

The Global Observatory of Transnational Criminal Networks

The “**Medicus Case**”:  
Organ Trafficking  
Network in Kosovo

No. 14

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*The Medicus Case: Organ Trafficking Network*

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## Disclaimer

The facts and the analysis presented herein are sustained in documents and interviews exposed in mass media and judicial records related to the criminal networks analyzed. No primary information uncovering facts has been gathered, which means that only secondary sources were consulted, from legal to media documents. In the case of the names mentioned, quoted or referenced on indictments —with the exception of those specifically mentioned, quoted or referenced in the text as definitively condemned-, the presumption of innocence, in observance of individual rights is always preserved.

The judicial truth is the jurisdiction of the courts, which by law will decide whether the defendants are innocent or guilty.<sup>1</sup> It is stated that belonging to, participating in, being connected to, or appearing on a network, as analyzed herein, does not imply having committed a criminal act or being engaged in a criminal enterprise. It is always possible to belong, participate, be connected, or appear on a network as an agent promoting interests that are socially and institutionally beneficial, or as a result of coercion, among other reasons unrelated to criminal acts committed by the agent.

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Trafficking of human organs, tissues and cells (OTC) operates in three main modes: (i) Trafficking of human beings for organ removal (THBOR), (ii) the specific trafficking of OTCs, in which commercial transactions are conducted with human body parts that have already been removed, usually from dead people, and (iii) transplant tourism for organ removal, which consists in perform the transplant surgery abroad, with or without remuneration to the donor. The latter is currently the most common way of trafficking with human organs worldwide.

The strategy of transplanting surgeries abroad usually works in three ways: (i) the recipient travels to the country where the organ supplier and the transplant facilities are located, (ii) the organ supplier travels to the country where the recipient and the transplant facilities are placed, and (iii) both recipient and organ supplier travel from their home countries to a “neutral” country where the transplant center is located.

One of the most relevant and recent cases of organ trafficking that used the third mode of transplant tourism took place in Pristina, Kosovo, in 2008, at the *Medicus* Clinic. With the purpose of understanding the structure of a criminal network focused in organs trafficking, in this document we present a model and analysis of the transnational criminal network that represents the Medicus specific case. The document has 4 parts. In the first part we present the methodology and concepts related to Social Network Analysis. In the second part we discuss the modeled judicial case and the sources gathered and analyzed. The third part includes characteristics of the modeled criminal structure, such as types of nodes/agents, interactions established and the nodes/agents with the highest indicators of direct centrality and betweenness. In the last section, conclusions are presented and discussed.

## **1. Methodology and basic concepts**

### **Social Network Analysis**

Social Network Analysis (SNA) is useful for understanding interactions among individuals or social groups. In this paper SNA was used to illustrate how social agents, referred herein as nodes/agents, interacted over a period of time to accomplish criminal objectives related to organs trafficking.

The social agents participating in this network were classified through categories generated according to the analyzed information. When possible, the interactions established by those social agents were classified under three main categories or dimensions: (i) *Economic interactions*, which groups subcategories related to physical movement of money and financial transactions, (ii) *political interactions*, which groups interactions related *with* and *among* political leaders, candidates and some officials, and (iii) *violent and coercive interactions*. Although interactions can be usually classified

under any of these three categories, in some cases additional categories must be formulated. For instance, as it is discussed below, in this structure logistic interactions were highly relevant. Therefore, SNA allows illustrating and analyzing interactions established by various types of social agents, rather than just showing traditional hierarchies. As discussed in the following sections, no political interactions were identified in the present model, probably as a result of weak judicial investigations.

Through algorithms, SNA allows identifying the relevant social agents intervening in the network, as well as the sub-networks, the emerging structures, the types of social agents and the types of interactions. In this analysis, the “relevant” social agents are (i) the “*hub*” of the network in which direct interactions are concentrated, and (ii) *the structural bridge*, which is the social agent with the greatest capacity to arbitrate resources across the flows and indirect interactions of the network. Due to the possibilities of analysis and visualization, SNA has been used to understand the structure and characteristics of illicit networks (Morselli, 2008; Johnson, Reitzel, Norwood, McCoy, Cummings, & Tate, 2013; Radil, Flint, & Tita, 2010).

## The Graph

The criminal situation analyzed in this paper requires interactions of collaboration or confrontation that can be analyzed as a social network: “*Social networks can be defined as ‘a group of collaborating (and/or competing) entities that are related to each other’*” (den Bossche & Segers, 2013, p. 39). Social networks are analyzed through *nodes* that represent individuals and *lines* or *arcs* that represent the interactions or ties. Therefore, “*(...) a network is defined as a set of nodes connected by ties*” (Worrell, Wasko, & Johnstn, 2013, p. 128).

The case analyzed herein was modeled through a technology of analysis developed by Vortex Foundation. The technology, consisting of protocols for processing, categorizing and analyzing information, generates a database of nodes/agents and interactions. This database allows subsequently analyzing information and characteristics related to specific nodes/agents or interactions.

The first protocol for analyzing the sources of information consists of identifying “relationships” or “interactions” between two nodes/agents, according to the following syntactic structure:

**[[Name Actor 1[Description Actor 1]][interaction[verb word ^ action word]] [[Name Actor 2[Description Actor 2]]]**

Through specific protocols each section of this syntactic structure is processed in the Vortex system to consolidate the mentioned database. The database is then analyzed through additional protocols to generate SNA graphs like the ones presented in the following sections, and to calculate and identify the indicators of centrality that characterize each node.

In this analysis each node represents a social agent; therefore, the concept of “node/agent” is used to identify each individual or corporation participating in the network. As previously stated, each line connecting two nodes represents a social interaction. Also, the arrow in the line represents the specific direction of each interaction: *“For instance, if the node/agent X interacts with/to node/agent Z, then there is an arrow from a node representing X to a node representing Z.”* (Salcedo-Albaran, Goga, & Goredema, 2014).

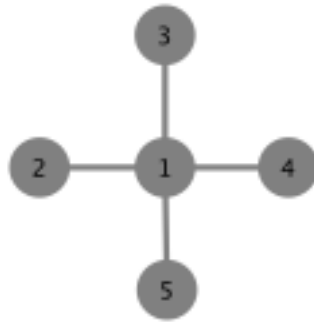
### **Indicators of Direct Centrality and Betweenness**

It is important to differentiate two meanings of centrality: (i) The most connected node/agent and (ii) the node/agent with the highest capacity to intervene in the geodesic routes of the network.

On the one hand, the direct centrality indicator allows identifying the amount of direct interactions established by each node/agent. For instance, in the figure 0 the node/agent 1 has 4 direct unidirectional interactions, while nodes 2, 3, 4 and 5 only have one direct unidirectional interaction with the node 1. Since there are 8 bidirectional interactions, the node/agent 1 concentrates 50% (4) out of the total direct interactions, while each of the nodes/agents 2, 3, 4 and 5 concentrate 12,5%. Therefore, in this situation, the node/agent 1 is the hub of graph 0, because it registers the highest direct centrality indicator.

**Figure o. Example of a graph with 5 interacting nodes/agents.**





The second meaning of “centrality” allows identifying the node/agent with the highest capacity to arbitrate or intervene resources across the geodesic routes of the network, known as “the structural bridge”. While in graph 0 there are only 4 direct unidirectional interactions (or 8 bidirectional interactions), there is a higher amount of geodesic routes, which are the indirect paths connecting all the nodes/agents. For instance, there is a geodesic route connecting the nodes 2 and 3 through the node 1, there is another geodesic route connecting nodes 2 and 4 also through node 1, etc. Those geodesic routes represent the paths of resources flowing across the network.

After calculating the total amount of geodesic routes connecting the nodes/agents of the network, it is possible to identify the node/agent with the highest capacity to intervene in those geodesic routes, by calculating the betweenness indicator. As it can be observed in graph 0, the node 1 intervenes in every indirect route of the network because there is not a single path that doesn’t go through the node/agent 1; therefore, it registers a betweenness indicator of 100%.

## 2. Description of the case

### **The Criminal Network**

In 2008 immigration authorities noticed a peak in the amount of people arriving to Pristina, Kosovo, for the treatment of heart diseases, with suspicious invitation letters signed by “The Medicus Clinic”, which is not specialized in heart conditions. After clearing the baggage and documents controls of three suspicious men with these letters,

authorities founded that one of them, a Turkish man with poor health conditions, have donated his left kidney in exchange of money at the *Medicus Clinic*.<sup>1</sup>

The situation led to the arrest of three persons at the airport: (i) an Israeli (identified herein with the code BRIB) who turned out to be an organ trafficking broker, (ii) a Turkish man who was the organ supplier, identified herein with the code DOTD and (iii) the brother of the recipient, of unknown nationality. After the supplier confessed to authorities that his kidney was removed in the *Medicus Clinic*, the Department of Organized Crime of the local police joined the United Nations Interim Administration Mission in Kosovo (“UNMIK”) to secure the clinic. The recipient was still in the clinic when the police arrived. As a result, the director and owner of the clinic, Dr. Lufti Dervishi (identified herein with code DIOFMECLLD), was immediately arrested and all the records and computers were seized.

Authorities involved in the investigation confirmed that 22 organ suppliers, herein identified with the codes DOA, DOP, DOAR and VI-ORDOD 1-19, were recruited in countries such as Moldova, Russia, Ukraine, Kazakhstan and Belarus by a trafficking network established in the *Medicus Clinic* in Pristina, Kosovo, in connection with doctors and brokers operating in Turkey. The recipients, identified herein with the codes RERK, RERF and RE-ILORTSUR 1-21, came mostly from Israel, Turkey, Poland, Canada and Germany.

According to the UNMIK, the owner of the clinic in 2005 had already contacted doctors and brokers in Turkey to set up the trafficking network. In fact, the Turkish surgeon Yusuf Sonmez, identified herein with the code ORTRSUYS, was contacted to perform the transplant surgeries. Recruiters promised to the suppliers a payment of USD \$30,000 but just some of them received part of the money, with the additional promise of receiving the remaining part if they helped to recruit additional victim donors.

For instance, a donor identified in the judicial sources as A.K., and identified herein with the code DOA, testified that he received just a part of the agreed remuneration after he donated his kidney. A.K. was involved in the situation after he saw Russian advertising inviting to request information via e-mail for becoming a kidney donor. When A.K.

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<sup>1</sup> BBC News (2013) *Medicus: Five guilty in Kosovo human trade case*. Available in: <http://goo.gl/mTFJ8V>

contacted the criminal structure via e-mail, a man named “Jurij”, identified herein with the code BRK, offered to A.K. EUR 10,000 for his kidney. After A.K. accepted, they agreed to meet and begin preparations such as analyses on blood group, HIV, Hepatitis A and C, as well as ultrasound examinations. All of the needed tests took place in A.K.’s local clinic, and then A.K. had to send the results and a scan of his passport. When A.K. arrived to the Medicus Clinic, he signed some documents without reading them properly. After the procedure, during his recovery, A.K. saw Jurij (BRJ) at his bedside. When Jurij left, A.K. found USD 8,000 in his bag. Five days after A.K. arrived to his hometown, Jurij (BRJ) contacted him and promised him the remaining USD 2,000 he owed and USD 1.000 extra for every person that he could recruit. A.K. declined the offer and was threatened by Jurij for some weeks.

Like A.K, all the suppliers or victim donors, had to sign a document providing consent with a short time to agree. The recipients usually traveled to Pristina via Istanbul with the broker or another bodyguard. After the transplant, the recipients were quickly dismissed and sent back to their country with false information about their treatments, to show to their doctors in their country.<sup>2</sup>

Another donor victim from Ukraine that testified in the Medicus Case, identified in the judicial sources as P.M., and identified in our model with the code DOP, claimed that he was promised 30,000 euros to sell his kidney, but was never paid. Like A.K. (DOA), P.M. was informed by Russian online advertising. He followed the procedures before the surgery and traveled to Pristina. The surgery took place in the Medicus Clinic, but when he asked for his payment, the person who was carrying out the operation told him that he was going to be paid in Istanbul. The witness P.M. never received the payment and he was unable to reach the people who previously contacted him. Then, he saw on the news the people involved in his surgery; specifically, he saw Dr. Yusuf Somnez, identified herein with the code ORTRSUYS.

In fact, Dr. Yusuf Somnez (ORTRSUYS) was identified as the leader surgeon in charge of performing the kidney transplant surgeries. Additionally, Dr. Kenan, identified herein with the code ORTRASDK, Dr. Renon, identified herein with the code ORTRASDR, and Dr. Driton Hilta, identified herein with the code ORTRASDJ, performed operations with

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<sup>2</sup> Directorate-General for External Policies, Policy Department. (2015) Trafficking in human organs. In: <http://goo.gl/wwS9j5>

the guide of Dr. Somnez. According judicial proceedings records, other nodes/agents participating were: (i) an anesthesiologist, Dr. Sokol Hajdini, identified with the code ORTRANSH, (ii) Dr. Sylejman Dulle, identified herein with the code ORTRANSD and (iii) Dr. Islam Bytyqi, identified here in with the code ORTRANIB.

Moshe Harel, an Israeli citizen, identified herein with the code OROFTHORTRRIMH, was pointed out as the allegedly broker of the criminal network, after authorities (EULEX) found suspicious transactions in his bank account in Turkey (Garantis Bank) between 40,000 and 100,000 euros. Also, the witnesses (mostly victim donors and relatives of recipients) confirmed the involvement of Moshe Harel (OROFTHORTRRIMH) and Dr. Yusuf Somnez (ORTRSUYS).<sup>3</sup>

## **Court Proceedings**

Lutfi Dervishi (DIOFMECLLD), director and owner of the Medicus clinic, was prosecuted and found guilty under the charges of organized crime and human trafficking. He was sentenced to eight years of imprisonment and a fine of 80,000 that is expected to be paid within three months of the final judgment. Dervishi is also banned from practicing medicine, as urologist, for two years. Arban Dervishi (ACLOAD), Lutfi's son, was sentenced to seven years and three months of imprisonment, and a 2,500 euros fine. Also, the court enforced father and son Dervishi, to compensate the victims with 15,000 euros.

Anesthesiologist Sokol Hajdini (ORTRANSH) was found guilty of grievous bodily injury, and sentenced to three years of imprisonment. He was banned from practicing anesthesiology for one year, but charges of organized crime and unlawfully practicing medicine were retired. Assistant anesthesiologists Islam Bytyqi (ORTRANIB) and Sylejman Dulle (ORTRANSD) were each delivered one year suspended sentence for grievous bodily injury.

At the beginning of the investigation, the former Permanent Secretary of the Ministry of Health, Ilir Rrecraj, was suspected of being aware of the illicit procedures carried out at the Medicus Clinic, due to his informed position, and the alleged but unconfirmed personal relationship with the Dervishis, father and son. However, Rrecraj was acquitted of the charges of abusing official position. Accusations against surgeon Driton Jilta of

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<sup>3</sup> Justice in Kosovo (2012) Monthly Bulletin, No 18, April. <http://www.drejtisianekosove.com/en/Bulletin-18>

abusing official position and unlawfully practicing of medical activities were also rejected. The Court issued its final judgment at the end of April.

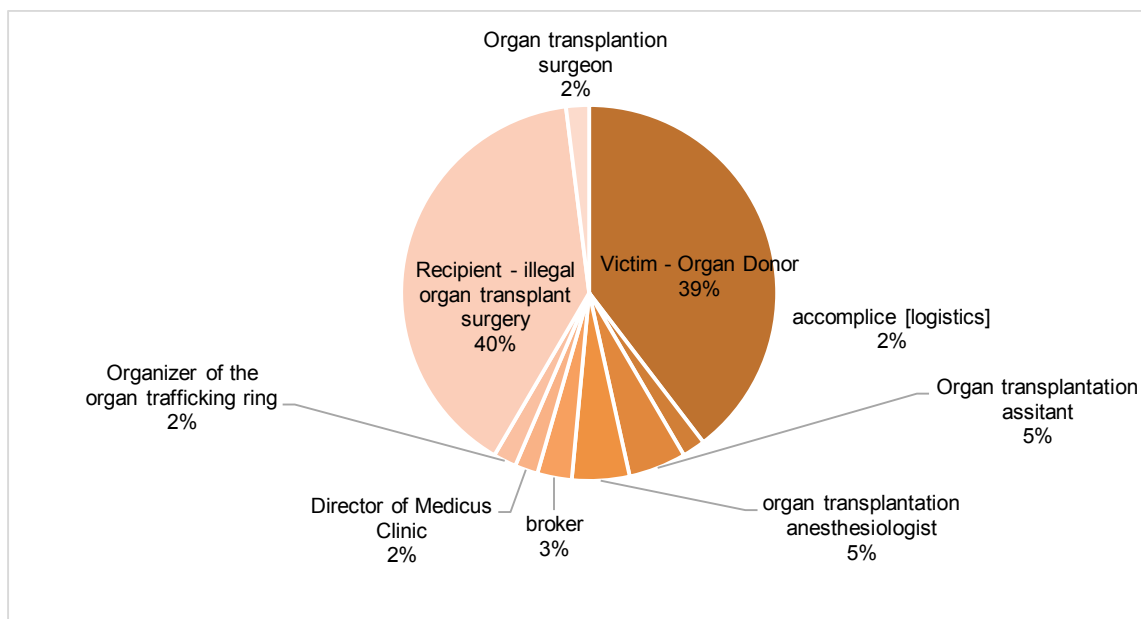
Yusuf Somnez and Moshe Harel remain fugitives and wanted by Interpol. In the trial, seventy-eight witnesses were questioned. Also, 30 requests for international legal assistance were initiated with various countries, including Israel, the United States, Canada, Ukraine, Turkey, Moldavia, Russia, Poland and others. It was confirmed that 24 patients supplied their kidneys and 24 others received them. The Prosecution proved that 9 kidney recipients paid a total of more than 700,000 euros.<sup>4</sup>

### 3. Characteristics of The Network

#### Nodes/Agents

The total amount of nodes/agents identified in the judicial sources is 61, distributed as follows (Figure 1):

Figure 1. Nodes/Agents of the “Medicus Clinic Case” Criminal Network



<sup>4</sup> Justice in Kosovo (2013) Monthly Bulletin, No 29, April. Available in: <http://goo.gl/Xenx9p>

The most relevant types of nodes/agents identified in this network are (i) the victim organ donors (24) and (ii) the recipient of illegal organ transplant (24), conforming the 80% of the total amount of nodes/agents (40% each type). All of these nodes/agents participated in the illegal transplantation of kidneys: The donors through coercion or economic exchange, and the receivers through the criminal and mainly logistic network that arranged the operation. The identities of most of these donors and recipients remain unknown, since their names were changed to protect them during the prosecution. Additionally, it is important to note that although a public servant was mentioned in the sources, the former Permanent Secretary of the Ministry of Health, Ilir Rrecaj, he wasn't registered in our database or included in our model because no interactions were specified.

Other categories of nodes/agents involved in the criminal structure are:

**Organ transplantation assistant** (5%): This category groups the node/agents (i) ORTRASDK, Dr. Kenan, (ii) ORTRASDR, Dr. Renon, and (iii) ORTRASDJ, Dr. Driton, identified during the investigations as medical assistants of Dr. Yusuf Somnez in the transplant surgeries.

**Organ transplantation anesthesiologist** (5%): This category groups the node/agents (i) ORTRANSH, Dr. Sokol Hajdini, (ii) ORTRANSD, Dr. Syleman, (iii) and ORTRANIB, Dr. Islam Bytyqi, who participated in the surgeries as anesthesiologists.

**Broker** (3%): This category groups the nodes/agents identified with the codes BRIB and BRK, that represent the broker captured in the first incident in the Airport of Pristina, and the broker "Jurij", who contacted, prepared and paid to some victim donors.

**Organ transplantation surgeon** (2%): This category represents the Turkish Dr. Yusuf Somnez, identified as node/agent ORTRSUYIS and leader surgeon in charge of performing the kidney transplant surgeries at the Medicus Clinic.

**Director of Medicus Clinic** (2%): This category represents the node/agent identified with the code DIOFMECLLD, Dr. Lufti Dervishi, director and owner of the clinic, pointed out also as one of the assistants in the surgeries.

**Accomplice** (2%): This category represents the node/agent Arvan Dervishi identified with the code ACLOAD, who was son of the Dr. Lufti Dervishi, in charge of the economic

transactions of the clinic. This node/agent was aware of the illegal activities conducted in his father’s clinic, in which he also worked as economist.

**Organizer of the organ trafficking ring** (2%): This is the node/agent Moshe Harel, identified with the code OROFTHORTRRIMH, who is the alleged coordinator of the criminal network.

## Interactions

The total amount of interactions is 395 categorized as follows: Logistic 98% and Economic 1%. Additionally, there is 1 interaction categorized as “Family - Being son of”, 1 categorize as “Offering a payment” and 1 categorized as “Violent – Threatening”.

Since the “logistics” category groups 98% of the interactions, the following subcategories were applied:

Logistics - Participating in illegal medical surgeries - assisting surgery	48%	189
Logistics - Participating in illegal medical surgeries - being anesthesiologist during surgery	37%	145
Logistics - Performing illegal transplant	12%	48
Logistics - Being assistant in illegal transplant surgeries of	1%	4
Logistics - Offering a payment	0%	1
Logistics - Offering to be a recruiter	0%	1
Logistics - Preparing for transplant	0%	1
Logistics - Recruiting	0%	1

The **logistic** interactions include two groups of activities, the first one, related with the surgical procedures performed at the Medicus Clinic: Participating in illegal medical surgeries and assisting (48%), participating in illegal medical surgeries – being anesthesiologist (37%), performing illegal transplant (12%). The second group of activities are the ones required to concrete the transplant: Recruiting, offering a payment in exchange for kidney, preparing for transplant, and offering to be a recruiter.

In the first group of activities, the most active node agents were the lead surgeon identified with the code ORTRSUYS (Yusuf Somnez); the assisting doctors ORTRASDK (Dr. Kenan), ORTRASDR (Dr. Renon), ORTRASDJ (Dr. Driton) and DIOFMECLLD (Dr. Dervishi); and the anesthesiologist doctors ORTRANSH (Sokol) ORTRANSJ (Dr. Sylleman) and ORTRANIB (Dr. Islam). Also, in those interactions were involved the

donors (identified herein with the codes DOA, DOP, DOAR and VI-ORDOD 1-19), recipients (RERK, RERF, and RE-ILORTSUR 1 – 21),

Some of the donors were also involved in the second group of logistic activities: DOA (A.K) and DOTD (Turkish donor) and the known brokers: BRJ (Jurij) and BRIB (Israeli broker).

The “**economic**” interactions comprehend the financial recourse movement between BRJ (Jurij) and DOA (A.K) in which BRJ (Jurij) paid for DOA, A.Krs kidney. This category also groups the interaction between RERF (Raul Fein), who paid 87,000 euros to the broker and alleged coordinator of the Criminal Network, (OROFTHORTTRIMH) Moshe Harel, for a kidney transplant.

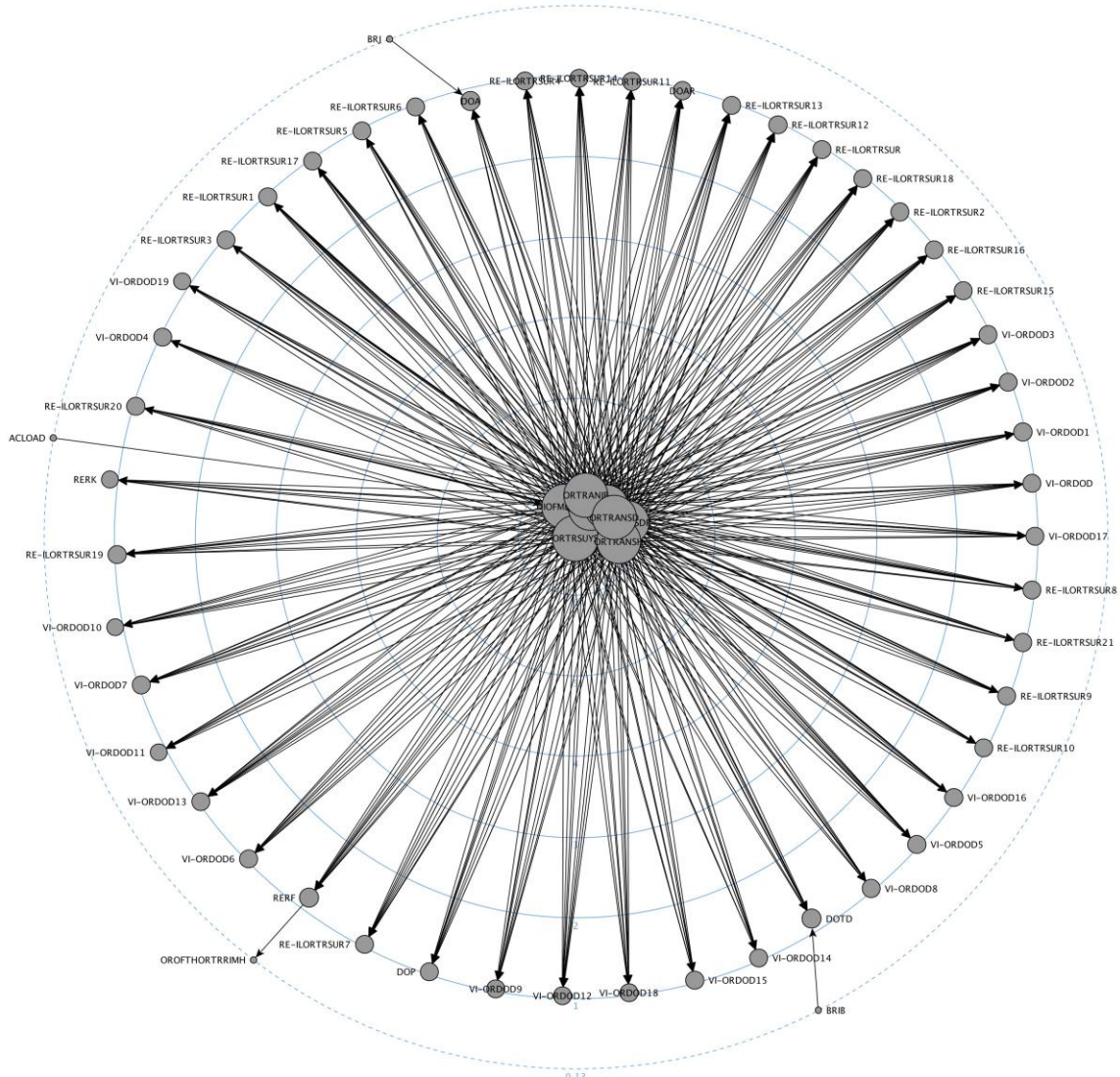
The “**accomplice**” category of interaction represents mainly the family ties between DIOFMECLLD (Dr. Dervishi) and ACLOAD (Arvan Dervishi), who was aware of the illegal activities performed in the clinic directed by his father. Finally, the category of “**violent**” interactions corresponds to the threats of broker BRJ (Jurij) to the victim donor DOA (A.K), after he reject the offer of being a recruiter.

### **Direct interactions**

The indicator of direct centrality, as observed in the Figure 4, shows a highly centralized network. The most connected nodes/agents, and therefore the ones with the highest indicator of direct interactions, were the node/agents: (i) ORTRSUYIS, Dr Yusuf Somnez, with an indicator of 6,7%, (ii) DIOMECLLD, Dr. Lufti Dervishi, with an indicator of 6,3%, (iii) ORTRASDK, Dr. Kenan, with 6,3%, (iv) ORTRANIB, Dr. Islam Bytyq, with 6,2%, (v) ORTRANS, Sylejman Dulla with 6,2%, (vi) ORTRANSH, Sokol Hajdini, with 6,2%, (vii) ORTRASDJ, Drjton Jilta, with 6,2%, and (viii) ORTRASDR, Dr. Renon, with an indicator of 6,1%. This group of 8 nodes/agents accounts for 50,2% of the direct interactions, which means that these nodes/agents were critical for stabilizing the entire criminal structure.



Figure 2. The “Medicus Case” criminal network Location and size of nodes/agents represent indicator of direct centrality (direct interactions).



The high centralization of the network, based on the fact that eight nodes/agents concentrate half of the direct interactions, reveals a low level of resilience since isolating this group would affect most of the direct interactions of the structure. In fact, the eight nodes/agents with the highest indicators of direct centrality represent the medical team responsible of executing the transplant surgeries; therefore, without this team, the entire criminal structure would be different. However, it is also important to note that the high concentration is well distributed among the group of 8 nodes/agents, since all of them

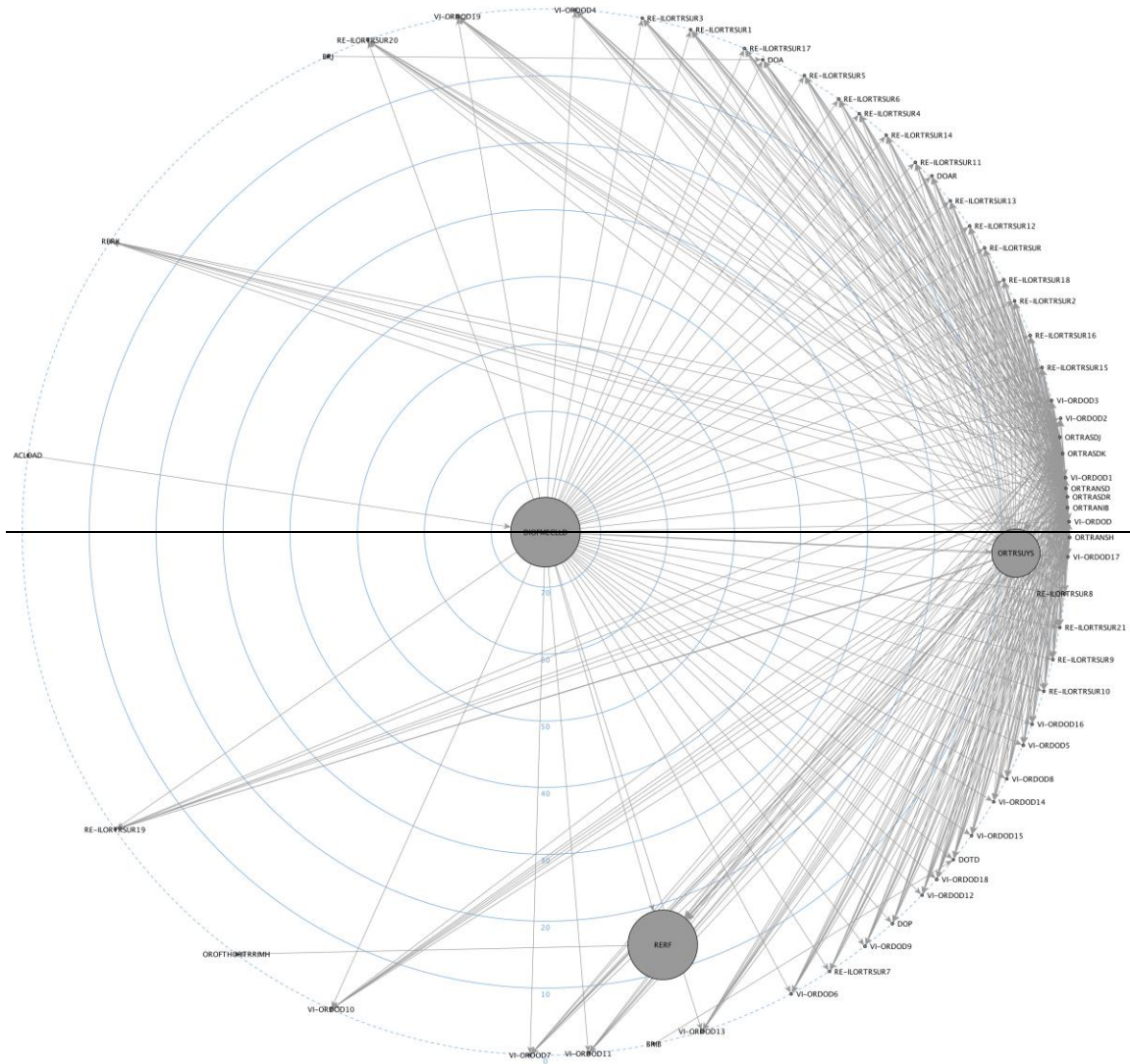
register an indicator that oscillates between 6,1% and 6,7%. The low level of resilience, due to its high level of centralization, reveals also low level of criminal sophistication. The overall operation of this criminal network requires complex logistic coordination; however, the analyzed information doesn't allow identifying interactions with additional criminal structures or complex economic interactions outside the structure. Additional information is required to understand potential interactions with external structures, specially related to the financial substructure that sustains the criminal operation of this network.

### **Betweenness indicator**

Although the direct interactions of the network are centralized in the group of 8 nodes/agents describe above, the node/agent DIOFMECLLD, located in the nucleus of Figure 5, registers the highest indicator of betweenness (78,1%), which means that he intervenes in a great percentage of geodesic routes. According to this indicator, the network is highly concentrated in the node/agent DIOFMECLLD, Lufti Dervishi, the Director of Medicus Clinic in Pristina. The nodes/agents that also registered a high capacity to intervene in the network are (i) RERF with a betweenness indicator of 14,1% and (ii) ORTRUSUYS with an indicator of 7,8 %. In fact, these three nodes/agents intervene in the total amount of geodesic routes of the network, which means that the other 57 nodes/agents lack any capacity of intervention, only acting as receivers or emitters of the geodesic routes.

The high concentration of the betweenness indicator in the node/agent DIOFMECLLD, and the fact that only three nodes/agents have capacity to intervene in the geodesic routes of the network, illustrates a very low level of resilience, since a single node/agent arbitrated most of the resources flowing across the network were. As stated above, these characteristics corroborate low level of sophistication in the criminal structure, since isolating a single node, DIOFMECLLD, would modify and almost disarticulate most of the geodesic routes of the criminal structure.

Figure 3. The *Médicus* Case. Location and size of nodes/agents represent indicator of intervention (betweenness indicator).



## Conclusion

Criminal networks specialized in traffic of organs, tissues and cells, through transplant tourism, usually concentrate their operations at private hospitals, in countries with poor medical regulations and a generalized corruption. The brokers get in touch with the recipients (in general from wealthy countries from North America and West Europe) and convince them to have the expensive procedure abroad. To get the donors, criminals tend to use online advertising, or directly get in touch with the potential victims at modest

neighbors. Then, after criminals get the payment of the recipients, they arrange and concrete the meeting of both victim-donor and recipient at the medical facilities disposed of for the surgery. Finally, the recipients come back to their homelands with the new organ, and the donors with a small payment, if they get any.

Organ trafficking case prosecuted at the Medicus Clinic in Pristina, Kosovo, illustrates this trending modality of organ trafficking consisting of transplant tourism. In this specific case, victim donors and recipients of different nationalities (the first ones mostly from Moldova, Russia, Ukraine, Kazakhstan and Belarus, and the second ones mostly from Germany, Canada, Israel, and Poland) traveled to Pristina to carry out the transplantation surgeries.

Some of the donors were recruited when they answered invitations found in online advertising. After being contacted, the broker offered them an amount of money as payment for their kidney; however, in every stage, the broker provided limited information to the donors about the real characteristics of the medical performance and its consequences. After the surgery, a few donors received a small part of the promised payment and others did not receive any payment at all after being forced to return to their homelands.

The Social Network Analysis of the “Medicus Case” organ trafficking network allows identifying the relevance of the medical team in charge of executing the main logistic interactions. The medical team represents the first eight nodes/agents with the highest indicators of direct centrality, concentrating the 50.5% of the interactions.

Since 8 nodes/agents concentrate a half of the direct interactions, and a single node/agent intervenes in 78,9% of the geodesic routes, a low level of resilience characterizes the criminal structure. In fact, isolating a single node would critically affect the general structure of geodesic routes. In general, these characteristics allow stating that the structure lacked sophistication in terms of interactions with other complex structures; for instance, the available information doesn't reveal the coercive and money laundering procedures that sustained the overall operation of the network. Additional investigation is therefore encouraged to understand and reveal the interactions established with nodes/agents operating in other criminal structures or public and private institutions.

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## Annex 1. Direct Centrality Indicator

Node	Direct Centrality
ORTRSUYS	6,7
DIOFMECLLD	6,3
ORTRASDK	6,3
ORTRANIB	6,2
ORTRANS	6,2
ORTRANSH	6,2
ORTRASDJ	6,2
ORTRASDR	6,1
DOA	1,2
DOTD	1,2
RERF	1,2
DOAR	1
DOP	1
RE-ILORTSUR	1
RE-ILORTSUR1	1
RE-ILORTSUR10	1
RE-ILORTSUR11	1
RE-ILORTSUR12	1
RE-ILORTSUR13	1
RE-ILORTSUR14	1
RE-ILORTSUR15	1
RE-ILORTSUR16	1
RE-ILORTSUR17	1
RE-ILORTSUR18	1
RE-ILORTSUR19	1
RE-ILORTSUR2	1
RE-ILORTSUR20	1
RE-ILORTSUR21	1
RE-ILORTSUR3	1
RE-ILORTSUR4	1
RE-ILORTSUR5	1
RE-ILORTSUR6	1
RE-ILORTSUR7	1
RE-ILORTSUR8	1
RE-ILORTSUR9	1
VI-ORDOD	1
VI-ORDOD1	1
VI-ORDOD12	1
VI-ORDOD13	1
VI-ORDOD14	1

VI-ORDOD15	1
VI-ORDOD16	1
VI-ORDOD17	1
VI-ORDOD18	1
VI-ORDOD2	1
VI-ORDOD3	1
VI-ORDOD4	1
VI-ORDOD5	1
VI-ORDOD6	1
VI-ORDOD7	1
VI-ORDOD8	1
VI-ORDOD9	1
RERK	0,9
VI-ORDOD10	0,9
VI-ORDOD11	0,9
VI-ORDOD19	0,9
ACLOAD	0,1
BRIB	0,1
BRJ	0,1
OROFTHORTRIMH	0,1

## Annex 2. Betweenness Indicator

Node	Betweenness
DIOFMECLLD	78,1
RERF	14,1
ORTRSUYS	7,8
ACLOAD	0
BRIB	0
BRJ	0
DOA	0
DOAR	0
DOP	0
DOTD	0
OROFTHORTRIMH	0
ORTRANIB	0
ORTRANSD	0
ORTRANSH	0
ORTRASDJ	0
ORTRASDK	0
ORTRASDR	0
RE-ILORTSUR	0
RE-ILORTSUR1	0
RE-ILORTSUR10	0
RE-ILORTSUR11	0
RE-ILORTSUR12	0
RE-ILORTSUR13	0
RE-ILORTSUR14	0
RE-ILORTSUR15	0
RE-ILORTSUR16	0
RE-ILORTSUR17	0
RE-ILORTSUR18	0
RE-ILORTSUR19	0
RE-ILORTSUR2	0
RE-ILORTSUR20	0
RE-ILORTSUR21	0
RE-ILORTSUR3	0
RE-ILORTSUR4	0
RE-ILORTSUR5	0
RE-ILORTSUR6	0
RE-ILORTSUR7	0
RE-ILORTSUR8	0
RE-ILORTSUR9	0
RERK	0



VI-ORDOD	0
VI-ORDOD1	0
VI-ORDOD10	0
VI-ORDOD11	0
VI-ORDOD12	0
VI-ORDOD13	0
VI-ORDOD14	0
VI-ORDOD15	0
VI-ORDOD16	0
VI-ORDOD17	0
VI-ORDOD18	0
VI-ORDOD19	0
VI-ORDOD2	0
VI-ORDOD3	0
VI-ORDOD4	0
VI-ORDOD5	0
VI-ORDOD6	0
VI-ORDOD7	0
VI-ORDOD8	0
VI-ORDOD9	0

## **About the Authors**

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Philosopher and MsC in Political Science. Founder and CEO at Vortex Foundation. Eduardo has researched in the areas of organized crime, kidnapping, corruption, drug-trafficking and State Capture. As partner, advisor or consultant, he currently researches on the structure and impact of Transnational Criminal Networks with scholars, institutes and Universities in North, Central and South America, Europe and Africa.

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