

Explicitness and incentives in morality politics. A Comparative Multilevel Analysis of refusal rates to organ donation in Switzerland and Spain

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Abstract

This paper applies the novel method of Comparative Multilevel Analysis (CMA; Denk 2010) in order to explore the question of how different policy instruments impact on relatives' refusal rates to organ donation in a complex multilevel setting. Our comparison of small and big hospitals in Switzerland and Spain demonstrates the potential of CMA for the comparative analysis of contextual effects in small-N research, while also pointing to the limits of this method. The empirical evidence presented in this paper suggests that varieties of single policy instruments at different contextual levels (i.e. hospital, regional, national), rather than different types of policy instruments, account for varying refusal rates. In other words, the degree of explicitness to and the direction into which the state attempts to influence or even foster the goal of a policy indeed influences outcomes in morality politics.

1 Introduction

From a public policy perspective, what matters in explaining policy outcomes is not merely the role of different explanatory factors, but to understand whether and how different policy instruments affect these outcomes (Knill and Tosun 2012: 4). The use and effect of regulatory instruments is a particularly salient issue in morally contested policy fields like organ donation (Engeli and Varone 2011). However, existing studies on how different types and varieties of policy instruments impact on relatives' refusal rates to organ donation reached different conclusions depending on the analytical level or context they focus on.

In quantitative research, multilevel analysis allows to account for hierarchical data structures (Snijders and Bosker 1999; Steenbergen and Jones 2002), whereas until recently, contextual effects were more difficult to address by qualitative comparative methods. The Comparative Multilevel Analysis (CMA) method proposed by Denk (2010) offers a novel analytical framework to compare subsystems from different contexts and analyse the effect of context on subsystems in small-N research.

In this paper, we use the CMA method to disentangle policy effects and explore how policy instruments applying at different contextual levels impact on relative's refusal rates to organ donation in hospitals. Thereby, we distinguish between three types of policy instruments, sermons, carrots and sticks (Vedung 1998). Going beyond Vedung's typology, we argue that the latter can be refined by specifying different varieties of policy instruments, depending on the degree of explicitness of sermons and sticks and the question of positive versus negative incentives of carrots.

Deceased organ donation rates differ substantially between countries, and refusal rates are still the biggest obstacle in obtaining higher donor rates (Andrés et al. 2009; Barber et al. 2006; Johnson and Goldstein 2003; Martínez et al. 2001; Newton 2011; Siminoff et al. 2001). Ac-

cordingly, we focus on the result of the family decision-making process, meaning relatives' refusal rates to organ donation, as policy outcome. We compare small and big hospitals within two contrasting contexts:¹ Spain as the international example of “best practice” with very low refusal rates, and Switzerland which exhibits comparatively high refusal rates despite having adopted elements of the “Spanish model”. Furthermore, the pronounced regional variation of refusal rates between German-speaking and Latin cantons in Switzerland allows us to test the applicability of the CMA method in a complex multilevel setting. Our analysis bases on data gathered during a research project mandated by the Swiss Federal Office of Public Health (FOPH) in 2010.

In what follows, we present Vedung's (1998) policy classification and our own analytical refinement thereof. Section three contains a review of the existing literature to identify relevant policy instruments for the explanation of refusal rates. After an elaboration on research design, case selection and CMA methodology, section five continues with the empirical analysis, i.e. the case studies and our comparative multilevel analysis of big and small hospitals in Spain and Switzerland. We conclude the paper with a discussion of the major findings.

2 Theory

If organ donation is a topic of public interest (Flückiger 2010), policy makers need to know how regulatory instruments influence families' refusal rates. A public policy instrument is understood as a set of techniques by which public actors “wield their power in attempting to ensure support and effect or prevent social change” (Knill and Tosun 2012: 4; Vedung 1998: 21). Whether the state deems a specific social change necessary or not influences the choice of policy instruments. Legislators and public hospitals have to decide: Do we think that organ donation should be promoted, and if yes, by which means?

¹ We hereafter refer to big hospitals as hospitals which have a division of neurosurgery, whereas small hospitals have none.

The question of instrument choice is particularly salient in policy fields like organ donation that concern fundamental questions such as the beginning and the end of life. Legislation in such “morality issues” is delicate as it is always a public statement about “what is right and wrong, the validation of a particular set of fundamental values” (Mooney 1999: 675). Depending on the distribution of those values in the population, Engeli and Varone (2011) predict different types of policies chosen by responsive governments according to the degree to which they express an official position in the given matter of organ donation or not. Thus, the extent to which power is exercised is useful for understanding how governments attempt to influence the behavior of policy addresses.

2.1 Types of policy instruments

Vedung’s (1998) tripartite classification of policy instruments into sticks (regulations), carrots (economic or non-monetary (dis-)incentives) and sermons (information) focuses on the relationship between governour and governed, more specifically the use of coercion as the “quintessence of government” (Sager 2009: 537). Policies are distinguished by the degree of authoritative force exercised upon the target population, independently of their action content.

“Sticks”, or regulations, involve the highest degree of coerciveness. Sticks are authoritative rules and directives limiting the choices available to the individuals within society. These may be restrictions on actions or directives as how to act. The governee is obligated to do what the governor tells her to do.

“Carrots” are economic policy instruments which make an action easier or more difficult by adduction or deprivation of material resources in terms of money, time, effort and other valuables. Incentives make actions less expensive (e.g. subsidies), whereas disincentives make them more expensive (e.g. taxes on tobacco), but the addressees are not obligated to take the measures involved (Vedung 1998: 32, 44).

“Sermons” are voluntary appeals by means of information or exhortation, characterized by the absence of obligation. The governor attempts at influencing the population through the transfer of knowledge, the communication of reasoned arguments, and persuasion (Vedung 1998: 33).

Organisational strategies, by contrast, are a prerequisite for the application of policy instruments, but not a policy instrument in the narrow sense (Vedung 1998: 38).

Since we are interested in the effect of policy instruments, i.e. sticks, carrots and sermons, on the outcome of the family decision-making process, the policy instruments we analyze are those directed to all actors involved in this process. Accordingly, our policy addressees consist of the donors’ next of kin as well as medical staff (including donor coordinators) as final addressees of an instrument. Thus, we classify a policy instrument according to the degree of authority exercised on its target population rather than on the first agent in the implementation chain (cf. Sager 2009: 540).

2.2 Varieties of policy instruments

The degree of influence exerted by governments can not only be used to differentiate between policy instruments, meaning that sermons are less authoritative than carrots which are generally less mandatory than sticks. We argue that even within this distinction based on the degree of coerciveness exercised on the *governed*, policy instruments still differ with regard to, firstly, the intensity with which governments take action which explicitly influences a given *policy goal*, and secondly, the direction of such influence – is state action conducive for or discouraging a certain outcome? Since policies on morality issues generally involve a public statement (or non-statement) about what is right and wrong, we need to differentiate between varieties of policy instruments (sermons, carrots and sticks) themselves: either according to the extent to which they represent an explicit position of governments, i.e. the intensity with

which the state exerts influence, or, similarly, a positive or negative impetus with regard to the policy goal in the given matter of organ donation.

Therefore, we introduce the criterion “explicitness of influence”, which facilitates a more subtle specification of sticks or sermons as more or less explicit, depending on the extent to which they involve state action aimed at influencing the policy goal, which is in our case the decision with regard to organ donation. Traces of this criterion appear already in Vedung’s policy typology, for instance when he states that information measures can be neutral (objective) or involve a judgement of desirable behavior (Vedung 1998: 33).

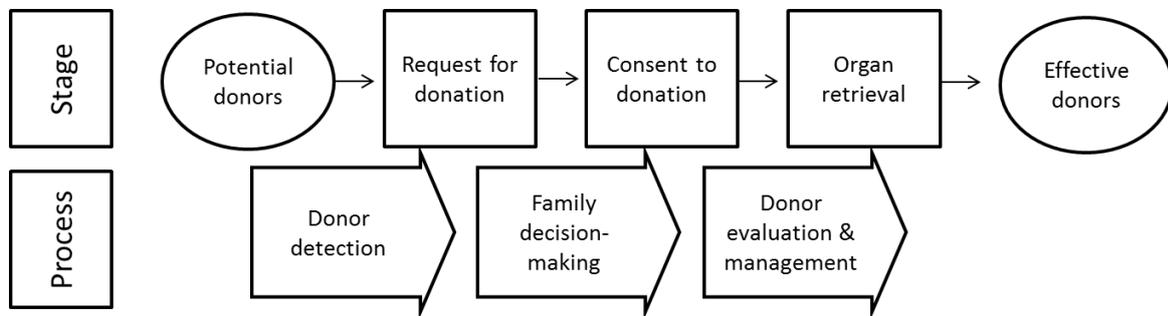
By contrast, carrots do not so much express varying degrees of state influence exercised, but they represent different directions of influence, i.e. either positive or negative incentives (cf. Vedung 1998: 32). This distinction regards the content of a carrot, more specifically whether it encourages or discourages organ donation activities.

Accordingly, we specify a sermon as more explicit if it represents state action aimed at influencing the decision with regard to organ donation, compared to a sermon representing a neutral or absent official position in this matter. Similarly, we consider the legal regulation of presumed consent, which bases on the underlying assumption that everyone is a potential donor, a more explicit stick than informed consent, where no such prior assumptions are made (see section 3.2). We can think of positive incentives as carrots promoting organ donation activities, such as sufficient resources of hospitals to carry out organ donation processes. Negative incentives discourage organ donation activities, for example, if giving consent to donation implies for the relatives a physical separation from the dead body due to its transfer to a different hospital.

3 Factors influencing refusal rates to organ donation

In order to identify explanatory factors for our empirical analysis, we first present policy instruments which, according to the existent literature, influence refusal rates. For a better understanding of how the different policy instruments impact on refusal rates, figure 1 delineates the process of organ donation which consists of various stages and sub-processes.

Figure 1: Scheme of the organ donation process



Source: author's own illustration

The initial pool of potential donors consists of patients with a formal brain death diagnosis or non-heart-beating patients. Once a potential donor is identified as such, the next of kin will be approached and asked for their consent or refusal to organ donation. If consent is given, a potential donor turns into an effective donor as soon as she is transferred to the operating theatre and at least one solid organ has been retrieved (Council of Europe 2011: II). Focusing on refusal rates has the advantage that we can isolate other context specific factors like varying donor detection rates or the preexisting pool of potential donors which reflect in final donor rates, but do not affect refusal rates.

3.1 Individual factors

Although our focus is on the impact of policy instruments, we start with insights about how individual characteristics of the potential donors and their families influence the next of kins' decision, as they are important to understand the effects of policy instruments.

Besides socio-demographic and donor's characteristics (cf. Andrés et al. 2009; Barber et al. 2006; Mossialos et al. 2008; Schulz et al. 2006: 296; Siminoff et al. 2001, 2003), the readiness to give consent to organ donation strongly depends on *individual attitudes, perceptions and values* of donors and their families. A significant part of refusals is due to relatives' concerns about what will happen with the deceased's body and their satisfaction with the overall medical attention received in the hospital (Martínez et al. 2001; Newton 2011; Simpkin et al. 2009). The prior *communication* of a potential donor's will to family members is particularly important (Bilgel 2012; Martínez et al. 2001; Mossialos et al. 2008; Schulz et al. 2006: 296; Siminoff et al. 2001).

3.2 Sticks

The effect of the *legal model of consent* on donation rates is frequently discussed. The ultimate donation decision is usually taken by the relatives who represent potential donors' wishes in this respect (Abadie and Gay 2006; Da Silva et al. 2007; Mossialos et al. 2008; Schulz et al. 2006: 296). The legal model obliges the addressees to take a decision: Under presumed consent (opt-out), they must express their opposition if they object a donation. By contrast, under explicit/informed consent (opt-in), relatives must explicitly express their agreement to donate organs. For the person making the request, the legal model determines whether and how she asks the question. We classify the legal model as regulation (stick), as it specifies the conditions for individual behaviour (Knill and Tosun 2012: 19).

Several studies report that presumed consent is positively related to higher donation rates, since everyone is considered a potential donor, resting on the assumption that this legal model decreases the probability of family refusal (Abadie and Gay 2006; Da Silva et al. 2007; Johnson and Goldstein 2003; Mossialos et al. 2008). Other authors find no influence of presumed consent at all (Bilgel 2012; Boyarsky et al. 2012; Coppen et al. 2005; Rosenblum et al. 2011), whereas some come to the conclusion that other measures have a stronger impact on donor rates (Healy 2005; Neades 2009; Rithalia et al. 2009). In sum, the effect of presumed consent on refusal rates tends to be negative.

3.3 Carrots

According to Spanish experts, a crucial economic factor is the adequate *reimbursement of the hospitals* as well as the *staff* and *donor coordinators* within hospitals for procurement activity (Matesanz 2004: 740): “Without a proper financial coverage, it is impossible for a hospital to efficiently maintain a program of deceased donation (...) Organ donation should never be a disincentive activity” (Matesanz and Dominguez-Gil 2007: 183). Hospital staffs’ behaviour is central in determining refusal rates (see section 3.4). Albeit the effect of available economic resources as incentives is hardly addressed by scientific studies, it seems likely that they determine the efforts and expertise at disposal for family requests.

3.4 Sermons

The specific *pattern of the request for organ donation (family approach)* has proven to be decisive for the likeliness of refusal (cf. Shafer et al. 2006; Simpkin et al. 2009; Siminoff et al. 2001): The request should be personally and temporally separated from the notification that the patient had died (decoupling). A collaborative request by hospital staff and organ procurement specialists, an appropriate formulation of the request, and giving the relatives the

opportunity to discuss their questions with them, result in low refusal rates. It is sometimes argued that repeating the request several times (“reapproach”) leads relatives to reconsider their decision if they were initially undecided (Shafer et al. 2006; Simpkin et al. 2009; Siminoff et al. 2001a and b).

Donation rates are significantly correlated with the attitudes of *critical care staff* with regard to donation-related tasks. It is therefore not surprising that *education of intensive care nurses, doctors and donor coordinators* to provide optimal care and communication has a positive impact on refusal rates (Martínez et al. 2001; Neades 2009; Siminoff et al. 2001; Simpkin et al. 2009).

By contrast, there is no empirical evidence in support of a direct influence of popular *information and education campaigns* on donation rates, but they play an important role for the population’s knowledge and the attitude concerning organ donation. It can be assumed that a high awareness of and knowledge about organ donation reduces fear out of ignorance and thus, the probability of refusal. Accordingly, campaigns encouraging the population to talk to their families about their will regarding donation should have an effect. What is more, educational intervention programs at schools resulted in a higher intention to donate organs (Martínez et al. 2001; Morgan and Miller 2001; Mossialos et al. 2008; Neades 2009: 274-5; Schulz et al. 2006: 295-6).

3.5 Organisational factors

At the organisational level, the implementation of an *in-house coordinator* closely managing and coordinating the consent process has led to increases in consent rates (Salim et al. 2007; Simpkin et al. 2009). The “exportation” of elements of the “Spanish model”, which embraces organisational changes within a supportive legislative framework, has sometimes led to an

increase in donation rates (Quigley et al 2008; Rithalia et al. 2009: 2).²

Comparative Multilevel Analysis (CMA, Denk 2010) will help us to figure out which of the many policy instruments identified in the literature (see table 1) explains the outcome refusal rates in divergent contextual settings, meaning Spanish and Swiss hospitals. This requires a preceding discussion of our research design, case selection and the CMA method, which follows in the next section.

² The Spanish model consists of seven elements: 1. Three-stage transplant coordination network (hospital, regional, national), 2. Specifically trained transplant coordinators at all 3 levels , 3. Continuous audit on brain deaths and outcome of donation at ICU's in transplant procurement hospitals, 4. Central office as an agency in support of the whole donation process , 5. Great effort in medical training, 6. Hospital reimbursement, 7. Close attention to the mass media (Matesanz and Dominguez-Gil 2007: 181, 187).

Table 1: Factors influencing relatives' refusal to organ donation

Type of factor	Factor	Expected direction of influence		
Individual characteristics	Non-heart beating donor	-		
	Family and patient sociodemographics (Age, education, ethnicity, income, cause of death)	+/-		
	Attitudes, perceptions, values of donors and their families	+/-		
	Knowledge of relatives about the patient's wishes (→intrafamiliar communication)	+/-		
	Awareness/knowledge of relatives about donation	-		
	Families' satisfaction with medical attention	-		
	Concerns about physical integrity / destination of dead body	+		
Policies	Stick	Legal model: presumed consent	-	
		Carrot	Coverage of costs for hospitals	-
	Reimbursement of donor coordinators		-	
	Sermon	Family approach	Temporal and personal separation (decoupling) of brain death diagnosis and request for donation	-
			Collaborative requesting	-
			Appropriate formulation of request	-
			Time available for decision-making	-
			Reapproach	-
			Involvement of trained and experienced organ procurement professional	-
		Infor-for-	Information of relatives about donation process	-
			Information campaigns	-
		Educati-	Education and training of critical care staff and donor coordinators	-
			Educational intervention programs	-
Other	Existence and involvement of in-house donor coordinator	-		

Legend: + = increasing, - = reducing effect on refusal rate expected.

4 Research design

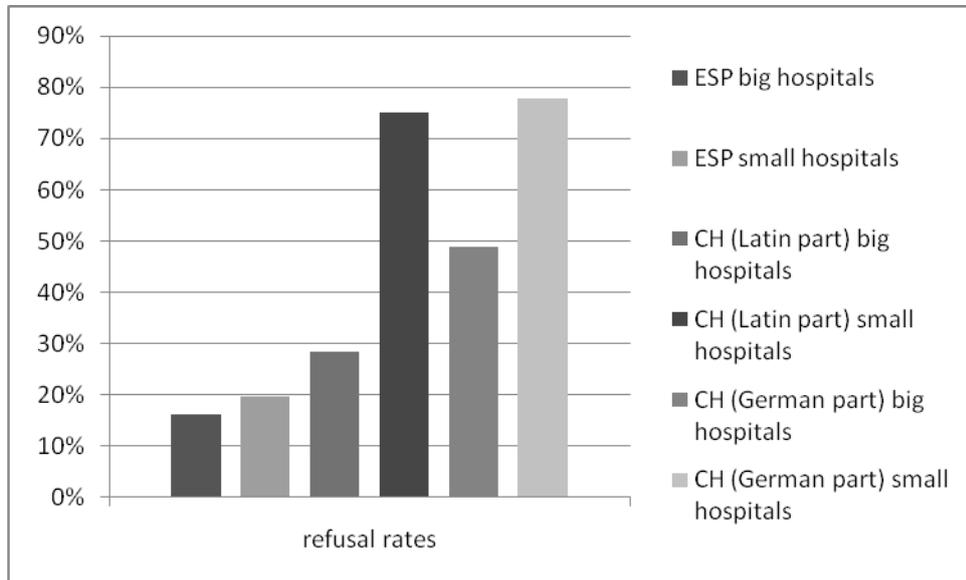
4.1 Measurement of outcome and case selection

Given that case selection and case analysis overlap (Gerring 2008: 679), our research interest in the effectiveness of single policy instruments on refusal rates requires a selection of cases with *varying outcomes* (Mill's [1843] method of difference) from *various contexts* which exhibit a systematic variation of policy instruments in the field of organ donation.

Refusal rates to organ donation are measured as the number of refusals by a deceased patient's next of kin as a share of total family approaches for organ donation in small and big hospitals. Focusing on family refusals allows us to considerably narrow down the pool of relevant explanatory factors. There are not only striking differences in refusal rates between Switzerland and Spain, but also among regions within Switzerland (see figure 2). By contrast, there is no systematic regional variation of refusal rates in Spain (cf. Organización Nacional de Trasplantes 2009).

The "Spanish model" of organ donation is internationally referred to as an example of best practice. Spain has very low refusal rates (16.9 per cent in 2009) resulting in the world's highest organ donation rates (Matesanz 2008; Matesanz and Dominguez-Gil 2007). Switzerland exhibits low organ donation rates in international comparison (Council of Europe 2011; Manatschal and Thomann 2011: 16). Despite the adoption of key organisational elements of the Spanish model in 2007, Swiss refusal rates (42.5 per cent) exceed Spanish rates in 2009 by 2.5 times. Furthermore, figure 2 reveals a clear regional-linguistic gap in Switzerland. The refusal rate in big hospitals in German-speaking Switzerland (49 per cent) is 1.7 times higher than the refusal rate of big hospitals in the French- and Italian-speaking (= Latin) part of Switzerland (28.4 per cent). Finally, refusal rates are clearly higher in big compared to small hospitals in Switzerland, but not in Spain.

Figure 2: Refusal rates to organ donation in Spain and Switzerland



Notes: Refusal rate = number of refusals by next of kin as share of total requests (in per cent). Reference year: Spain: 2009. As the number of observations for small hospitals in Switzerland is very low per year, we rely on the mean values of the years 2007, 2008 and 2009 for Swiss hospitals, as the refusal rates are very stable over time. Number of observations: ESP big hospitals: N= 1925, ESP small hospitals: N= 484, CH (Latin part) big hospitals: 199, CH (Latin part) small hospitals: N= 36, CH (German part) big hospitals: N= 303, CH (German part) small hospitals: N= 37. Data sources: Swiss Donor Action (mean of 2007, 2008, 2009), Organización Nacional de Trasplantes (ONT 2009).

Accordingly, we compare big with small hospitals and define six cases in five different contexts for the following empirical analysis. Small versus big hospitals in German-speaking Switzerland (context 1) and small versus big hospitals in the Latin part of Switzerland (context 2) are together embedded in Switzerland’s national setting (context 3), and finally, small versus big hospitals in Spain (context 4). Unlike in Switzerland, there is no regional policy variation in Spain (see section 5.4). While this renders a regional analysis for Spain unnecessary, comparing the different situation in Swiss regions with Spanish regions (context 5) facilitates a cross-validation of our findings regarding the impact of regional policy instruments on refusal rates.

Our comparisons within and between countries implies that we use different comparative research strategies for single contextual analyses: When first comparing big and small hospitals within and across Swiss regions, the subsystem analyses correspond to a most similar systems design. When turning to the comparison of Swiss and Spanish hospitals, the focus moves from internal to external validity, corresponding to a most different systems design (Gerring 2008: 202ff; Levi-Faur 2006; Lijphart 1971).

For analytical purposes, we categorize refusal rates. A look at figure 2 reveals that dichotomization would be problematic (cf. Goertz 2006). Obviously, small hospitals in Switzerland have high refusal rates compared to overall low refusal rates in Spanish hospitals. But do big hospitals in German Switzerland display low or high refusal rates? Opting for a more subtle coding facilitates a more differentiated analysis. Based on these considerations, we chose four levels, with low numbers denoting low refusal rates: a refusal rate from 0 to 20 per cent is coded 0, from 21 to 40 per cent 1, and from 41 to 60 per cent 2. Refusal rates exceeding 61 per cent are coded 3.

4.2 Data sources

Our data stem from a research project mandated by the FOPH in 2010 which compared organ donation policies, processes and organizational structures in Spain and Switzerland (Manatschal and Thomann 2011). The information regarding explanatory factors bases on a qualitative content analysis of primary and secondary literature (legal documents³ and scientific studies) as well as semi-structured interviews with overall 28 experts in both countries

³ Switzerland: law on transplantation (“Transplantationsgesetz”; SR 810.21) and the decrees on transplantation (“Transplantationsverordnung”; SR 810.211) and allocation of organs (“Organzuteilungsverordnung”; SR 810.212.4). Spain: law on transplantation (Ley 30/1979, de 27 de octubre), the regulation on funding of organ donation and transplantation processes (Orden/sco/3685/2004, de 2 de noviembre) the decree on the regulation of organ donation processes (Real decreto 2070/1999, de 30 de diciembre), and the decree on the approval of the national entity for organ donation, the “Organicación Nacional de Trasplantes” (Real decreto 176/2004, de 30 de enero).

(see table 8 in the appendix). The data on the outcome stem from national quality programs. All authorised Spanish donor hospitals participate in the “*Programa de Garantía de Calidad*”, the annual evaluation of donor activities in Spanish hospitals. The “Swiss Donor Action” program was effective until 2009 and covers most, but not all donor hospitals in Switzerland. Since the refusal rates between hospitals of the same type do not differ systematically in Switzerland, the participant hospitals are considered representative for the country (Manatschal and Thomann 2011: 64ff).

4.3 The method of Comparative Multilevel Analysis

Small and intermediate N research often faces the problem of “too many variables, too few cases”, also called limited empirical diversity, which makes it difficult to draw genuine explanations. Solutions are either increasing the number of cases or reducing the number of variables (Peters 1998: 70ff.). Intrasystem comparison (Lijphart 1971) addresses limited diversity via the controlled comparison of units of observations which are nested within one system. However, this method cannot explain why certain explanatory factors might emerge as relevant factors for the explanation of outcome Y in one context, while they appear irrelevant for the attainment of outcome Y in another context. This contextual effect is neither noticed nor can it be accounted for by mere intrasystem analysis. The latter has therefore clear limitations for the analysis of subsystems from different systems and for determining the influence of contextual factors on subsystems (Denk 2010).

One way to mitigate these problems is the two-step approach in Qualitative Comparative Analysis (QCA) (Schneider and Wagemann 2006) which distinguishes between remote and proximate factors. However, the use of QCA is limited to a medium-sized number of cases. The “Comparative Multilevel Analysis” (CMA) of Denk (2010) proposes a fairly simple set of four completions to conventional qualitative comparative methodology which facilitates

the analysis of contextual effects on subsystems in small-N qualitative research. As we face the challenge to find out which of the many policy instruments identified in the literature (table 1) explains refusal rates in divergent contextual settings, we consider the CMA-method a promising approach to address limited diversity (cf. Denk 2010: 30).

In a first step, the cases are grouped in relation to their similarities on the system level, creating thereby different subsystems within a multilevel structure. In a second step called “intra-system analysis”, cases (i.e. small and big hospitals) *within* each group are compared according to the method of paired comparison, resulting in as many comparative expressions as there are groups (Swiss German, Swiss Latin, and all Spanish regions). The paired comparative expressions resulting from this step build the base for the third analytical step, the “intersystem analyses” *between* regions. Besides regional differences (system I), we also consider contextual differences at the *national* level (system II; see table 2).

Table 2: Analytical framework of the CMA method for explaining refusal rates

<i>level of analysis</i>	Units of analysis					
<i>system II</i> (nations)	CH				ESP	
<i>system I</i> (regions)	CH (German part)		CH (Latin part)		Spanish regions	
<i>subsystem</i> (cases)	Big hospitals	Small hospitals	Big hospitals	Small hospitals	Big hospitals	Small hospitals

Notes: Own illustration based on Denk (2010: 32).

Here again, comparative expressions of the groups are compared. Differences in these expressions between groups indicate that the context might have an impact on the relationship between the explanatory factors and the outcome. Similarities signify that the context does not

matter (Denk 2010: 33). The fourth and final step involves the *formulation of expressions* for those grouped comparisons. These expressions describe whatever differences or similarities exist between the grouped cases regarding, firstly, the *relationship between explanatory factors and the outcome*, and secondly, the *context* (Denk 2010: 33).

The literature review (cf. table 1) guides our choice of policy instruments which we consider in the subsequent empirical analysis. Factors which did not vary across the cases at a specific level of analysis are not discussed (Berg-Schlosser and De Meur 2009: 28).

5 Empirical analysis

In line with the stepwise, bottom-up procedure of the CMA method, we start our analysis at the subsystem level with a case study of big and small Swiss hospitals, which are then compared in each Swiss region (first intrasystem analysis). Based on these findings, we extend the analytical scope by including policy instruments varying systematically between Swiss regions (first regional intersystem analysis). In a third step we conduct a case study of big and small hospitals in Spain, resulting in a second intrasystem analysis. We then compare Swiss and Spanish regions in a second regional intersystem analysis. In a fifth step, we extend the analysis to factors varying at the national level by conducting a third, national intersystem analysis.

5.1 Intrasystem analysis I (Hospitals in German-speaking and Latin Switzerland)

In Switzerland, organ donation is regulated in the Transplantation Act (TxG) from 2007. Each hospital with an intensive care unit (ICU) has a “donor key person” responsible for ensuring that potential donors are detected. The FOPH acts as enforcement agency. Swisstransplant, a

private foundation, pursues coordination activities related to organ donation. There are six Transplantation centres around which informal regional hospital networks have emerged. The biggest coordination network is that of Latin Switzerland (*Programme Latin de Don d'Organes*, PLDO) (Manatschal and Thomann 2011: 43).⁴

Small and big Swiss hospitals differ mainly in the application of carrots. Positive incentives regard the reimbursement of donor coordinators. Our investigations reveal that in the PLDO and in big hospitals of German-speaking Switzerland, the donor key persons are paid part-time specifically for their coordination activities. By contrast, in small hospitals of German-speaking Switzerland, the duties of donor key persons are integrated into their regular working activities. According to our Swiss interviewees, this lack of financial compensation implies a devaluation of the donor coordination function and is therefore perceived as a disincentive with regard to commitment.

Another negative incentive relates to the donor transfer. In 2009 about one third of the donors detected in a non-transplantation center were transferred to a bigger hospital for this organ retrieval (Swisstransplant 2009: 18f). Our Swiss interviewees at the hospital level report that the psychological stress caused by the perspective of being separated from the dead body is an important reason why relatives refuse to give their consent to organ donation in small Swiss hospitals.

Table 3 contains the two factors discussed, as well as the outcome refusal rate (ranging from 0 = low rate to 3 = high rate). High values in terms of explicitness or the existence of an explanatory factor are indicated by capital letters, while low values or the absence of a factor are indicated by low letters (cf. Denk 2010: 31).

Applying the strategies of controlled comparison and explaining differences with differences, donor transfer to big hospitals appears to be responsible for the higher refusal rate in small

⁴ PLDO: 2009: 4 big and 12 small donor action participant hospitals; Equally in 2008, 2007: 3/13. German part: 2009: 4 big and 11 small participant hospitals ; 2008: 4/15, 2007: 3/16.

compared to big hospitals in *German-speaking Switzerland*. What is more, the fact that donor coordinators have a positive incentive in terms of reimbursement contributes to the lower refusal rates in big hospitals. The same effect is observed in *Latin Switzerland*: no donor transfer and coordinator reimbursement coincide with low refusal rates in big hospitals. However, reimbursement is also given in small hospitals of the PLDO with higher refusal rates. Our findings thus suggest that reimbursement, unlike the absence of donor transfers, only represents a necessary but not a sufficient condition for low refusal rates.

Table 3: Factors varying at Swiss hospital level

Factors	CH-GE		CH-L		Level of analysis
	Big hospitals	Small hospitals	Big hospitals	Small hospitals	
<i>Carrots</i>					
Reimbursement of donor coordinators (positive incentive)	RC	rc	RC	RC	subsystem
Donor transfer for retrieval (negative incentive)	t	T	t	T	subsystem
Refusal rate	2	3	1	3	subsystem

Source: own illustration based on analytical table developed by Denk (2010).

Legend: capital letters = explicitness of sticks and sermons or existence of a positive / negative incentive (carrot); low letters = non-explicitness of sticks and sermons or absence of a positive / negative incentive.

Yet, in spite of the identical pattern of explanatory factors in big hospitals (reimbursement of donor coordinators, no donor transfer), the outcome differs between the two subsystems: refusal rates are lower in big Latin hospitals than in big German-speaking hospitals. Therefore, policy instruments at the hospital level do not suffice to explain refusal rates. Accordingly, we extend the analysis to policy instruments differing systematically at the level of Swiss regions.

5.2 Intersystem analysis I (Swiss regions)

Sermons in form of educational programmes for hospital staff vary systematically between hospitals from the PLDO and hospitals in German-speaking Switzerland.

According to the information provided by our Swiss interviewees at the national and regional level, the FOPH supports courses with a focus on communication with relatives for donor key persons in Switzerland, but not courses from the European Donor Hospital Education Programme (EDHEP). The regional network coordinators offer additional courses, with the PLDO dedicating most efforts and resources to sensitize and inform the ICU staff about donation processes. As the interviewed hospital coordinators confirm, in Switzerland the education of staff is provided, but it is especially comprehensive and intense in the Latin part (Swisstransplant 2008: 7; BAG 2008).⁵

Our interviews revealed that these differences in sensitization reflect in the attitudes of the hospital staff involved in the core processes of organ recruitment: in German-speaking hospitals, we often observed a negative tabooization and marginalization of the organ donation topic. In the PLDO, there is a strong commitment and motivation fostered by the network coordinator and donation activities have already become part of the self-concept of hospitals (Seiler et al. 2006).

Based on the insights from the regional analysis, we extend our analytical chart in table 4 by the regional factor education of hospital staff (systemic level I).

⁵ <http://pldo.hug-ge.ch/formation/modules.html> [last visit 25.05.2010].

5.3 Intrasystem analysis II (Spanish hospitals)

In line with the stepwise comparative heuristic proposed by Levi-Faur (2006), the analysis of small and big hospitals from a different national context enables us to cross-validate the previous findings and to test for potential policy effects from the national system level. Analogous to the Swiss case studies, we elaborate on policy instruments in Spanish hospitals.

Organ donation in Spain is regulated by the Spanish Law on the Retrieval and Transplantation of Organs from 1979. The sector is based on a three-tiered coordination system (hospital, regional, national). In each hospital with an ICU there is at least one hospital coordinator responsible for the coordination of donation and transplantation activities. The *Organización Nacional de Trasplantes* (ONT) enforces the law and coordinates donation activities. In each of the 17 autonomous regions there is a regional transplantation coordination office (Manatschal and Thomann 2011: 40).⁶

Hospital coordinators in small hospitals are employed part-time for their coordinating activities, whereas in big hospitals, they are either fully paid or share one full-time position with other coordinators (Matesanz 2008: 23). According to our Spanish interviewees, the coordinators' motivation does not only base on altruism, but also on the appropriate payment of coordination activities (Matesanz and Dominguez-Gil 2007: 184).

Instead of transferring the donor to a different hospital, mobile teams of surgeons travel to small hospitals for organ retrieval (Martín et al. 2008: 63f).

The complemented analytical chart in table 5 reveals that, unlike in Switzerland, there is no significant difference between big and small hospitals in Spain: both display comparatively low refusal rates (coded 0), and no variation in the explanatory factors. Overall, the Spanish observations are in line with the pattern identified for Swiss hospitals. An adequate reimbursement of donor coordinators and local retrieval of organs coincide with low refusal rates.

⁶ 2009: 71 big hospitals and 68 small hospitals (ONT 2009).

In spite of these apparent similarities, a direct comparison of Spanish and Swiss big hospitals reveals differences in the outcome refusal rates (1 or 2 in Switzerland vs. 0 in Spain) which lead us to a second intersystem comparison, this time of Swiss and Spanish regions.

Table 5: Factors varying in Spanish and Swiss hospitals

Factors	CH-GE		CH-L		ESP		Level of analysis
	Big Hospitals	Small Hospitals	Big hospitals	Small Hospitals	Big hospitals	Small Hospitals	
<i>Carrots</i>							
Reimbursement of donor coordinators (positive incentive)	RC	rc	RC	RC	RC	RC	subsystem
Donor transfer for retrieval (negative incentive)	t	T	t	T	t	t	subsystem
refusal rate	2	3	1	3	0	0	subsystem

Source: own illustration based on analytical table developed by Denk (2010).

5.4 Intersystem analysis II (Swiss and Spanish regions)

The Spanish Model of organ donation was established before the decentralization of Spain's health care system and therefore applies to all regions equally (Manatschal and Thomann 2011: 46). There are no systematic regional variations of policy instruments as in Switzerland, which renders regional analyses in the Spanish case unnecessary.

The Spanish organ donation system is strongly professionalized: the regional authorities and the hospital coordinators themselves educate and sensitize hospital staff about organ donation. Additionally, the ONT offers at least four different courses and seminars for coordinators, hospital staff (including EDHEP courses) and the population. Thus, as shown in table 6, Spanish education about donation is very comprehensive and highly inclusive (Matesanz 2008:

be attributed to the more explicit sermons in terms of a comprehensive education of hospital staff in Spanish regions. However, when comparing hospitals in Spanish regions with those in the PLDO, the differing outcomes resulting from the same subsystem conditions can no longer be explained by regional policies, as explicit education of hospital staff exists in the PLDO as well as in all Spanish regions. In the following, we therefore extend our comparison of the PLDO and Spanish regions by considering national sermons, carrots and sticks.

5.5 Intersystem analysis III (Switzerland and Spain)

Sermons

Regarding *family approach*, managing the processes of family decision-making is not part of the duties of the donor key persons in Switzerland; they only need to *ensure* that the relevant donation processes take place in their hospital (BAG 2008). Our interviews revealed that a donor key person only carries out or manages the request for organ donation if she is the ICU surgeon in charge of the patient, who also communicates the death. According to the information provided to us by coordinators and Swisstransplant, the request for donation usually precedes the second step of brain death diagnosis (SAMW 2005: 7), which is only completed if there is a chance for organ donation. Thus, there is generally neither temporal nor personal decoupling of diagnosis and request. All interviewees confirmed that the practice of reapproach is negatively perceived and never applied.

By contrast, our conversations with Spanish interviewees showed that the Spanish hospital coordinator is involved in all processes of family decision-making and takes comprehensive care of the relatives (Manatschal and Thomann 2011: 53, 70-77, 112). Due to different protocols regarding brain death diagnosis, both the temporal and personal decoupling of the request for organ donation are possible and thus, common practice in Spain (Real decreto 2070/1999, Anexo I). Moreover, interviewees reported that even if the relatives' initial reaction is nega-

tive, the coordinators repeat their request several times (reapproach), which allegedly often leads to reconsiderations (Matesanz 2008: 29, 38f).

When it comes to *public awareness raising (information and education)*, our interview partners at the national level stressed that the TxG obliges the FOPH to remain strictly neutral in its public information, which includes an information website, placards and advertisements. The state enables individuals to make an informed decision and motivates them to communicate their decision, but without aiming at increasing the population's willingness to donate. In contrast, Swisstransplant takes a more pro-donation stance in its PR activities. The messages directed toward the population can therefore be ambiguous. The FOPH also provides non-compulsory teaching materials for instructors (BAG 2008: 15f; Schulz et al. 2006: 294).

The Spanish state, in turn, explicitly encourages “voluntary, altruistic and non-remunerative organ donation” by law to ensure that every citizen in need of a donor organ has optimal chances for it (Real decreto 2070/1999, art.7 and 19). The ONT promotes organ donation via close relations to the media (specifically television), campaigns and other channels (Matesanz and Dominguez-Gil 2007: 183f.). Thus, public information in Spain is more comprehensive, more explicitly promoting donation, clearer in its message, and much more relying on media reaching a broad public. The ONT frequently organizes information and education campaigns at schools and universities (Manatschal and Thomann 2011: 101f).

Switzerland runs a voluntary program for *quality control* of donation processes in hospitals. According to Swisstransplant, this program did not evaluate the causes of family refusals until 2009 which could ensure the improvement of family request processes, and its results are not published.

Spain has a comprehensive system of quality control which includes a systematic evaluation of the reasons for family refusals and their publication. Interviewees stressed that information about problematic behavior has a motivational effect on hospital staff (ONT 2007).

Carrots

To cover the costs of donation and transplantation processes in Switzerland, until 2012 allowances were paid to hospitals for cases (not processes). They did not cover any activity preceding organ retrieval, such as the family approach, which is regarded as a regular part of the job profile of hospital staff. No reimbursement took place if an organ was retrieved, but not transplanted.⁷ Swiss interviewees reported that the lack of recompensation for donation processes of a non-medical nature has a discouraging effect on hospital staff and thus represents a disincentive for their commitment.

In Spain, the donation processes covered by the public health budget within a system of advance payment are clearly defined and entail everything before the actual retrieval of the organ, independently of its outcome. Both ICU staff and coordinators receive compensations (additional to their regular salary) for their work in donation processes, either via fixed allowances or by working time. This incentive structure works not least due to the comparatively low basic salaries of Spanish surgeons (Matesanz and Dominguez-Gil 2007: 184ff; Matesanz 2004: 184ff).

Sticks

In Switzerland's informed consent system, relatives of potential donors are approached to inquire the already known or presumed will of the deceased person.⁸ The Spanish legislation bases on the presumed consent principle. Although everyone is considered a potential donor, the relatives are always asked whether they oppose organ retrieval (Matesanz 2008: 181;

⁷ See „Vertrag zwischen dem Schweizerischen Verband für Gemeinschaftsaufgaben der Krankenversicherer (SVK) und den sechs schweizerischen Universitätsspitalern betreffend die Transplantation solider Organe“ (2005); <http://www.svk.org/?ln=de&menu=3&sub=4> [Last visit 17.05.2010]; Bundesrat (2010: 140).

⁸ <http://www.bag.admin.ch/transplantation/06518/06519/index.html?lang=de> [Last visit 18.05.2010].

Quigley et al. 2008: 223).

Table 7 includes all policy instruments discussed so far, which vary at different systemic levels between the six cases.

Table 7: Factors varying at national level

Factors	CH-GE		CH-L		ESP		Level of analysis	
	Big hospitals	Small Hospitals	Big hospitals	Small Hospitals	Big hospitals	Small Hospitals		
<i>Sermons</i>								
Family approach	fam	fam	fam	fam	FAM	FAM	system II (national)	
Public awareness raising	ar	ar	ar	ar	AR	AR	system II (national)	
Quality monitoring	qm	qm	qm	qm	QM	QM	system II (national)	
<i>Carrots</i>								
Cost coverage (pos. incentive)	cc	cc	cc	cc	CC	CC	system II (national)	
<i>Sticks</i>								
Legal model of consent	lm	lm	lm	lm	LM	LM	system II (national)	
<i>Sermons</i>								
Education of hospital staff	edu	edu	EDU	EDU	EDU	EDU	system I (CH & ESP regions)	
<i>Carrots</i>								
Reimbursement of donor coordinators	RC	rc	RC	RC	RC	RC	subsystem	
Donor transfer for retrieval	t	T	t	T	t	t	subsystem	
refusal rate	2	3	1	3	0	0	subsystem	

Source: own illustration based on analytical table developed by Denk (2010).

In order to formalize the comparative expressions arising from table 7, we add another pair of square brackets designating the second contextual system level with the national policy factors preceding these brackets.

CH (PLDO): fam, ar, qm, cc, lm [EDU [RC, t → 1]]

ESP: FAM, AR, QM, CC, LM [EDU [RC, t → 0]] (formalization 3)

As formalization 3 suggests, the different refusal rates between Switzerland and Spain resulting from identical grouped comparative expressions can most probably be explained by contextual differences in policy instruments at the national level. Accordingly, an explicit family approach (decoupling, reapproach), explicit public awareness raising and quality monitoring, a comprehensive cost coverage (positive incentive) and an explicit legal model (presumed consent) might help to reduce relatives' refusal rates to organ donation. Yet, we cannot specify which of these numerous factors or combination of factors is decisive. Thus, the problem of limited diversity persists at the national analytical level.

5.6 Addressing causal complexity

Thanks to its distinction of different contextual levels of analysis, the CMA method could indeed handle a higher degree of complexity than conventional comparisons of subsystems at the first two levels of our analysis (Denk 2010: 37). However, it has reached its limits at the national level where a high number of explanatory factors prevail. An alternative strategy to reduce the number of variables to address the problem of limited diversity is to create higher order constructs (Ragin 2000: 321ff), which we will do in the following by ascribing the indicators listed in table 7, i.e. the concrete policy instruments, to secondary-level concepts, i.e.

types of policy instruments. Based on our analytical distinction of different policy varieties, we rewrite table 7 in terms of varieties of policy instruments (see table 8 below). For example, since all sermons are explicit in Spain and non-explicit in Switzerland, we denote them with “SERM” and “serm” respectively. In a similar vein, positive incentives are denoted with capital letters, negative ones with lower-case letters.

Table 8: Specifications of policy instruments varying at all levels

Policy instruments	CH-GE		CH-L		ESP		Level of analysis
	Big hospitals	Small Hospitals	Big hospitals	Small Hospitals	Big hospitals	Small Hospitals	
<i>Sermons</i>	serm	serm	serm	serm	SERM	SERM	system II (national)
<i>Carrots</i>	carr	carr	carr	carr	CARR	CARR	system II (national)
<i>Sticks</i>	sticks	sticks	sticks	sticks	STICKS	STICKS	system II (national)
<i>Sermons</i>	serm	serm	SERM	SERM	SERM	SERM	system I (CH & ESP regions)
<i>Carrots</i>	CARR	carr	CARR	carr	CARR	CARR	subsystem
refusal rate	2	3	1	3	0	0	subsystem

Source: own illustration based on analytical table developed by Denk (2010).

The resulting formalization 4 reveals that policy instruments in Spain such as explicit sermons, positive incentives (cost coverage) and a more explicit legal model (presumed consent) vary systematically from Swiss policies. We still cannot specify which type of policy instrument or a combination thereof is responsible for the lower refusal rates in Spain. However, formalization 4 strongly suggests that it is not so much different types, but different varieties of policy instruments at the national level, *i.e. the degree of explicitness of sticks and sermons, and whether positive or negative incentives are given*, which account for varying outcomes.

CH (PLDO): serm, carr, sticks [SERM [CARR → 1]]

ESP: SERM, CARR, STICKS [SERM [CARR → 0]] (formalization 4)

6 Conclusions

In this paper, we tested the analytical usefulness of Comparative Multilevel Analysis (CMA, Denk 2010) in assessing the relevance of specific policy instruments at different contextual levels (hospital, regional, and national) for relatives' refusal rates to organ donation in small and big Swiss and Spanish hospitals.

Our empirical evidence suggests that the stepwise grouped multilevel comparison of CMA offers indeed a viable strategy to detect systematic contextual effects on individual level behavior. Firstly, intrasystem comparisons of small and big hospitals in German-speaking, in Latin Switzerland and in Spain revealed the relevance of “in situ” organ retrieval and coordinator reimbursement for lower refusal rates. Secondly, the intersystem comparison of Swiss and Spanish regions highlighted the importance of a comprehensive education of the hospital staff. A number of policy instruments varying at the national contextual level are thirdly relevant for explaining the differences between Swiss and Spanish hospitals.

In contexts where low causal complexity prevails, the CMA method succeeded in disentangling the causal puzzle of the explanations identified in existing research. However, as our national intersystem analysis revealed, CMA is not able to resolve the challenge of limited diversity entirely in contexts of high causal complexity.

This is no reason to resign. As we showed in our last analytical step, more satisfying conclusions can be drawn if CMA is combined with other strategies reducing causal complexity

such as higher order constructs. Thanks to our refinement of Vedung's (1998) policy typology, we detected a more general pattern underlying the relationship between policy instruments and refusal rates to organ donation: More explicit sermons and sticks (i.e. involving more explicit state action to influence the policy goal), as well as positive incentives which encourage organ donation activities, coincide with lower refusal rates. Thus, the distinction of policy contexts in terms of varieties of single policy instruments, rather than just different policy instruments themselves, can ultimately explain the differences in refusal rates between Switzerland and Spain.

Considering different varieties of single policy instruments may therefore have a high analytical value for analyses applying Vedung's (1998) typology. Furthermore, our analysis suggests that the degree to which the state attempts to influence or even foster the goal of a policy indeed influences its effectiveness. Such an insight is useful for the choice of instruments, specifically if the goals concern such fundamental values and are as contested as in morality politics.

We could only partially control for the cultural context which also matters for explaining differences in refusal rates (Dunkel 2011; Healy 2005; Mossialos et al. 2008; West and Burr 2002). It remains an open question to be addressed by future research how cultural differences favour the adoption of specific policy instruments, or, conversely, to which extent the policy instruments in place shape culture (Coleman 1990). Nevertheless, our comparison of Latin speaking Switzerland (PLDO) with Spanish regions provides a strong argument that policies matter, as even in regions belonging to the same Latin cultural sphere varieties in policy instruments coincide with varying refusal rates.

Our final verdict on the CMA method is ambiguous. The method offers a valuable approach for comparing subsystems as inconsistencies between different subsystems no longer represent "analytical noise", but the starting point of the search for explanatory factors at a higher

contextual level. However, it seems that similar to QCA, CMA is only useful in overcoming the challenge of limited diversity if a reasonably low number of explanatory factors exist. If this is not the case, the method can still be combined with conventional strategies addressing limited empirical diversity such as increasing the number of cases or reducing the number of variables.

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Appendix

Table 6: Interviewees: Place and function

Country	Spain		Switzerland		
Region	Madrid	Castilla - La Mancha	Network Zürich	Network Bern	PLDO
<i>Hospital level</i>	Hospital Clínico San Carlos, Madrid 2 donor coordinators (intensive care professionals)	Hospital Virgen de la Salud, Toledo 2 donor key persons (1 intensive care professional, 1 ICU surgeon)	Kantons-spital Glarus 1 donor key person (ICU surgeon)	Spital Thun 2 donor key persons (1 ICU surgeon, 1 intensive care professional)	CHUV Lausanne 2 donor key persons (intensive care personnel) Hôpital du Jura 1 ICU surgeon Ospedale Civico Lugano 1 donor key person (intensive care professional)
<i>Regional level</i>	Autonomous coordination office 3 autonomous coordinators	Autonomous coordination office 2 autonomous coordinators	USZ Zürich 1 Transplantation coordinator	Inselspital Bern 1 Transplantation coordinator	HUG Genf 1 Transplantation coordinator
<i>National Level</i>	ONT 2 national coordinators		Swisstransplant : 3 Persons FOPH: 2 Persons		
<i>Experts</i>	Dr. Rafael Matesanz, director ONT		Diane Moretti, general coordinator PLDO		

With the exception of the consulted experts, the names of the interviewees are not published in order to maintain their anonymity.