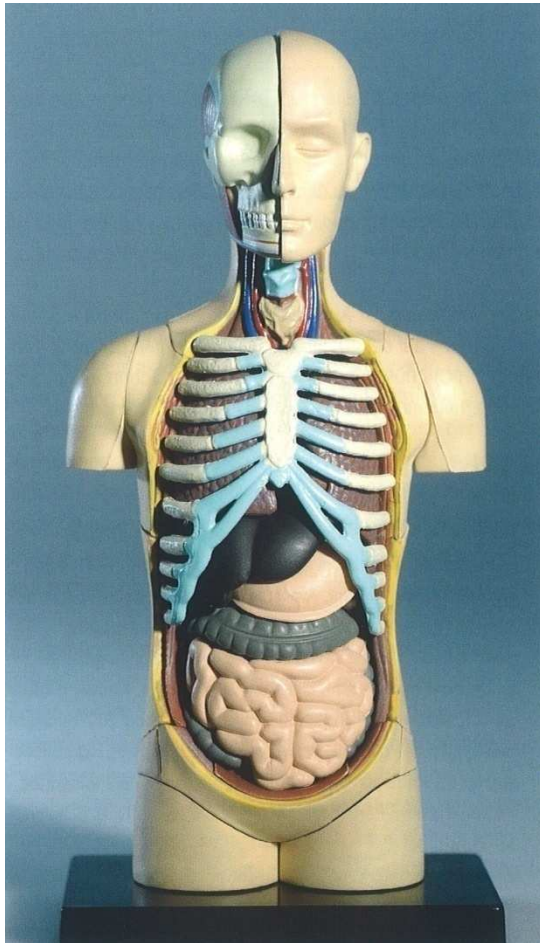




# Applying SNOMED CT & ID MACS terminology to the German electronic commitment statement for organ donation (eOSE)



**Ontologies-Workshop,  
Leipzig, 28.11.09**

Dr. Gunther Hellmann, HellmannConsult



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# Cooperation

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- EBMF-team is  
a working group (AG) at HL7-user group Germany  
(Einheitliche Benennungen medizinischer Fachanwendungen)

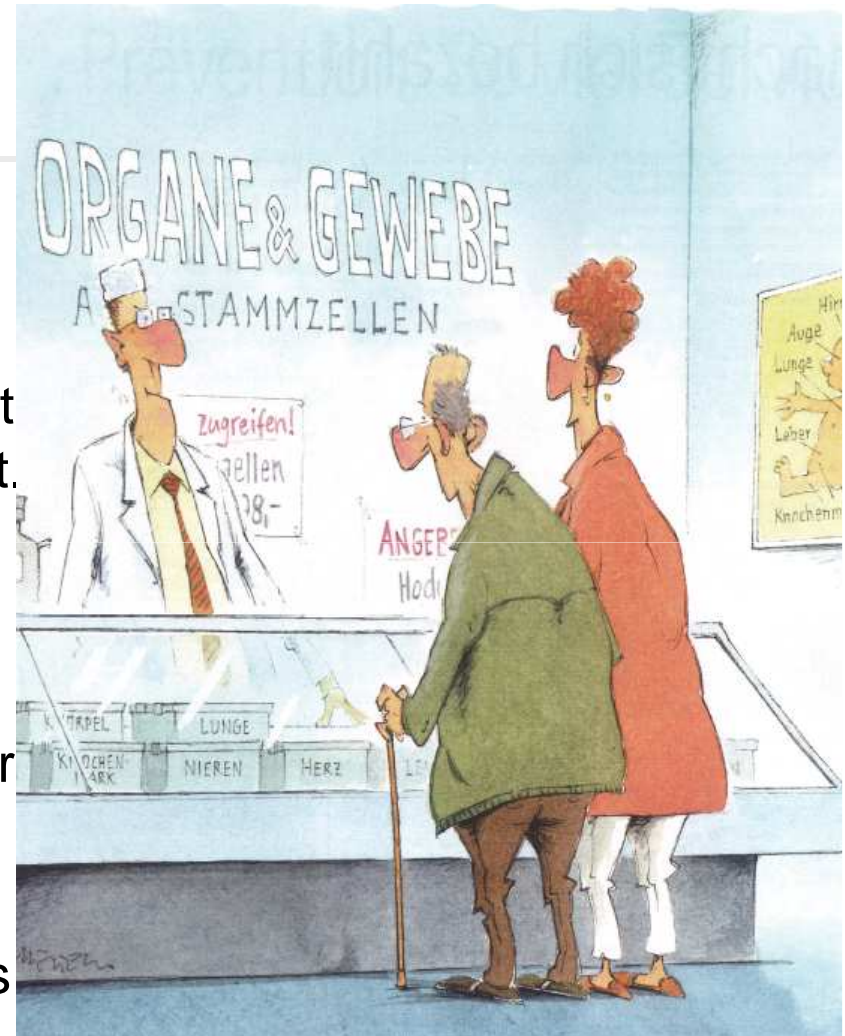
- |                         |  |
|-------------------------|--|
| • Dr. Heitmann, Kai     | HL7-Benutzergruppe in Deutschland e.V. |
| • Oemig, Frank          | AGFA HealthCare GmbH                   |
| • Neumann, Mark         | ID Berlin                              |
| • Dr. Gessner, Christof | MxDx IT-Beratung                       |
| • Dr. Thun, Sylvia      | DIMDI                                  |





# Introduction

- Anybody can get in such a situation.
- DSO: donating is getting less.
- In Germany the extended commitment (erweiterte Zustimmungslösung) is set.
- BMG took action: §291a, eGK shall include statement for organ donation.
- gematik has extended specification for emergency data set (Fachkonzept Notfalldaten).
- EBMF: commitment statement seems to be a simple (?) task.



From „Der Kassenarzt“, Nr. 8, Mai 2009, S. 42



# From a commitment to transplantation

- Paper sheet
- German and Turkey
- 10 more languages

The image shows a German organ donation card. The top header is orange and blue, with the text 'Organspendeausweis nach § 2 des Transplantationsgesetzes' and the German eagle emblem. Below the header, there are fields for 'Name, Vorname', 'Geburtsdatum', 'Straße', and 'PLZ, Wohnort'. Logos for 'FÜRS LEBEN FÜR ORGANSPENDE' and 'Organspende schenkt Leben.' are present. A vertical blue bar on the right side reads 'Erklärung zur Organ- und Gewebespende'. The main body of the card is yellow and contains a declaration in German: 'Für den Fall, dass nach meinem Tod eine Spende von Organen/Geweben zur Transplantation in Frage kommt, erkläre ich:'. It includes radio button options for 'JA, ich gestatte...', 'JA, ich gestatte dies, mit Ausnahme...', 'JA, ich gestatte dies, jedoch nur für folgende...', 'NEIN, ich widerspreche...', and 'Über JA oder NEIN soll dann folgende Person entscheiden:'. There are also fields for 'Name, Vorname', 'Telefon', 'Straße', 'PLZ, Wohnort', 'Platz für Anmerkungen/Besondere Hinweise', 'DATUM', and 'UNTERSCHRIFT'.

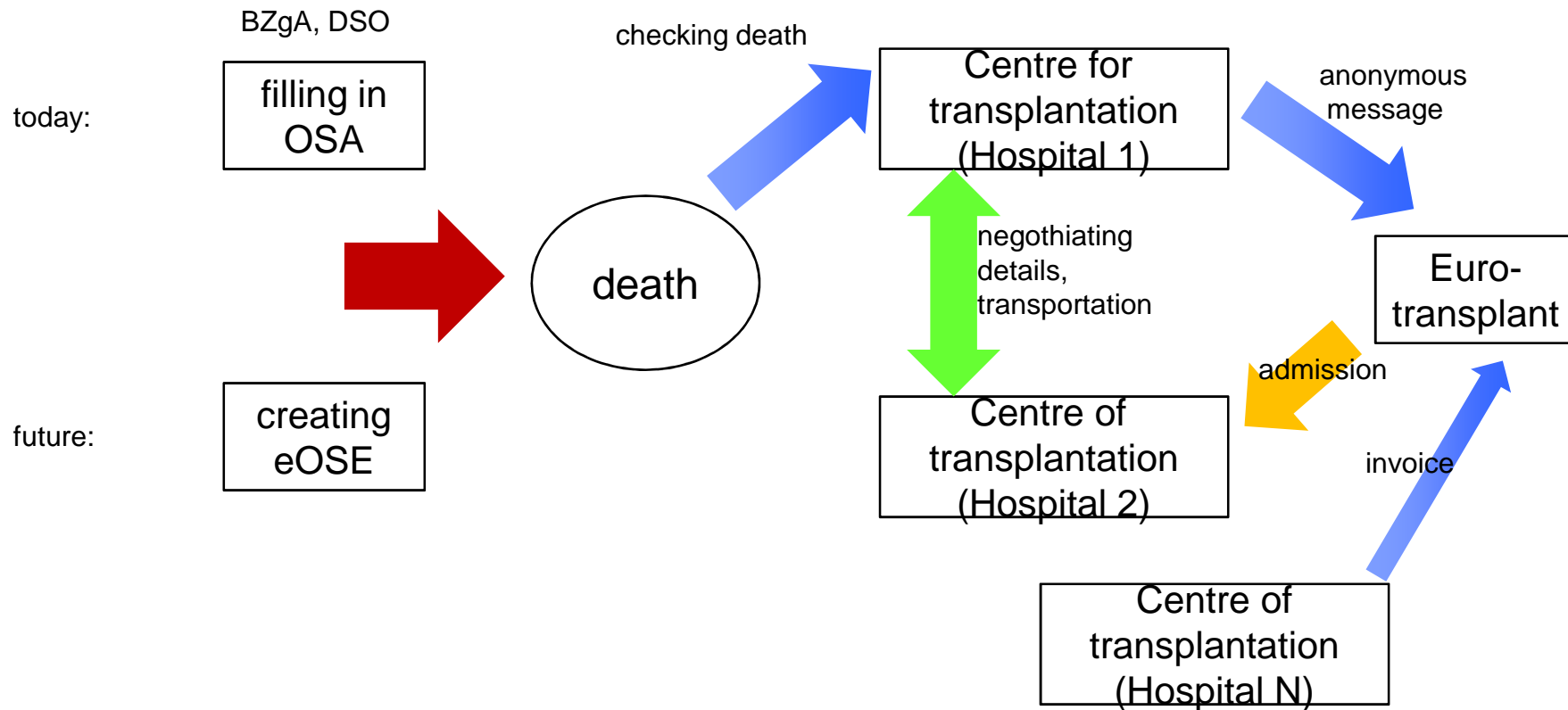
- Declaration note (BMG-Verwaltungsvorschrift) from 1998 defines the presentation form and content of the sheet.
- The law of transplantation specifies the workflow.

Commitment addendum  
Bulgarian, BZgA

The image shows a Bulgarian declaration note titled 'Даряването на органи' (Organ Donation). It is a 'Donor Booklet' (Донорна книжка) according to § 2 of the Transplantation Act. It includes fields for 'име, фамилия' (name, surname) and 'дата на раждане' (date of birth), and 'улица' (street) and 'пощ. код, населено място' (postal code, populated area). The main text asks for consent to organ donation: 'В случай, че след смъртта ми възникне възможност за даряване на органи/тъкани за трансплантация, правя следното заявление:'. It provides radio button options for 'ДА, давам съгласието си...', 'ДА, давам съгласието си с изключение на...', 'НЕ, не съм съгласен/а...', and 'ДА или НЕ - в този случай решението да бъде взето от следното лице:'. There are also fields for 'име, фамилия', 'телефон', 'улица', and 'пощ. код, населено място'. At the bottom, there are fields for 'Место за безжал. други указания' (place for final wishes), 'ДАТА', and 'ПОДПИС' (signature).



# Workflow





# Methodology

- TOGAF  
(The Open Group Architecture Framework)
- in line with the „VHitG-Arztbrief“
- independent of eGK, but fulfilling details
  
- use cases
- information objects
- actors and roles
- technology
  - standards
  - terminology
  - mapping to HL7 V3 CDA r2
  - (model for processes)

=>



HL7-Benutzergruppe in Deutschland e. V.

## Implementierungsleitfaden „elektronische Organspendeerklärung“ (eOSE)

Version 08  
Stand: 02. März 2009  
Dokumenten-OID: [1.2.276.0.76.2.4](#)

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HL7-Benutzergruppe in Deutschland e.V.  
Geschäftsstelle Köln  
An der Schanz 1  
50735 Köln

Implementation Guide, Version 08



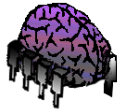
# Results

## Identified problems

- KIS: access rights & data storage
- Parallel existence (OSA, n\*eOSE)
- missing translations
- implicit rules today
- flexible way of representation on the paper sheet
- specific questions of implementation
- terminological mapping and semantic interpretation

## Use Cases eOSE

- U1: Erstellen, Ändern und Speichern
- U2: Zurücknehmen
- U3: Einsehen
- U4: Perimortales Abrufen
- U5: Übertragen der Daten an Eurotransplant
- U6: Versionsmigration
- U7: Auflisten vorhandener eOSEs
- U8: Überprüfung einer eOSE



# Organ Names and Translations

No.	Beschreibung										
	Deutsch	Bulgarisch	Englisch	Französisch	Italienisch	Kroatisch	Polnisch	Rumänisch	Spanisch	Türkisch	Ungarisch
1	Herz	сърце	Heart	coeur	cuore	srce	serce	inimă/cord	el corazón	kalp	szív
2	Lunge	бял дроб	Lung	poumons	polmone	pluća	pluco	plămân	los pulmones	akciğer	tüdő
3	Leber	черен дроб	Liver	foie	fegato	jetra	wątroba	ficat	el hígado	karaciğer	máj
4	Nieren	бъбреци	Kidneys	reins	reni	bubrezi	nerki	rinichi	los riñones	böbrek	vesék
5	Bauchspeicheldrüse	панкреас	Pancreas	pancréas	pancreas	gušterača (pankreas)	trzustka	pancreaz	los páncreas	pankreas	hasnyálmirigy
6	Darm	черво	Bowel	intestins	intestino	crijevo	jelito	intestine	el intestino	bağırsak	bél
7	Teile der Haut	части от кожата	Parts of the skin	peau, parties	parti della pelle	dijelovi kože	części skóry	părți din pielea (epidermă/dermă)	partes de la piel	derinin bazı kısımları	a bőr részei
8	Hornhaut der Augen	очна роговица	Cornea	cornée	cornea	rožnica očiju	rogówka oka	cornee	las corneas	gözün kornea tabakası	a szem szaruhártyája
9	Gehörknöchelchen	слухови костици	Inner ear bones	osselets	ossicini dell'orecchio	slušne koštice	kosteczka słuchowa	osiciri auditivi	los huesecillos del oído	orta kulak kemikçikleri	hallócsontok
10	Herzklappen	сърдечна клапа	Heart valves	valvules cardiaques	valvole cardiache	srčani zalisci	zastawki sercowe	valve ale cordului	las válvulas del corazón	kalp kapakçıkları	szívbillentyű
11	Teile der Blutgefäße	части на кръвоносните съдове	Parts of blood vessels	vaisseaux sanguins, parties	parti dei vasi sanguigni	dijelovi krvnih žila	części naczyń krwionośnych	părți din vasele sanguine	partes de los vasos sanguíneos	damarlar	a véredények részei
12	Teile der Hirnhaut	части на мозъчната обвивка	Parts of the brain tissue	méninge, parties	parti della meninge	dijelovi moždane opne	części opony mózgowej	părți ale meningelui	partes de la meninge	beyin zarı	az agyhártya részei
13	Teile des Knochengewebes	части на костната тъкан	Parts of bone tissue	tissu osseux, parties	parti del tessuto osseo	dijelovi koštanog tkiva	części tkanki kostnej	părți din țesuturile oaselor	partes del tejido óseo	kemik doku	a csontszövet részei
14	Knorpelgewebe									kıkırdak doku	
15	Teile der Sehnen	части на сухожилието	Parts of tendons	tendons, parties	parti dei tendini	dijelovi tetiva	części ścięgien	părți ale tendoanelor	partes de los tendones	kiriş doku	az inak részei





# ID MACS<sup>®</sup> / SNOMED CT

## ID MACS<sup>®</sup>:

automatic processing with  
terminology server ID LOGIK<sup>®</sup>

SNOMED CT: first translation,  
then adaption, finally search

- content could be mapped – not with ICD10
- singular / plural (4,8)
- parts instead of whole (11)
- uncertain mapping (6)
- variability of language (13)
- identification mistakes (12)

No.	Deutscher Begriff	ID MACS		SNOMED CT	
		Begriff	Code	Begriff	Code
1	Herz	Herz	T000BA8	entire heart	302509
2	Lunge	Lunge	T000B32	entire lung	181216
3	Leber	Leber	T001118	entire liver	181268
4	Nieren	Nieren	T0012D1	entire kidney	181414
5	Bauchspeicheldrüse	Bauchspeicheldrüse	T00117D	entire pancreas	181277
6	Darm	Darm	T00100C	entire large intestine	181250
7	Teile der Haut	Haut	T0000B1	skin part	119181
8	Hornhaut der Augen	Hornhaut (des Auges)	T001AB1	cornea	181162
9	Gehörknöchelchen	Gehörknöchelchen	T001BB7	ear ossicle structure	418450
10	Herzklappen	Herzklappe	T000C0A	entire heart valve	181285
11	Teile der Blutgefäße	Blutgefäß	T000C3A	blood vessel part	119206
12	Teile der Hirnhaut	Hirnhaut	T0015D3	brain structure	256865
13	Teile des Knochengewebes	Knochengewebe	T002669	bone (tissue) structure	313800
14	Knorpelgewebe	Knorpel	T000A58	cartilage tissue	309312
15	Teile der Sehnen	Sehne	T00080D	tendon structure	130240



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# Discussion

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- Identified problems are partially basic and must be solved for other application too.
- The work is in progress and therefore draft.
- Use cases such as „Versionsmigration“ or „Überprüfung durch einen unabhängigen Prüfer“ are new. Up to now there was no necessity because everybody could verify correctness by looking at.
- Electronic solutions offer benefit: e.g. plausibility checks for organs which will be donated.
- Semantical variability might cause persisting of errors in the processing (kidney != left or right kidney).



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# Recommendations

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- Continuation of work
- Open results at any working group
- Specifying more details of the use cases
- Applying o the methodology to other projects
- View of patients and customers must be investigate
- Semantical mapping should be extended to larger data sets

## Further areas

- Elektronik commitment for blood donation
- Documents about allergy, epilepsy, pregnancy, diabetes or vaccination



## More Information

- HL7-Mitteilungen, Nr. 25, S. 16 - 20

## Acknowledge

- DSO (Deutsche Stiftung Organtransplantation); ID Berlin

## Declaration

- SNOMED CT:  
Hereby a publication of the presented codes is not (!) given.





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# Thank for your attention

The animation was generated by Wolfgang Mahler.

Dr. Gunther Hellmann, HellmannConsult®, Erlangen

Tel: +49-9131-815185

Fax: +49-9131-978564

Mobil: +49-151-11716890

E-Mail: [g.hellmann@onlinemed.de](mailto:g.hellmann@onlinemed.de)