Such indicator could disregard individualities and overcome discrepancies. Unfortunately, such an overview was not possible because of a data shortage at EU level.

Angles for futures initiatives

As a final step, when most advanced in the COORENOR project, recommendations on further EU initiatives and future work in the field are to be issued, and shall constitute the last section of this EU overview. In correlation with the scope of the COORENOR project, preliminary transversal remarks of this work, and in the perspective of the continuation of the promotion of organ exchanges: there is a need for sharing tools and expertise through direct transfers (e.g. twinning activities), which appear to be an easy and more cost-effective solution for harmonization of European practices and implementation of Directive 2010/53/EU. Some sub-processes should be addressed urgently such as the follow-up of living donors and recipients, and the evaluation of post-transplant results, which highlights the need for the establishment of registry of registries. Additionally, in order to increase organ exchanges –rather in a long term sight– especially for most urgent patients and patients that are difficult to match (hyperimmuzed, rare blood types, out-sized, paediatrics), a wider network of donor pool and of cross-border exchanges shall indeed be highly beneficiary. To go further in the promotion of this network, it would be advisable to develop organ specific retrieval protocols (including technical requirements) to facilitate procedures in MS and Centres unfamiliar with those procedures; and/or promoting the set-up of a mobile procurement team, avoiding in the long term foreign teams –accepting the organ– to travel, along with conservation and organ packaging protocols.

(For further information, see WP4 Deliverable)
Determination of death is the cornerstone for deceased organ donation. Social consent to organ donation should be based on clear and scientific concepts and criteria for death diagnosis; transparent procedures starting from potential donor identification to organ allocation should be conveyed to professionals by educational programmes and to the public knowledge through ad hoc campaigns and targeted communication. Whatever the etiopathogenesis may be, death depends on the total failure of the brain functions and is based on the irreversible loss of capacity for consciousness combined with the irreversible loss of all brainstem functions including the capacity to breathe.

The aim of this work-package was to investigate the deceased donation in all the European Countries, starting from the results of previous European projects such as ALLIANCE-O and DOPKI and broaden them to the more-recently acceding countries. A second analysis on existing international, national and local public campaigns and their impact on organ donation was also performed. The results of this WP form the Deliverable 5 of the project.

Death diagnosis

The analysis performed in the framework of Work Package 5 on deceased organ donation started from the analysis of all the legislative aspects related to the death diagnosis, from the regulatory framework to the confirmatory tests performed. The COORENOR project has not investigated DCD organ donation in details however some relevant data were collected. Cardiac death diagnosis is framed by legislation (e.g. law, regulations, national guidelines) in 16 out of the 27 European Union countries. A half of these (8) use ECG in order to confirm the cardiac death. The “no touch period” was indicated and specified by 8 countries and it also varies from 5 to 10 minutes (respectively 5 and 1) and 20 minutes in two other countries. Non-heart-beating donation is not allowed in Bulgaria, Hungary, Germany, Greece, Lithuania, Portugal, Slovenia and Sweden. Only Slovenia declared that national guidelines regulating death declaration by circulatory criteria are currently in preparation.

All the responding countries have regulatory framework on assessment of brain death which is mandatory in each of them. All the responding countries have official criteria for the diagnosis of brain death which are established and acknowledged by the central government and promulgated by law or, as practical guidelines, by the medical societies. As for the criteria for the diagnosis of brain death, there are a variety of models of brain death declaration in different countries as reported in Deliverable 5. In 16 out of 27 countries the diagnostic criteria are different according to the patient age, in particular for children under 1 year.

According to the collected replies there are 20 countries (77%) where brain death depends on the whole brain concept while in 6 countries death is defined on the basis of the brainstem concept. Consequently, also diagnostic criteria follow these two different BD concepts. Ancillary tests, i.e. EEG and Cerebral Blood Flow (CBF), eventually are mandatory or optional in the national standard and guidelines or law. The clinical tests need to be repeated twice in 9 countries. In other countries the clinical tests can be performed from 1 to 18 times, depending on age, type of cerebral damage, etc. Confirmatory tests suffer from wide variability in clinical use and legal procedures: EEG and angiography have been extensively used in the past but other neurophysiological (Evoked Potentials) and cerebral blood flow tests (scintigraphy, angiography, angiography, TCD etc.) have been recently introduced in most European Countries; thus consensus would be necessary to define common criteria and methods. The observation period before and between the examinations is indicated in 24 countries and varies based on the patient age and clinical condition. The number of physicians that have to confirm brain death also varies. So, a committee of two specialists is requested in 10 Countries, three physicians in 9 countries and only one medical doctor is required in three countries.

Consent

Consent is the first and only way to allow organ donation. Two kinds of consent systems can be distinguished: systems of explicit consent and systems of presumed consent. Each country is applying for organ donation a different system for declaring consent to organ donation and transplantation. As figure 1 shows, the informed consent law is implemented in 8 countries, 16 countries (61.5%) are applying for presumed consent law but only in 5 of these it is strictly applied. In 11 out of 16 countries where presumed consent law is applied the relatives of the deceased are always asked for permission/non-opposition. Among countries with opting-in system, in presence of ascertained consent, clinicians proceed according to the potential donor will. It may happen that after the family interview an opposition by their side may arise. In this case in most of all the responding countries the family’s wishes is overall respected, mainly because clinicians aim to avoid further conflicts or psychological strain to the family.

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**Figure 1. Type of consent**

- Presumed consent (family objection stops organ donation)
- Presumed consent (strictly applied)
- Informed consent
- Combined system
- No framed by law
Among countries with opting-out system, Austria, Czech Republic, France, Portugal, Poland and Hungary have official non-donor registries. When refusal to donate is not registered, clinicians perform the donation only in the 16% of responding countries. The remaining 84% of countries are equally divided (42% each) in countries where the retrieval is forbidden when there is not an explicit will of refusal of the potential donor and countries where clinicians ask systematically to the family in order to investigate the donor’s will or to ask them for a non-opposition. Relatives always play a certain role in the opting-out system that in practice turned not to be strictly applied, and next of kin are always involved when the explicit intention of refusal (or presumed consent) by the deceased is lacking.

In the most European countries consent to organ donation can be expressed personally, in a written form, during the life. Each country has more than one way to express consent (see Figure 2). In the half of total number of EU countries it can be expressed by National donor card, only in few countries consent or rejection is expressed through national registries by internet or through national registries at public offices. 14 of the surveyed countries declared that any written or verbal statement (i.e. private document, oral will express in life, testament) in addition to other official declaration is also relevant.

Health care professional training
A pivotal part in the success of the donation and transplantation process is the motivation, trust and positive attitude of health professionals working in hospitals. Training courses on organ donation and transplantation designed to people employed in the hospital and personnel working in the Intensive Care Units are organized respectively in 80.8% (21) and 84.6% (22) of European countries.

Good practice guidelines have been already implemented in few Countries and most of the surveyed countries have training programs organized at national as well as at local level which are focused on brain death assessment, donor management, family approach, etc. They can run as part of the medical education of physicians and nurses (9.53% of surveyed countries) or, be ETPOD seminars (19.04%) or TPM courses (23.81%) organized by the National Transplant Organization.

Quality assurance programs (QAPs)
Deaths caused by acute cerebral lesion mainly occur outside the intensive Care Unit, mostly in elderly patients undergoing cerebral stroke; the possibility of admission to ICU when treatment is futile, may have the only purpose to support the ventilation during the evolution towards brain death. This option constitute a challenge for proper clinical management of ICU and limited resources for acute treatable patients; at the same time the patient’s best interest also in end of life’s choice has to be considered versus the social value of donation and transplantation. On the other hand, today the potential of donation in ICUs is still much greater than achieved goals, essentially because of failing capability to identify all potential patients that fulfil at any time BD criteria. This is the fundamental prerequisite of quality programs adopted in many countries, that have allowed to detect the critical steps where corrections could be applied, thus orientating resources and ad hoc training where it was most needed.

Table 1 shows that 15 out of 27 European Countries with Quality Assurance Programmes have standardized procedure for reporting a potential donor between ICU and local coordinator and internal guidelines for the maintenance of the potential donor in the ICU (16 countries). The coordination staff carries out regular monitoring of the intensive care units in 12 countries. There are common clinical criteria for assessing donors’ suitability in 15 of these countries.
Table 1. Existing quality assurance programs for organ donation.

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>Standardized procedure for reporting a potential donor between ICU and local coordinator</th>
<th>Internal guidelines for the maintenance of the potential donor in the ICU</th>
<th>The coordination staff carries out regular monitoring of the intensive care units</th>
<th>Common clinical criteria for assessing donors’ suitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUSTRIA</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>BELGIUM</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>BULGARIA</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>ESTONIA</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>FRANCE</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>GERMANY</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>HUNGARY</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>LATVIA</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
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<td>SLOVAK REPUBLIC</td>
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<td>UNITED KINGDOM</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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</tr>
</tbody>
</table>

Considering the list of indicators provided, the number of deaths in ICUs, the number of confirmed brain death diagnoses and the number of non-suitable donors are regularly recorded in approximately half of countries that have QAPs running. The number of deaths with acute cerebral lesions inside ICU and the number of cardiac arrests are recorded only in approximately one fifth of these countries as illustrated by figure 7.

Common models of national, regional, and hospital coordination could be helpful in increasing efficiency and improving clinical practice; a robust stable National system based on laws and official rules is needed to homogenize organization, guidelines and safety. Each Country should implement and homogenize quality criteria and indicators based on systematic monitoring and auditing of relevant data on deceased potential donors, taking into account common definitions and methodology of the critical pathway produced by ad hoc European project and WHO resolution and recommendation.

Initiative to raise awareness on organ donation

One of the most important factors that influences the organ donation rate is social awareness. A high percentage of countries promote organ donation through national campaigns which are organized yearly. Close attention has to be paid to the media that can help considerably to encourage organ donation. According to the data collected, in most of European countries the Civil Society is still the main organizer of such initiatives (Figure 4).

Special initiatives organized in order to sensitize general public are often addressed to children. The largest number of such initiatives are designed for high school and university (see figure 5) where seminars for sensitize students are performed. Other events such as press conferences, TV and radio advertisement, celebration of the European Donation Day or National award dedicated to a person who distinguished in transplant and donation field are organized as well.

In most countries the organizers of such campaigns are the Patients organizations and National transplant organizations, as illustrated in the figure 4. Moreover, 12 countries have mentioned the donors’ associations, voluntary organizations, transplant societies, transplant centres as organizers of public campaigns.

All countries have national website on organ donation and/or transplantation but only in 12 of the responding countries the website is also available in English. The target groups for the website communication are citizens, health care workers, donor’s families and patients.

Concerning the campaigns efficacy in 13 out of all surveyed countries it is checked through public opinion polls, non-donor registry, living donor registry, the number of new registered donors or the number of donor card requested, specific questionnaire circulated before and after the celebration of the European Donation Day. In Greece each public campaign has specific logo and related registration forms. The number of the new registered donor is done according to those forms and the number of new entries...
Conclusions

It is expected that this study provides useful basis for further initiatives to be developed at European level.

To date it seems reasonable that European professionals in the field of organ donation and public health would promote a debate with the ultimate aim of producing practical recommendations for a European legal framework and common minimum criteria for death diagnosis, based on robust methodology and documentation of circulatory and neurological criteria, eventually confirmed by common procedures and homogeneous observation period for legal death declaration.

Common models of national, regional and hospital coordination could be helpful in increasing efficiency and improving clinical practice. A robust stable national system based on laws and official rules is needed to homogenize organization, guidelines and safety. Each Country should implement and homogenize quality criteria and indicators based on systematic monitoring and auditing of relevant data on deceased potential donors, taking into account common definitions and methodology of the critical pathway produced by ad hoc European projects and UHRO resolution and recommendations. More development on a QAP to detect the potential of donor is lacking.

Each Country should ensure in hospitals a systematic approach to support families and evaluate the possibility for organ donation in every end-of-life care pathway particularly with the intensive care/stroke units and Emergency Department. Good practice guidelines have been already implemented in few Countries; the role and cooperation of coordinators and intensivists could be better defined and ad hoc common educational programs could be offered in each European Country.

Public campaigns on organ donation could take advantage of public awareness of best practices of treatment of patients with acute cerebral lesion and of clear and independent concept of death determination.

Common criteria at European level for best practices in communicating organ donation to the general public should be pursued. Clinical results of transplant, complete transparency in procedures and equity in the allocation of organs are at the same time fundamental objects for public informative campaigns and positive messages to improve consent and organ donation.

Introduction

Living donor kidney transplantation (LDKT) has become an efficient and lifesaving procedure. The advantages of live versus deceased donor transplantation are readily apparent, since the long term survival is better, mostly due to much shorter ischemia time. LDKT allows for pre-emptive kidney transplantation, which in some end-stage kidney disease patients gives better results. Although some risks are associated with any major operation, donating one kidney does not pose a major risk to a healthy donor. Kidney donation should not restrict or interfere with own lifestyle after full recovery from the surgery.

Nevertheless, the incidence of LDKT greatly varies among the EU Member States and while many people are willing to be living donors, not everyone has the qualities necessary to participate in living donation.

Donors must be chosen carefully in order to avoid outcomes that are medically and psychologically unsatisfactory. As both living and deceased donor transplant kidneys are in short supply, many renal transplant centres are faced with evaluating potential living donors with an imperative need to increase the number of living donors.

Housing in mind the need to expand knowledge about LDKT and implement programs helping to increase the number of living donors, the main objective of this WP was to elaborate a common strategy aiming to increase live donor transplantation - the strategy that will be implemented in European countries participating in the COORENOR Project. This strategy covers following aspects of LDKT:

- Ethical and social considerations concerning living kidney donation;
- Strategies to increase number of living kidney donors;
- Risk assessment and pre-emptive management to prevent donor’s complications;
- Methods to reduce donors’ surgical complications;
- The use of extended categories (or complex) donors;
- Medical, psychological and social evaluation of the donor;
- Organizational structure and medical providers involved in the living donor procedure;
- Recommended legal regulations and safety standards of the procedure;
- Strategies and protocols of follow-up for living donors;
- Methods to increase usage of extended categories of donors as “complex” patients;
- Risk assessment and pre-emptive prophylactic management to prevent donor’s complications; evaluation of incidence of immediate and long term surgical, medical, psychological and financial risks of the donor.

The final product of this UWP is therefore a comprehensive strategy for tackling this opportunity of meeting patients’ need for healthcare and safeguarding donors, taking into due account legal regulations, medical knowledge and safety standards.

Survey conducted in 27 EU Member States

The Medical University of Warsaw started out the project activities from conducting a survey on the living kidney donor transplantation in all 27 Member States. A structured questionnaire consisting of 138 questions clustered in 9 parts was elaborated, covering following topics:

- Legal regulations;
- Organizational structure and medical providers;
- Medical, psychological and social evaluation of the living donor;
- The use of extended categories (or complex) donors;
- Medical, psychological and social evaluation of the living donor;
- Protocols of long-term follow-up of living kidney donors;
- Risk assessment and pre-emptive management to prevent donor’s complications;
- Strategies to increase number of living kidney donors;
- Ethical and social considerations concerning living kidney donation;
The questionnaire was circulated in February 2011 among the 27 European Competent Authorities for organs representing 27 Member States of the EU. By the end of April results from 22 European countries were received and the collected data gave an overall picture of the status of the procedures, standards and practices in the field of the LKDT in Europe. Nevertheless, some of the answers were evaluated as inconsistent: some countries provided data that were not representative for the whole country, but only for a respective transplant centre and this gave the idea to the Project consortium to organize a scientific meeting devoted exclusively to the living kidney organ donation.

National experts in the field of living kidney donation, active specialists in nephrology, and representative from ERI-EDTA (European Renal Association and European Dialysis and Transplant Association) were invited to attend the meeting and contribute with their expertise.

Experts’ meeting

The experts’ meeting was held in Warsaw on the 14th of June 2011 at the premises of the Medical University of Warsaw. It was organized by the Department of Immunology, Transplantology and inner Diseases of the Medical University of Warsaw – leader of the Work Package 6, devoted to “Living kidney donation: maximizing safety of the living donors.”

As it has been already mentioned, we invited to the meeting national experts in the field of living kidney donation – active specialists in nephrology, representing all EU Member States. Altogether we addressed our invitation to about 20 experts, 14 of them accepted our invitation and took part in the experts’ meeting:

1. Dr Ermanuele COZZI (Italy)
2. Dr Diego CANTAROUCHE (Italy)
3. Dr Laszlo LUGNER (Hungary)
4. Prof. Maryvonne HOURMANT (France)
5. Dr Mazyan FANI (Slovakia)
6. Prof. Jean Paul SQUIFFLET (Belgium)
7. Prof. Petra REINKE (Germany)
8. Prof. Mazyan RAHMEL (Eurotransplant)
9. Dr Andrzej WIĘCEK (ERA – EDTA)
10. Dr Roman DANIELEWICZ (Poland / Potransplant)

The major objective of the meeting was to present the data from the questionnaire about living kidney donation and also to work up initial guidelines based on these data. The meeting was divided on two sessions. The first session title was: “Medical, Psychological and Social Evaluation of the Living Donor.” The second session title was: “Protocols of Follow-up of Living Kidney Donors.” Each session was divided on two parts. The first part was devoted to presentation of the obtained data, whereas the second part was devoted to discussion of the obtained data.

The experts’ panel agreed that recipient’s evaluation should be thorough and focused on following elements:

- Kidney donors should undergo long life follow-up but there are many problems to implement this in practice.

On the basis of the results of the European survey on aspects of the living kidney donor transplantation the national project team of the Medical University of Warsaw produced 3 milestone reports:

**Milestone 1: Description of current legal and social situation relating to living kidney donation**

Milestone 1 presented a description of the existing legal regulations and social aspects of the living kidney donation in Europe, as well as the organizational structure and medical providers in the related field. The report covered topics such as: quality of informed consent, standard protocol of information provision, relationship of donor and recipients (types of LKDT), mobility of donors, financial compensation, costs related to the LKD transplantation procedure, follow-up of the donor and living kidney donor registry. The thorough analysis of the obtained data allowed to formulate following conclusions:

- Number of living kidney donor transplantations in some of the EU countries is still much lower than in UK, Norway or USA. There is a need to promote this type of donation among European countries.
- A standard uniform protocol of consent for living donation which confirms that the donor fully recognizes the risk and benefit of the procedure is required.
- European Directive as well as the national legislations require that the living donors should be followed indefinitely. It can only be hoped that the results of COORENOR Project shall influence the practice of follow-up in all participating countries.

**Milestone 2: Analysis of post-nephrectomy medical and psychological follow-up features**

This document summarized current features related to post-nephrectomy medical and psychological follow-up procedures existing in European countries. Such as: early and late complications of donor nephrectomy (frequency and types of complications) and follow-up living donor registry (i.e. frequency, parameters checked during follow-up, costs). Below mentioned conclusions were drawn and formulated as recommendations for European countries.

- European Directive as well as the national legislations require that the living donors should be followed for a long time preferably. It can only be hoped that the results of COORENOR Project shall influence the practice of follow-up in all participating countries.
- Transplant centres should be responsible for donors follow-up but still there is a problem of costs to be solved.
- Donor follow-up should be for the lifetime. Unfortunately, this is not the case in most of the
European countries.

- The use of so-called “complex living donors” should be limited until the follow-up data are available.
- There is no education program for the donors about potential long-distance risk of donation.
- EU Member States should take all effort to:
  - promote donor registries in all countries;
  - promote the registries network in order to provide data from European cohort donors population;
  - endeavour European living donors surveys.

**Milestone 3: Analysis of risk factors for preventing renal and cardiovascular complications in kidney living donors**

This milestone report presented a synthesis of the incidence of immediate and long-term surgical, medical, psychological and financial risks of the donor, i.e., surgical complications after nephrectomy, late complications, such as: renal failure, donor’s death, hypertension, albuminuria; cardiovascular events, but also: antibiotic prophylaxis and antithrombotic prophylaxis; qualification process of donors with metabolic syndrome; pre-emptive therapy. Following conclusions have been drawn:

- The risks to the donor, both short- and long-term ones, should be carefully identified.
- The donor’s evaluation process should be carried out on the basis of protocols agreed and adopted by a given transplant centre. Ideally, standard protocols should be implemented in all the countries.
- There should be a monitoring and control system of early and late complications after nephrectomy and a system to prevent donor’s complications in each transplant centre performing living donor nephrectomy and transplantation procedures.
- The EU member states should make an effort to develop the Registry system in order to follow donor’s health carefully.

**Strategy aiming to increase living donor kidney transplantation**

As final Deliverable of WP6 a common strategy aiming to increase living donor kidney transplantation among European countries was drafted.

As the Project Consortium of the European dimension we would highly advise to healthcare authorities in respective EU Member States to implement an action plan consisting of below mentioned recommendations:

1. A well-defined procedure for authorizing living donor kidney transplantation should be set at Member State level and the same regulation should also be applied to transplantation for (or from) non-residents and all patients undergoing living donation/transplantation in the national territory.
2. Implementation of the position of advisor/nurse specifically trained for communication (living donor nurse advisor) in all dialysis centers which would explain to patients and their families a need and safety of kidney donation.
3. The medical and psychological assessment of the donors should be very detailed and include participation of the “donor advocate”. The use of “complex living donors” should be limited until the follow-up data regarding the risks of cardiovascular events are available.
4. A standard uniform protocol of consent for living donation which confirms that the donor fully recognizes the risk and benefit of the procedure is required.
5. Full reimbursement of costs related to donation (investigations, transportation, and lodging).
6. Wide use of less invasive techniques of nephrectomy.
7. The follow-up of donors after nephrectomy should be compulsory and life-long. For logistic reasons the follow-up could be done by local family physicians or, preferably, nephrologists, who should however undergo the appropriate training in that field. In the framework of safety and quality programs set up by Member States as foreseen by art 15 of 2010/53/EU Directive, this activity should however be carried out through the involvement of transplant centers that should be responsible for collecting the data.
8. Preemptive kidney transplantation should be carried on preferably using living donors. Involvement of family physicians and nephrologists (not working in the transplant centers) in that respect is needed in order to make patients and their families aware of such possibility.
9. Educational materials on the need, safety and effectiveness of kidney donation should be made available.

**Conclusions**

The COORENOR Project Consortium recognized that despite of the fact that the living kidney donation will not solve the problem of organ shortage there is a need to optimize and increase numbers of such procedures in many European countries. It seems however that a new strategy should be implemented in order to increase living donor kidney transplantation in most of the European Countries ensuring at the same time the safety of the donors.
CROSS BORDER ORGAN EXCHANGE
Work Package 7
Leader: Koordinační Středisko Transplantací
Czech Republic

Introduction

Europe is trying to find ways how to increase the number of organs for transplantation. However, it is not only the scarcity of suitable organs but one the major aspects is also lack of time even when an organ is available. It is necessary to transplant a procured organ within a couple of hours, and therefore surplus organs may appear from time to time when a suitable recipient cannot be immediately found on the waiting list due to different blood group or not matching size of the organ, or due to other serious reasons. Procured organs cannot be conserved and left “on the stock” till a suitable recipient is found. On the other hand, there are urgent patients in need of organs with specific characteristics who must receive a particular organ within a couple of days, otherwise they inevitably die. Cross-border international exchange of organs, if quick and efficient, might help these people and save their lives.

The Aim of Work Package 7 was to carry out a thorough and objective analysis of cross-border exchange of organs for transplantsations, with a special attention paid to individual national legislations providing conditions for organ exchange, import and export, financial, organizational, logistical and other related issues. On the basis of the results of the analysis current status and current results in cross-border organ exchange, as well as existing burdens and limitations were examined. As a result both these issues provided a set of required parameters of an internet portal to serve to international organ exchange was drafted.

The Associated Partners in this WP were representing National Transplant Organizations (NTO’s) and other legal entities (hospitals, transplant centres and an international organ allocation organization). Apart from the above mentioned organizations, KST was addressing all other COORENOR Partners as well as all European transplant competent authorities and some other European subjects formerly participating in different international projects (Alliance O, DOPKI, EUROCET) or international transplant associations (ETN, EOEO).

The Questionnaire and Analysis

The Questionnaires were distributed to all 27 EU member states plus to 2 international organizations and Switzerland. Finally out of 30 addressed parties 18 questionnaires were received back. The questionnaire was intended to provide answers to main questions and conditions enabling existence, function and utilization of the future internet portal for international exchange of organs for transplantsations. It was the main goal of WP7 to seek answers relating to official cross-border organ exchange policy, legal framework of international exchange and description of the role of NTO’s responsible for cross-border exchanges.

IT organ exchange tool created on the basis of the analysis was intended to serve communication of the Partners, and as a communication portal it must be quick and efficient. Sufficient data were obtained from all responding organizations, however in some countries it was necessary to clarify competencies and responsibilities with regard to placing offers and requests within international exchange of organs for transplantation. It was the main goal of WP7 to seek answers relating to official cross-border organ exchange policy, legal framework of international exchange and description of the role of NTO’s responsible for cross-border exchanges.

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Majority of the responding parties do have a special Transplantation Law (10 countries) whilst the others have transplantation medicine governed by general health care legislation (6) or by other legislative tools (Eurotransplant, Portugal). In the case of Eurotransplant the situation differs according to individual member countries, however Eurotransplant in general, taken as a single unit, supports international organ exchange. In half of the cases the text of the Law is available in English and can be published in the Country Profile in the informative part of the future IT portal. This may increase the level of acknowledgement and understanding in future international cooperation.

Furthermore, a more detailed survey into transplant law was necessary with particular regards to conditions of import/export of organs for transplantsations. In all countries, organs procured in a foreign country can be accepted for transplantation. In no country any limitations or quotas of exporting/importing organs apply, however, only extra organs can be offered for export, or organs for patients in direct life jeopardy required. Naturally, different principles apply in Eurotransplant and Scandiatransplant.

Indirectly, international organ exchange is also supported by the fact that most of the responding countries allow to enter foreign citizens into their waiting lists (in 5 countries only not allowed) and also allow to procure organs from foreign citizens deceased on their territory (in 4 countries not allowed). No country has problems with accepting foreign procurement surgical teams, however in 6 countries foreign experts can only be a part of local surgical teams. This will be a task of competent authorities to take care of qualification documents of surgeons performing operations in foreign country.
In most countries, export of organs for transplantation is approved by a national transplant organization (NTO), decision on import is responsibility of NTO as well. In Eurotransplant and Scandiatransplant, this is not the case as organs are always offered to the central desk and accepted by transplant centres without any special approval. There are many bi-lateral and multi-lateral agreements but these are not an invariable prerequisite for an exchange to be carried on.

Specific conditions of international organ exchange vary between official member countries of supranational organizations, such as Eurotransplant or Scandiatransplant, and other countries. In the light of the purpose of the future IT tool these organizations will be taken as individual subjects, i.e. member countries of Eurotransplant and Scandiatransplant will not be exchanging organs with other countries outside their system, but it will be Eurotransplant and Scandiatransplant placing offers/requests in the name of these member countries.

Some countries are also more or less active members of international networks, such as European Transplant Network (ETN), European Organ Exchange Organization (EOEO). Some other countries may also have closer relationship/policy, stemming from historical, cultural, regional and other bases. All these aspects have to be taken into account, but these direct preferences will have no impact on the function of the future IT organ exchange tool.

In general, international exchange of organs for transplantation is supported and accepted. No problems were indicated nor reported with regards to exchange between countries with different donation systems (opt-out, opt-in). Apart from that, the responding partners were not aware of any racial, religious, gender and age barriers that could make international exchange difficult. Positive outcome of international exchange was seen in no waste of precious organs. Simultaneously, quality and transparency issues were stressed most.

The effect of current involvement of the Partners in organ exchange agreements or projects can have only limited effect on import/export of organs for transplantations. However, the new IT tool is expected to make international exchange easier, more effective and transparent.

International exchange of organs on the daily basis is carried out in the case of Eurotransplant but this is not a typical Partner in the study. In the future IT tool Eurotransplant is supposed to be offering and requiring organs for transplantation as one party, in the first step offers and requests will be circulated amongst individual member states of Eurotransplant.

At present organs are exchanged only from time to time but all responding parties would appreciate this activity to be increased. In total 12 parties carry out international exchanges on the basis of a bilateral agreement whilst three parties are of the opinion that no agreement is necessary.

The questionnaire evaluated currently existing everyday practice in international exchange of organs for transplantation, particularly how frequent international exchange is, how many organs are imported/exported, how often foreign teams participate, logistics, transportation etc. Apart from that, financial issues were examined and, surprisingly, different attitudes appeared in financing despite there is an EU mechanism already established.

International Exchange Now

Concrete figures on international exchange of organs showed that export/import is far behind its real potential. In 2009, out of 18 responding parties only 7 countries were requiring an organ and 9 countries were offering an organ. In the same year, total figures are as follows:

<table>
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<th>Organ</th>
<th>Exported</th>
<th>Imported</th>
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<tbody>
<tr>
<td>Kidney</td>
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<td>31</td>
</tr>
<tr>
<td>Liver</td>
<td>99</td>
<td>86</td>
</tr>
<tr>
<td>Lungs</td>
<td>111</td>
<td>104</td>
</tr>
<tr>
<td>Heart</td>
<td>34</td>
<td>49</td>
</tr>
</tbody>
</table>

Total figures for 2009 - 2010 show the following international organ exchange (with Eurotransplant countries excluded):

Practical issues also include foreign experts/teams working in foreign countries. In general, foreign teams are permitted to work in most of the countries, only Slovakia and Latvia do not accept them, and in five countries they are allowed only as a part of local teams. In 2009 foreign teams arrived to a foreign hospital 15 times and retrieved 31 organs.

Parties also discussed financial issues. In general, financial remuneration is not required for characterization of donor and retrieval of organ, on the other hand most partners want to receive payment for organ transportation. Financial issues will have to be clarified yet as there are different systems and practices applied in individual countries.

In connection with financing individual phases of donation and retrieval of an organ for a foreign recipient the use of EU Regulations 833/2004/EP and 987/2009/EP was discussed. Different approaches are being applied, however majority of responding parties require no payment for accepted organ. Even though funding is not a crucial obstacle to endanger fruitful collaboration in organ exchange, the Partners agreed that further examination of the financial issues relating to organ exchange must be carried out in the future.

Proposed IT Portal

The final part of the questionnaire was devoted to characteristics of the future IT portal. Parties expressed their views on individual features and functions, however their answers and comments were not. and obviously could not be, specific enough as to provide a clear picture. In general, the IT tool should be working on all platforms, be user friendly and affordable as far as costs for maintenance are concerned.

The website should have two different parts: public and password-protected. Majority of responding parties think that the primary target should be National Transplant Organizations and Competent Authorities, with a part targeted to general public, medical professionals and transplant community. COORENOR project and COORENOR partners should be presented, as well as general information and data on transplantations, organs, donation, legislation and other related topics. Password-protected part for professionals should contain newsletters for partners, links to partners’ websites, links to events etc. A simple mailing engine would be appreciated for a simple and quick communication, however responding parties were not certain about possible video conferences and automatic editing of questionnaires.

The main function of the IT tool should be organ exchange programs, particularly offering surplus organs for which there is not a suitable recipient in the country of origin, as well as requesting organs for super urgent patients in direct life jeopardy. Apart from these main two programs the IT tool should also be able to host and run other programs aimed at specific groups of difficult-to-treat patients, such as hearts for children patients and others.

The IT tool should offer a simple form to be filled-in and distributed automatically to all registered partner organizations. Simultaneously, a copy and a reminder should be sent to given addresses. There should be some time limit for giving an offer.
Web based application can enable collaboration through sharing information in a safe and effective way (knowledge database, workspace, web discussion) as an organ exchange application (organ offers and requests). General requirements were identified as follows:

- **Web based**
- User friendly interface and intuitive using
- User Management (30 registered users)
- National section with structured information, editable only by national coordinator
- Discussion forum for registered users, e-mail notification of new topics and comments
- Editing content (wiki principle)
- Attachments (e.g. enable to public results of the survey)
- Design (national flags, logos)
- Basic statistic reports
- Help and FAQ section
- Backups
- Security
- Further Development
- Support & hosting

### The Structure of the Portal

The picture above displays block scheme of the Coorenor application. Coorenor Application will consist of workspace based on wiki principles (in the picture blue rectangle) and database application for organ exchange coordination (white rectangle). Anonymous users cannot use workspace and the login screen is the only wiki page a users will see until they log in. Login and password are always needed.

With the right permissions, anyone can create, view, and comment – all they need is a web browser. Workspace Wiki is a website which is updated by online document editor. The basic idea is that anyone who can view the page, he can edit it and save those changes. Enterprise wiki is the most effective way to cooperate in organizations, projects, collaborating on tasks or documents. It is extremely customisable.

Pages needed in the Workspace were identified as follows:

- **Home page:** An intuitive guidepost with basic information about activities and outcomes of the WP 7
- **News:** Home page provides the ability to add ‘News’, email notification available
- **International:** Includes a guidepost to legislative survey, best practices, financing, information is common to every country.
- **National:** National page of each participant of the project, editable.
- **Discussion Forum:** Adding topics, comments, replying to other comments, e-mail notification
- **Links:** Survey of useful links to national organization for coordinating transplantation
- **Events:** Calendar of various events (project events, educational events, conferences...) with information about place, date and programme

Organ Exchange is divided into two main sections: **Organ Requests** and **Organ Offers**. Defined user can add record with these attributes: organ, status, gender, age, blood group, RH and note in each of them. Information about member, user, phone and fax are displayed. After saving an e-mail notification is being sent.

### Double Listing

Double Listing is the section with static text information. Contacts are an editable list of members. There is an e-mail option to all or selected members. Links page content links to projects in the area of transplantation.

#### User management

Organ Exchange application has two to three user roles with different permissions: EO_user – can edit organ request and organ offers, EO_admin – can edit organ request and organ offers, can add new EO_user, can edit links and contacts, Administrator – highest permission in application.

SMS notification will be sent after saving changes in Organ Request or Organ Offer records to every eo_user. A SMS gate will be implemented in the application. An outsourcing SMS gate or buying own gate/negotiate SMS price with operator is necessary. The maintenance costs should be considered.

Every country manager will be responsible for sms notification of his country members. Using smart phones or buying services provided by local mobile operator (e.g. “Mobile e-mail”, “SMS e-mail”) are the basic options and are completely independent on application. Best practices can be shared within the workspace (e.g. found a “Technical topic” in the Discussion forum).

Application will consist of basic reports:

- **IP access**
- **Organ offers** (attributes organ, status, gender, age, blood group, RH, note, user, member)
- **Organ Requests** (organ specification, status, gender, age, blood group, RH, user, member)
Workspace

Consequence SW enables one place for teams to collaborate—create, share, and discuss ideas, files, minutes, specs, mock-ups, diagrams, and projects. Confluence is used for intranets, knowledge management and documentation by over 10,700 organisations in 108 countries around the globe - across Fortune 1000, government, education, finance and technology sectors. SW is licensed. Pricing: lump sum for 50 users is 1,600 USD.

VERSO is a powerful tool to simple and quick integration and creation of information system, with web access and an entire spectrum of created and transferable applications. It fully enables to design in order to cover the process of organ exchange. VERSO can be used as a tool for the distribution of dynamic reports and graphs, which can be stored in the xls formats for further processing. Safety is secured by the elaborate functionality for the management of user access up to the level if items and their values. The IP address can also be used, besides name and password, for the authorisation of user. No licensing.

Workspace
E.g. Creating E-learning section can be one example how to continue customizing the content. User editable pages can content multimedia and other educational material.

After pilot testing report customization is available. New reports and graphs can be stored in the xls formats. The following graphics are proposed for individual pages.

Homepage

Homepage is offering the basic application parts. The left-hand column directs users to individual parts. The window on the right hand side shows the latest news, newly added information etc. National flags at the bottom of the page direct to national pages.
The first part of WP-7, the analysis of cross-border exchange, was accomplished successfully. The questionnaires brought significant amount of information and data so that we were able to evaluate existing conditions and requirements for international exchange of organs for transplantation purposes.

In the course of evaluation of the questionnaires, and in the following discussions at Partners’ meetings the issue of financing emerged. Different approaches to financial aspects of transplantation can be, to a certain extent, a limit to a smooth and more frequent cross-border organ exchange. Therefore it is recommended that the partners will seek mutually advantageous solutions and, probably, urge the Commission to deal with this issue on an official basis.

The ability of the new IT portal to integrate new items and specific sub-projects is also a noteworthy feature. It is perfectly adaptable to new developments and uses in the future. It appears that the newly opened portal might boost up organ exchange amongst the Partners of the Project. After having finished its testing and opening for everyday use it will enable the Consortium to offer participation also to other European countries.

The Portal Works

The real launch date of the COORENOR portal was on 1st July, 2012, with 9 countries collecting their password so that they can enter and use the non-public part. After initial introduction, on 6th August, 2012, there was the first organ offered. KST in Prague offered the heart of a one-year boy to the other Partners through the Portal. Each offer, once entered in the system, automatically appears on the screens of coordinators on duty throughout Europe and furthermore, a message is sent to their smart phones. So it took only 90 seconds and a positive reply was sent back. And at the end of the day, a baby girl in Rome was transplanted new heart.

This was a very successful beginning of a new era in international exchange of organs for transplantation. In September 2012, in the first month in operation after the summer holiday season, COORENOR portal offered nine organs for cross-border transplantation. And we truly hope the numbers will go up, and more lives will be saved.
The First Case

The COORENOR portal started running on July 1st 2012 and some partners have successfully started using this tool for offering surplus organs to all involved organ exchange organisations working in Europe.

The first success of the portal was the exchange of a heart of an infant from Prague that saved the life of a baby girl in Rome in August 2012. When a one-year-old child died in Prague in early August, his parents gave consent to his organs being donated to patients who may need them and since no suitable recipient was present on the national waiting list, the doctors entered the relevant data in the COORENOR Internet-based system presenting offers and demands for human organs from participating countries. The Italians were the first to react through the Italian Gate to Europe office. During the night, a private plane with a surgical team arrived in Prague, and on the later morning the Czech infant’s heart was given to a 11-month-old patient in Rome who had waited for a heart since April 2012. A mere 27 hours elapsed between the offer’s entry in COORENOR web portal for organ exchange and the surgery in Rome.

A new successful exchange was performed on October 30, 2012. A COORENOR donation alert was launched by Polish transplant organization, Poltransplant. The donor was a 4 year old male that had died in Krakow due to a brain haemorrhage. The Italian Gate to Europe coordination staff reacted first to the alert and the liver and two lungs were accepted by some Italian transplant centres. The Bergamo Transplant Centre splitted the liver to allow two transplants: the left liver part was transplanted in 1-year-old baby and the right part in a 4-year-old child. Both patients in waiting list at Bergamo Transplant Centre. The lungs were retrieved by the Padua Transplant Centre and the same team transplanted them in a 9-year-old child. All the transplants were successfully performed with the functional recovery of the organs.

Both Czech and Italian newspapers gave relevance to this news and several article were published in local and national newspapers.

See some of Czech media coverage of the first successful COORENOR organ exchange, saving the life of a baby patient.

Srdce chlapečka (†1) z Česka zachránilo život holčičce (1) z Itálie

(The heart of a Czech boy (†1) saved life of a baby girl (1) in Italy)
CONCLUSIONS AND FUTURE DIRECTIONS

During the project duration, important steps forwards have been taken in some fields, and yet, in addition to the interesting results of the single core work-packages, some hints for future work can be given, in order to highlight the continuity of work that has characterized so far the collaboration of donation and transplantation organizations involved in many projects.

A very sound and comprehensive contribution has undeniably come from the overview of transplant systems carried out by the WP led by Agence de la biomédecine. The quantity and quality of information will be of great help for any further study that either professionals or Competent Authorities or the Commission itself would be willing to perform in the future ahead.

As far as cadaveric donation is concerned, the state of the art on legal and procedural aspects of cadaveric organ donation has now been rather thoroughly analyzed in a number of projects (DOPHI, ODEQUS), and the adopted frameworks are quite clear; yet, further interesting results are now expected from the work of ACCORD on end-of-life care attitudes in a selection of EU hospitals, that will help completing the picture, whereas FOEDUS will contribute with a common approach for public awareness campaigns.

The proposal for implementation of a common registry of registries of outcomes of living donations currently going on under ACCORD will add a new brick to the building founded through the EULID, EULCO and COORENOR itself projects, with a view to increasing the safety aspects of this important activity that is expected to increase in many European countries.

Eventually, the COORENOR experience of organ exchange portal has really highlighted the important obstacles that need to be overcome in order to make this practice really feasible and allow some neighboring countries to join their effort to solve common problems and help each other. To name but a few, the issues of reimbursements, logistics, authorizations of foreign teams need shared solutions. Our common hope is that the next FOEDUS joint action will contribute to find them.