

European Perspective on Expedited Allocation

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CUTTING EDGE of
TRANSPLANTATION

TRANSPLANT SUMMIT 2018

*Breaking Through Regulatory Barriers
to Unleash Transplant Innovation*

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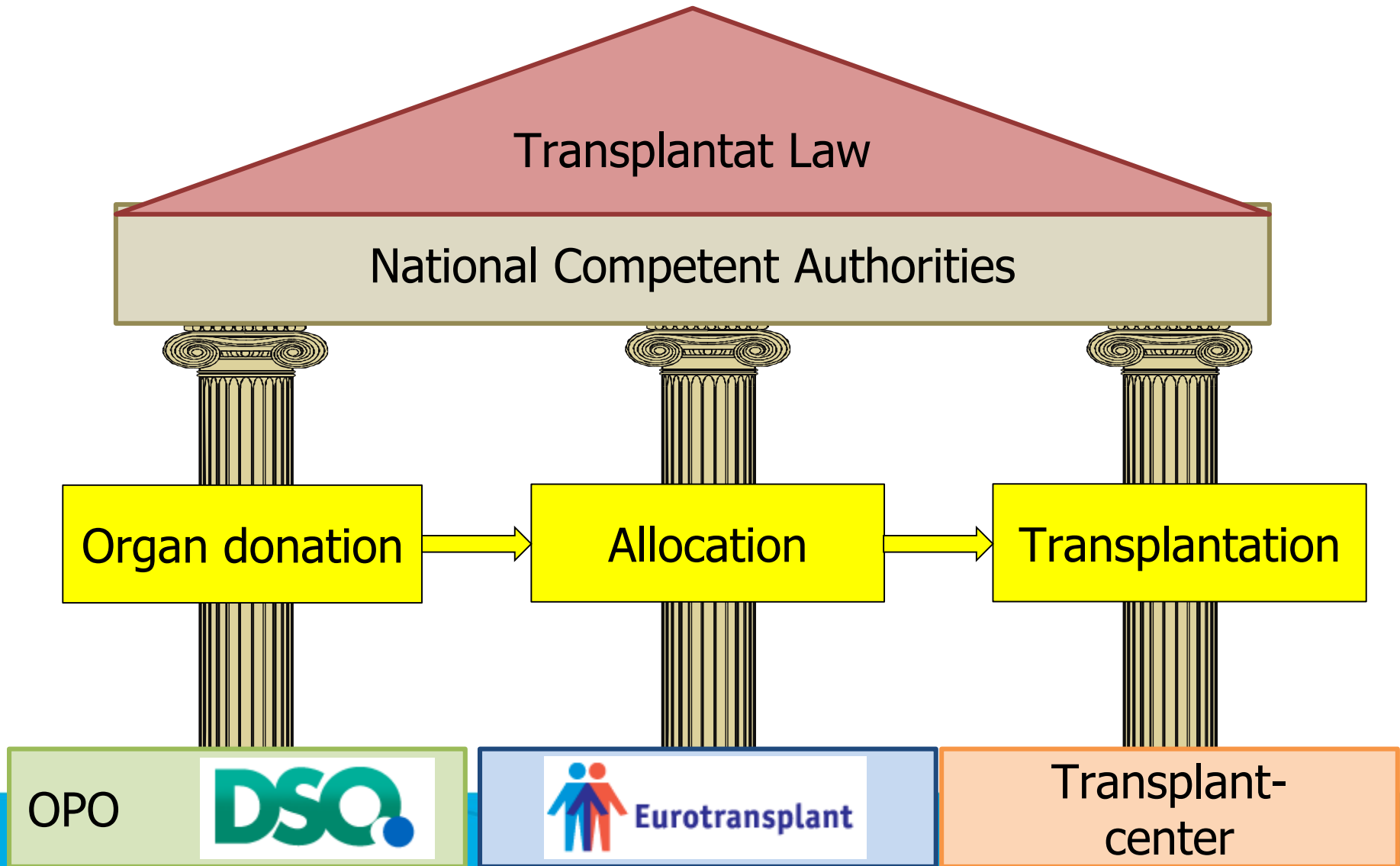
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Disclosure

I have nothing to disclose

Distribution of tasks in organ transplantation



Aims of organ allocation

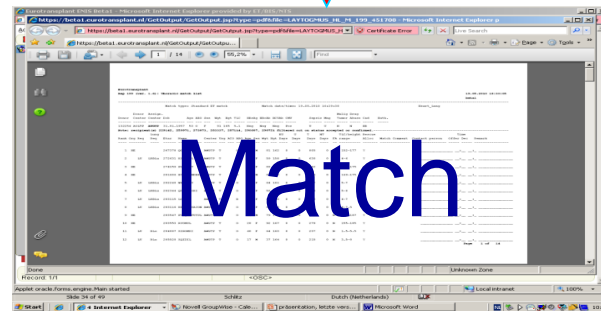
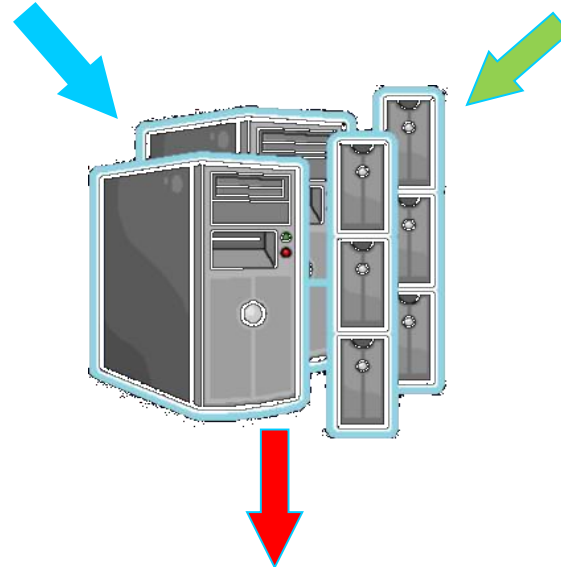
- Finding a suitable donor organ for every recipient on the waiting list (including special patient groups)
- Optimizing the match between donor and recipient to improve long term outcome of transplantation
- Preventing organ loss – finding a suitable recipient for every transplantable donor organ



Match

Donor data

Recipient data



Allocation – The key steps

- Step 1 - Selection:
 - Identifying those patients that are suitable at all for a specific organ among all patients on the waiting list.

Selecting: recipient and center profile

Recipient Waiting List Heart

ET Nr	Recipient Name	Date of Birth	ABO	Rh	Sex	HE	LU	LIV	PA	KI	Special	Reg. Ctr
267425	WIXEFH, RALF	14.01.1971	B	Pos	M	T						GAKTP

Min Age	<input type="text" value="18"/>	<input type="text" value="0"/>	HBsAg	<input type="text" value="Neg"/>	Sepsis	<input type="text" value="No"/>
Max Age	<input type="text" value="55"/>	<input type="text" value="99"/>	HBcAb	<input type="text" value="Neg"/>	Meningitis	<input type="text" value="No"/>
Min Height Female Donor (cm)	<input type="text" value="160"/>		HCVAb	<input type="text" value="Any"/>	Malignant Tumor	<input type="text" value="No"/>
Max Height Female Donor (cm)	<input type="text" value="190"/>		CMV	<input type="text" value="Any"/>	Drug Abuse	<input type="text" value="No"/>
Min Height Male Donor (cm)	<input type="text" value="160"/>				Domino Donor	<input type="text" value="No"/>
Max Height Male Donor (cm)	<input type="text" value="190"/>				Rescue Allocation	<input type="text" value="Yes"/>

Allocation – The key steps

- Step 1 - Selection:
 - Identifying those patients that are suitable at all for a specific organ among all patients on the waiting list.
- Step 2 - Ranking:
 - Determining the allocation sequence among all suitable recipients.
 - MELD, LAS, ETKAS etc.

Matchlist → Allocation

120087 V G ULJUOW G IEFUNNUR BETAL B Pos NLBTP 29.05.1966

Save Modify List Jump/Add Reports Close Sort by Rank Decision

RECIPIENT COMPLETE LIVER LIST

Rank	Crit.	ETnr	Name	Cent.	Req.	Decn.	Org.	Decn.-date	Comment
1	NAT	246891	TEURUJOWM	NRDTP	LIV	OF			
2	NAT	267734	SOILSAOH	NGRTP	LIV	OF			
3	NAT	257630	OLEPOTLENE	NRDTP	LIV				
4	LOC	249293	FOIM	NLBTP	LIV				
5	NAT	268078	KAOKK	NRDTP	LIV				
6	NAT	256336	EHNIMO	NRDTP	LIV				
7	NAT	246558	FOURHNI	NGRTP	LIV				
8	LOC	258017	HIUH	NLBTP	LIV				
9	NAT	158145	WAMV	NGRTP	LIV				
10	NAT	268816	MANUAL	NGRTP	LIV				
11	INT	268652	XOUHRIADOEKLEJDO	GESTP	LIV				
12	INT	260344	NILESM	GJETP	LIV				
13	INT	268468	IOPRUOKMUL	AWGTP	LIV				
14	INT	199824	SEUVUR	GLPTP	LIV				
15	INT	221566	FAPUHSUON	GMZTP	LIV				

„Rescue“ / „Expedited“ Allocation

- Shift from „standard“ to „expedited“ allocation takes place; when
 - No suitable recipient can be found using standard allocation prior to the start of explantation (for thoracic organs: plus travel time for the thoracic explant team)
 - (Abdominal) organ has been explanted and shipped but is turned down for the selected recipient and ischemic time does not allow restart of standard allocation
- Goal
 - Preventing organ loss („rescue“ of a precious organ) using a modified („expedite“) allocation scheme

First Step

Recipient-Oriented Expedited Allocation (REAL)

- All transplant centers that can be reached with the donor organ in time (taking acceptable ischemic time into account) are contacted
- Each center can identify up to two patients from its waiting list that could be transplanted with this donor organ
 - Taking donor and recipient characteristics and consent of the recipient into account
- These suitable recipients are reported back to Eurotransplant within 30 min after the offer
- Eurotransplant creates a match list of these suitable recipients based on the organ-specific allocation criteria and offers the donor organ in the sequence of this “Mini-Match”

Recipient-oriented expedited allocation (REAL)

Rank	ET-number	Name
1	911866	xxxxx xxxxxxxx
2	481844	xxxxx xxxxxxxx
3	95383	xxxxx xxxxxxxx
4	713120	xxxxx xxxxxxxx
5	315402	xxxxx xxxxxxxx
6	365392	xxxxx xxxxxxxx
7	154275	xxxxx xxxxxxxx
8	211370	xxxxx xxxxxxxx
9	224889	xxxxx xxxxxxxx
10	944251	xxxxx xxxxxxxx
11	236459	xxxxx xxxxxxxx
12	734391	xxxxx xxxxxxxx
13	741706	xxxxx xxxxxxxx
14	17870	xxxxx xxxxxxxx
15	948339	xxxxx xxxxxxxx
16	63200	xxxxx xxxxxxxx
17	565684	xxxxx xxxxxxxx
18	805966	xxxxx xxxxxxxx
19	459106	xxxxx xxxxxxxx
20	422810	xxxxx xxxxxxxx
21	2726	xxxxx xxxxxxxx
22	816131	xxxxx xxxxxxxx
23	984541	xxxxx xxxxxxxx
24	957569	xxxxx xxxxxxxx
25	658807	xxxxx xxxxxxxx
26	899606	xxxxx xxxxxxxx
27	959612	xxxxx xxxxxxxx
28	721421	xxxxx xxxxxxxx
29	591297	xxxxx xxxxxxxx
30	431398	xxxxx xxxxxxxx
31	388916	xxxxx xxxxxxxx
32	448791	xxxxx xxxxxxxx
33	374639	xxxxx xxxxxxxx
34	811682	xxxxx xxxxxxxx
35	275724	xxxxx xxxxxxxx
36	537873	xxxxx xxxxxxxx
37	42698	xxxxx xxxxxxxx
38	937302	xxxxx xxxxxxxx
39	865791	xxxxx xxxxxxxx
40	665731	xxxxx xxxxxxxx
41	633264	xxxxx xxxxxxxx
42	409280	xxxxx xxxxxxxx
43	680280	xxxxx xxxxxxxx
44	291446	xxxxx xxxxxxxx
45	717307	xxxxx xxxxxxxx
46	147734	xxxxx xxxxxxxx
47	572102	xxxxx xxxxxxxx
48	619994	xxxxx xxxxxxxx
49	163741	xxxxx xxxxxxxx
50	336247	xxxxx xxxxxxxx
...		

Center response:

Center A:
 ET-number: 224889 – rank 9
 ET-number: 721421 – rank 28

Center B:
 ET-number: 154275 – rank 7
 ET-number: 336247 – rank 50

Center C:
 ET-number: 734391 – rank 12
 ET-number: 948339 – rank 15

Mini-Match:

1. ET-number: 154275 – rank 7
2. ET-number: 224889 – rank 9
3. ET-number: 734391 – rank 12
4. ET-number: 948339 – rank 15
5. ET-number: 721421 – rank 28
6. ET-number: 336247 – rank 50

Following steps in expedited/rescue allocation

If organ can not be allocated successfully with REAL

A) Center-oriented offer in the region/country

- All recipients independent of blood-group rules
- First come – first serve

B) Center-oriented offer all ET-countries

- All recipients independent of blood-group rules
- First come – first serve
- If not successful: Recipients outside blood-group rules

C) Organ exchange organizations outside ET

Monitoring of Expedited Allocation

Center level

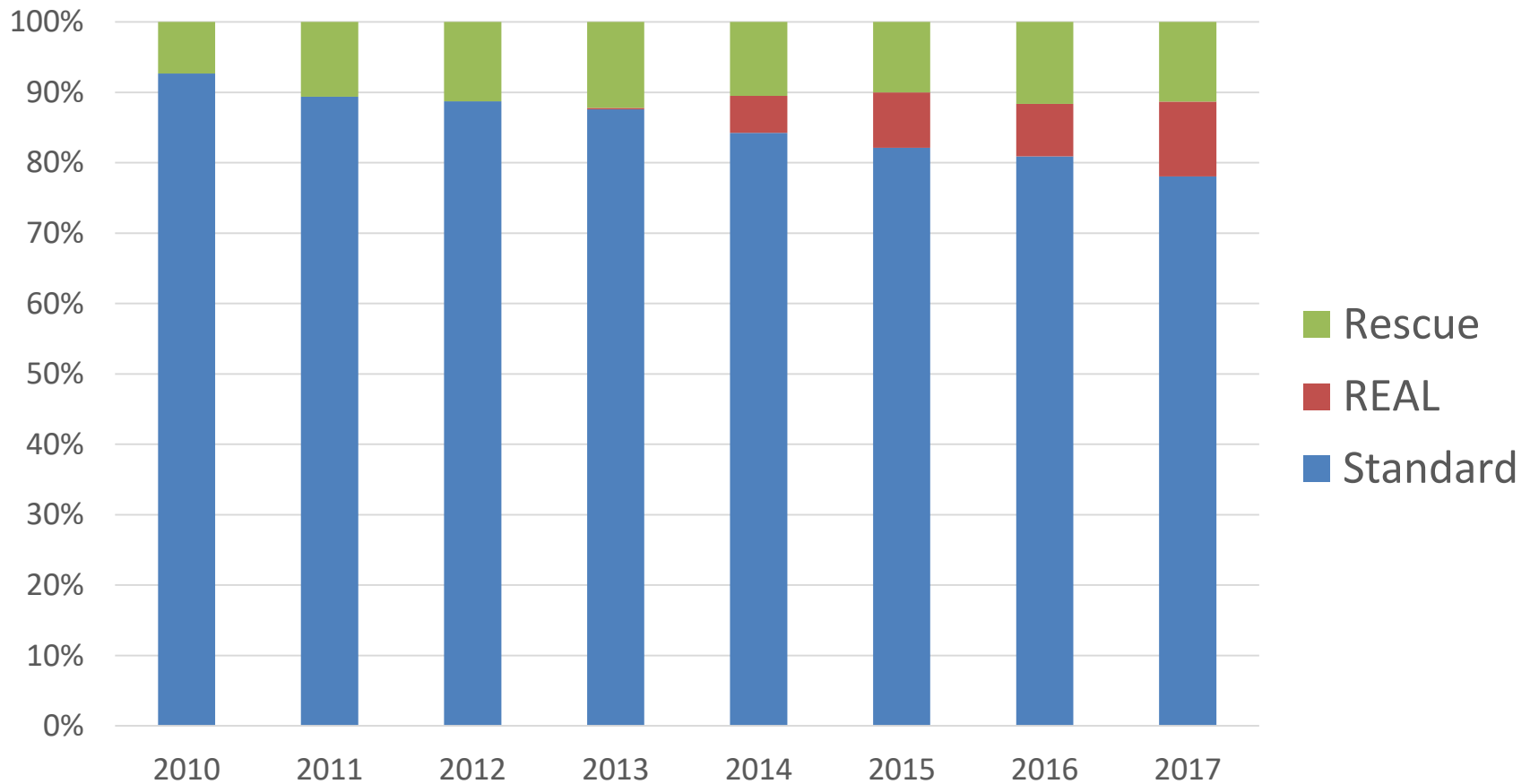
- Recipient-oriented expedited allocation (REAL):
 - Selection of suitable recipients based on donor- and recipient characteristics by the transplant center
 - Central allocation of the donor organ by Eurotransplant according to standard allocation criteria among the suitable recipients
- Center-oriented allocation
 - Center has to document reason for the selection of the individual patient
 - Close monitoring of the selection procedure as one part of the on-site visits of the transplant centers

Monitoring of Expedited Allocation

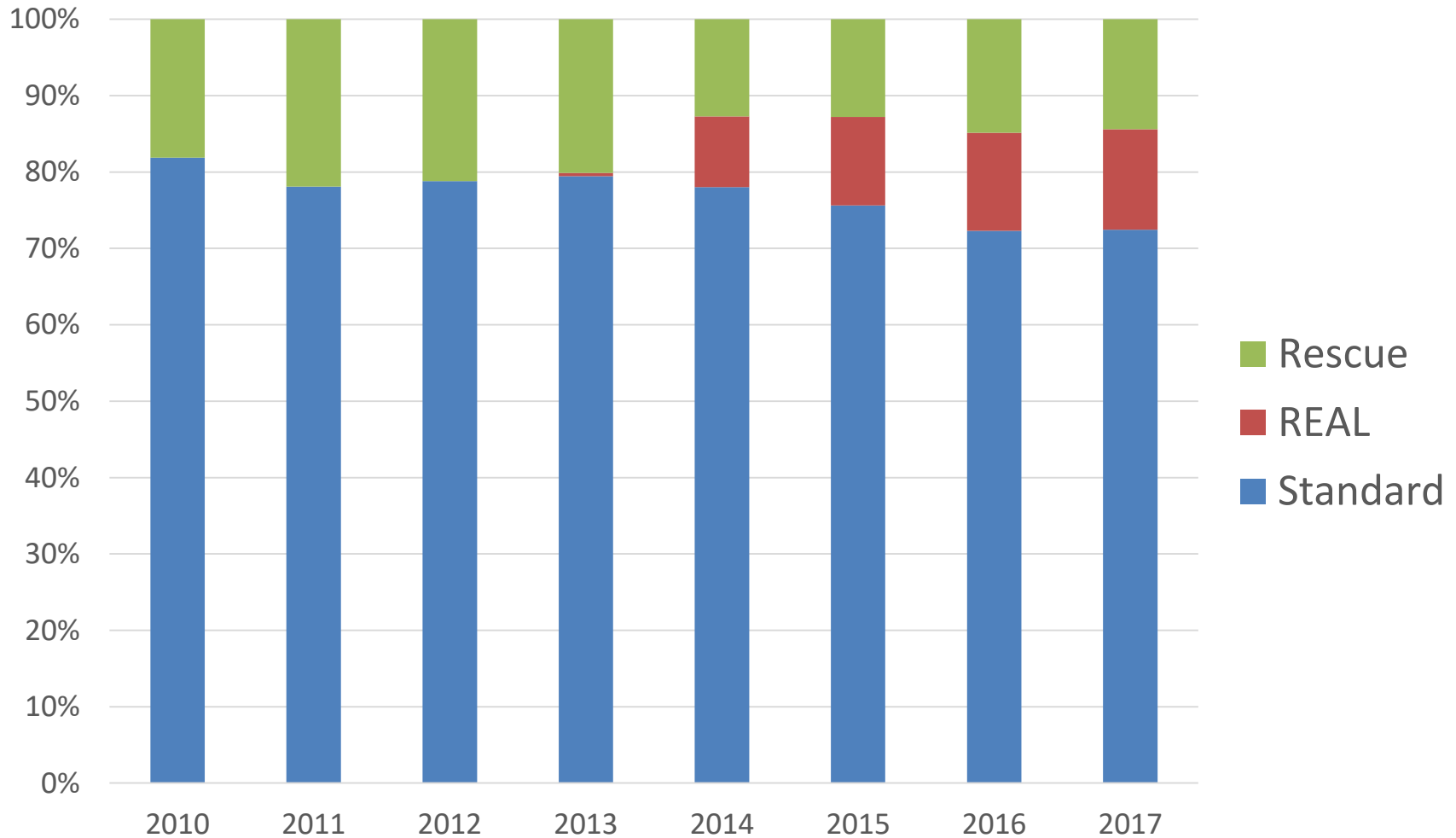
Organizational level

- Total number/fraction of organs allocated via rescue allocation
 - Organs allocated via Standard allocation vs. REAL vs. following steps of rescue allocation
- Logistical aspects
 - Effect on allocation time
- REAL – rank position of the finally transplanted patients
- Outcome after transplantation
- Effect on patients on the waiting list
 - Mortality, waiting time

Type of allocation resulting in transplant Kidney - Germany 2010 -2017



Type of allocation resulting in transplant Liver - Germany 2010 -2017

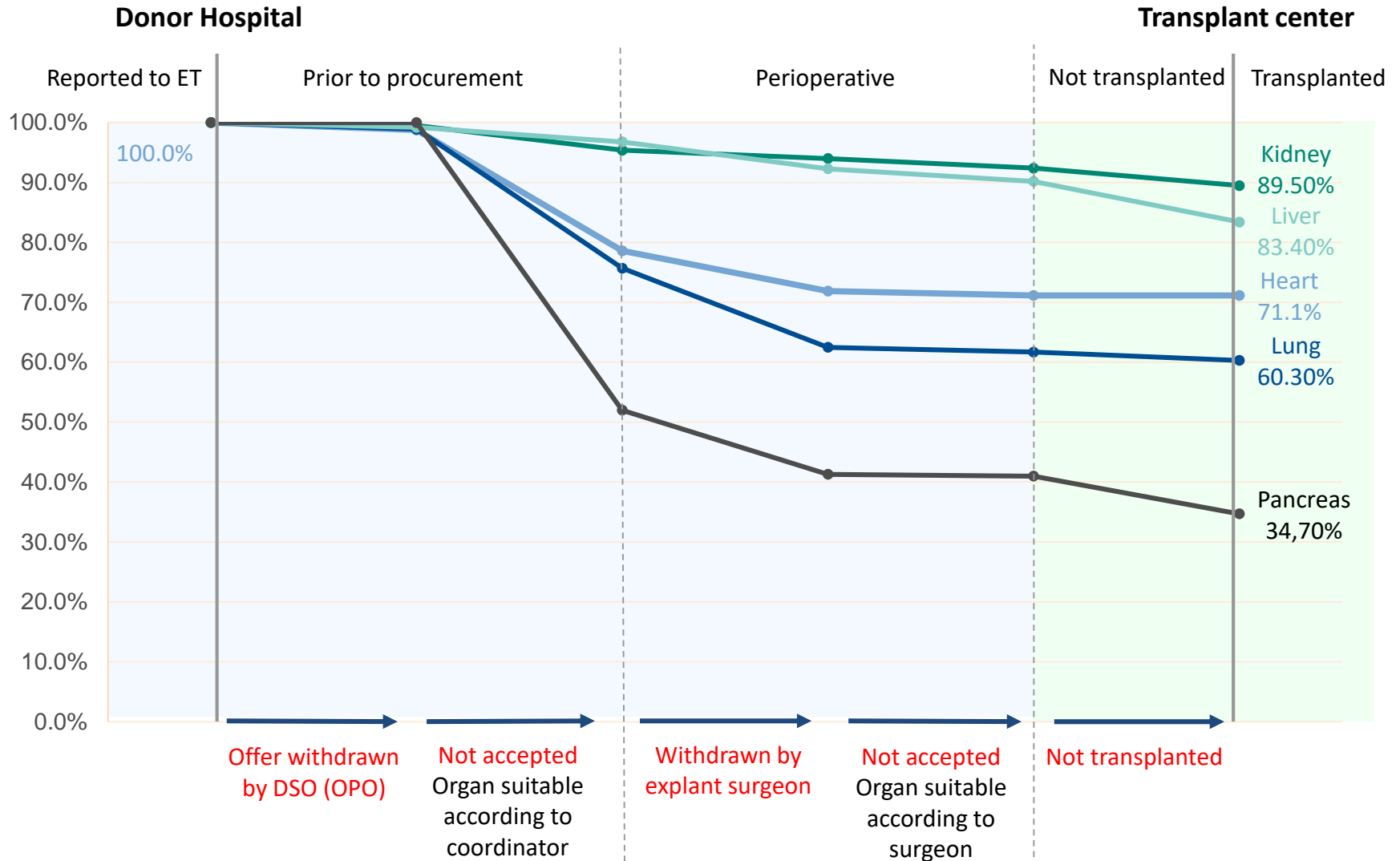


Type of allocation resulting in transplant Pancreas - Germany 2010 -2017



Conversion rate - from offer to transplant

Germany 2016



Summary

- Standard allocation does not always allow a timely allocation of organs – especially in case of extended criteria organs
- Expedited organ allocation can help to prevent organ loss
- Recipient-oriented expedited allocation (REAL) allows both fast and transparent allocation using a combination of the organ-specific allocation rules and center-specific knowledge and expertise

Literature

- R. Wahba et al.: Rescue allocation and recipient oriented extended allocation in kidney transplantation – influence of the Eurotransplant allocation system on recipient selection and graft survival for initially nonaccepted organs. *Transplant International* 2017; 30: 1226-1233
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