Annual report 2017

Founded 1969 by the Nordic Council

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Introduction

Two thousand and seventeen was the year when Scandiatransplant expanded for the first time. The Council of Representatives accepted Tartu University Hospital in Estonia as an associated member of Scandiatransplant in May and they joined the cooperation as of October 1st, 2017, when all practical matters were in place. The number of utilized donors and the number of transplanted patients seems to have stabilized over the last few years.

Organisation

Scandiatransplant is the Organ Exchange Organisation (OEO) of the countries: Denmark, Finland, Iceland, Norway, Sweden and Estonia. It is an association and the members are the 11 hospitals performing organ transplantation in these countries. According to the articles the main purposes of the association are:

- to serve as a common organ exchange organization and allocation resource for its member hospitals including kidney, liver, heart, lung, pancreas, pancreatic islet, liver cells, composite graft, intestinal and multivisceral transplantation. This is done transparently, using ethical principles and in full compliance with the national legislation of the members' countries,
- to maintain and operate a common waiting list for transplantation,
- to ensure complete traceability from organ donors to patients,
- to maintain and operate follow-up registries of transplanted patients,
- to maintain and operate follow-up registries of living donors,
- to serve as a collaborative platform through specialized working groups and advisory groups in order to facilitate best practice recommendations and policies optimizing retrieval, allocation and transplantation of organs, and
- to form a collaborative network for the member hospitals to promote research and development related to organ donation, allocation and transplantation.

The member hospitals elect representatives to the Council, which is the association's supreme authority. During 2017 the council had 34 representatives. The Council of Representatives approves the members of the board, which represent all the countries, and is responsible for the day to day operations of the association.

Pål-Dag Line from Norway left the board after serving 6 years and was replaced by Morten Hagness. The other members of the Board were Lars Wennberg, Sweden; Finn Gustafsson, Denmark; Runólfur Pálsson, Iceland and Arno Nordin, Finland. Bo-Göran Ericzon from Sweden was chairman.

Suggestions for the activity and allocation rules are brought forward by a number of specialised expert groups and committees.

The Scandiatransplant Office is located at Aarhus University Hospital, Denmark. The primary task of the office is to maintain and develop the IT-system holding data on all patients enlisted for organ transplantation in the member hospitals. It is accessible 24/7 for all health personnel performing organ retrieval and transplantation ensuring correct allocation of organs. In addition to this primary task the Scandiatransplant Office takes care of many other tasks such as running follow-up registries, educate and support users, arrange meetings for council, board, groups and committees, comply with demands from owners, researchers, authorities and the public, and participate in meetings with local health competent authorities, EU-commission and EU projects.

At the end of 2017 the staff consisted of 8 people, 3 full-time programmers and 2 clinical data managers. A student programmer, secretary and the Medical Director are working part-time. The total expenses during the year (5.0 mill. DKK ~ 672.000 EUR) were kept within the budget (5.6 mill. DKK). The maintenance cost of Scandiatransplant are fully financed by the member hospitals in relation to the number of organ transplantations performed at each hospital.

Activities in the organisation in 2017

The majority of the work done at the Office has been customizing the IT-system to the user's wishes and optimizing security and functionality of the system. The Office has also put resources into education and guidance in relation with usage of the IT-system. Among others a new tool to report SAE/SAR[1] to the competent authorities according to the EU-directive 2010/53 has been developed in the IT system. This work has been done in close collaboration with the Board as was the long-wanted revision of the "deceased donor death causes". Furthermore, a facility to keep track of the liver and kidney payback balance between the centres was developed and introduced.

The Council of Representatives adopted a slight revision of the Articles to incorporate composite graft transplantations.

The work on implementing the new model for the responsibility of data continued in 2017. Data processor agreements have been signed with Helsinki, Odense, Aarhus, Reykjavik, Copenhagen, Gothenburg, Tartu and Uppsala, but still missing for Stockholm, Skåne and Oslo.

At the annual meeting with the 6 countries' health authorities in September the Board's suggestion to report SAE/SAR in relation to transplantation to the health authorities was

[1] SAE/SAR: Serious Adverse Events / Serious Adverse Reactions

presented and finally accepted. This solution is logic and practical, since many of the data needed for the report would already be in the Scandiatransplant IT system.

Scandiatransplant has participated in the meetings of the competent authorities and the EU-commission on matters of organ transplantation. The main reason has been to balance the participation of Scandiatransplant in the EU projects. The Office has adopted a policy of trying to have at least one person from the Office present at every meeting in the groups in Scandiatransplant to ensure continuity and updated information on decisions and wishes from the users.

Transplantation and organ procurement activity

The number of transplanted organs reached the highest ever in 2017 and the number of utilized donors is similar to last year's record. In this report we have chosen to present some key figures and compare some of them with data from 2008 and onwards showing the last ten-year period.

First, we looked at the total number of transplanted organs and compared with the number of patients on the waiting list at the end of the year. Although 2017 was the year with most transplanted organs, the number of patients waiting for an organ transplant also increased significantly. Part of this increase is because all the patients waiting for an organ transplant in Estonia were added to the waiting list in 2017.

The competent authorities of the countries have requested data on import/export between Scandiatransplant and the other European organ exchange organisations as well as data on import/export within the Nordic countries. We therefore give a thorough presentation of these data.

We have looked at the age of the donors over a 20-year period to see the trend for the different organ transplantations.

The cause of death for all deceased donors in the Scandiatransplant registry after the conversion from the old to the new classification is shown.

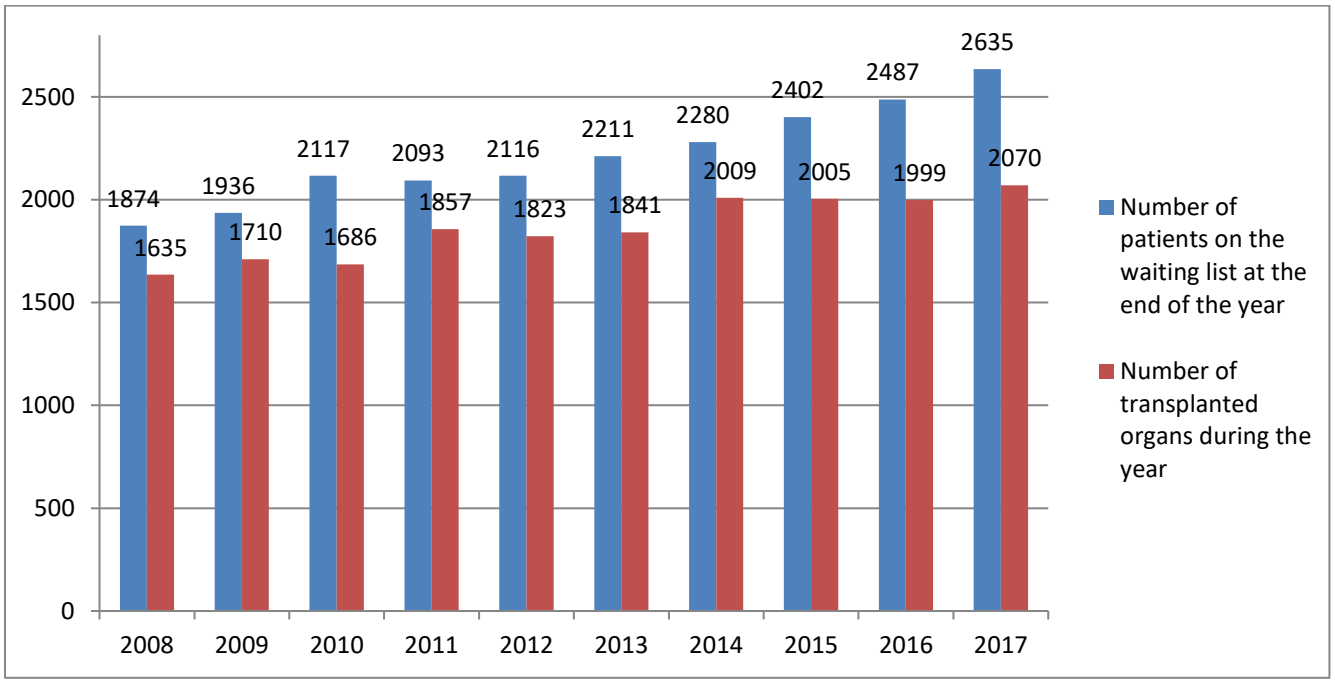
Finally, data on waiting list and transplantation activities for the different organs are presented in the same manner as the previous years, but we also looked at how many were transplanted according to urgency status for the relevant organs.

Further presentation of Scandiatransplant data is available in the annual slideshow: http://www.scandiatransplant.org/resources/dias2017.pdf

In relation with the statistics presented please keep in mind that data subjects to change based on future data submission and/or correction.

Total number of organs transplanted and patients waiting for organs within Scandiatransplant

Year	Number of waiting patients[2]	Number of transplanted organs[3]
2008	1874	1635
2009	1936	1710
2010	2117	1686
2011	2093	1857
2012	2116	1823
2013	2211	1841
2014	2280	2009
2015	2402	2005
2016	2487	1999
2017	2635	2070

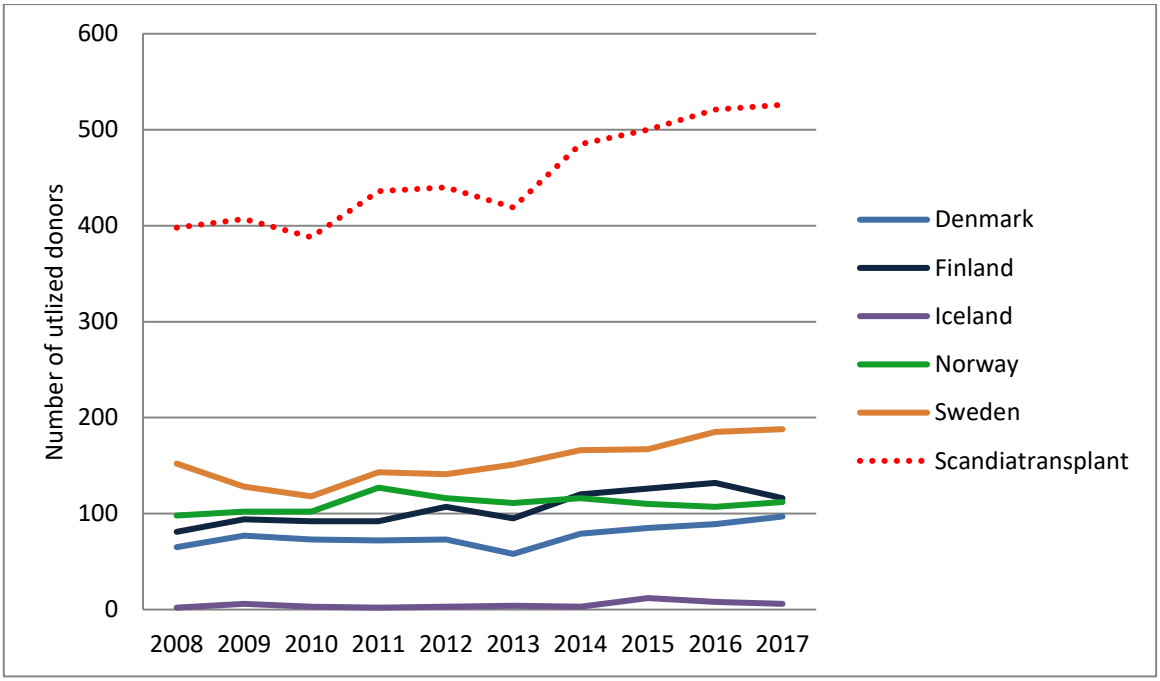


[2] Including patients (active/temp. on hold) waiting for kidney, liver, liver-kidney, heart, heart-lung, single lung, double lung, kidney-pancreas, pancreas and pancreatic islets

[3] Including kidney, liver, heart, heart-lung, lung, pancreas and pancreatic islet

Utilized deceased donors[4] in numbers in Scandiatransplant

Year	Denmark	Estonia[5]	Finland	Iceland	Norway	Sweden	Scandiatransplant
2008	65		81	2	98	152	398
2009	77		94	6	102	128	407
2010	73		92	3	102	118	388
2011	72		92	2	127	143	436
2012	73		107	3	116	141	440
2013	58		95	4	111	151	419
2014	79		120	3	116	166	485
2015	85		126	12	110	167	500
2016	89		132	8	107	185	521
2017	97	7	116	6	112	188	526

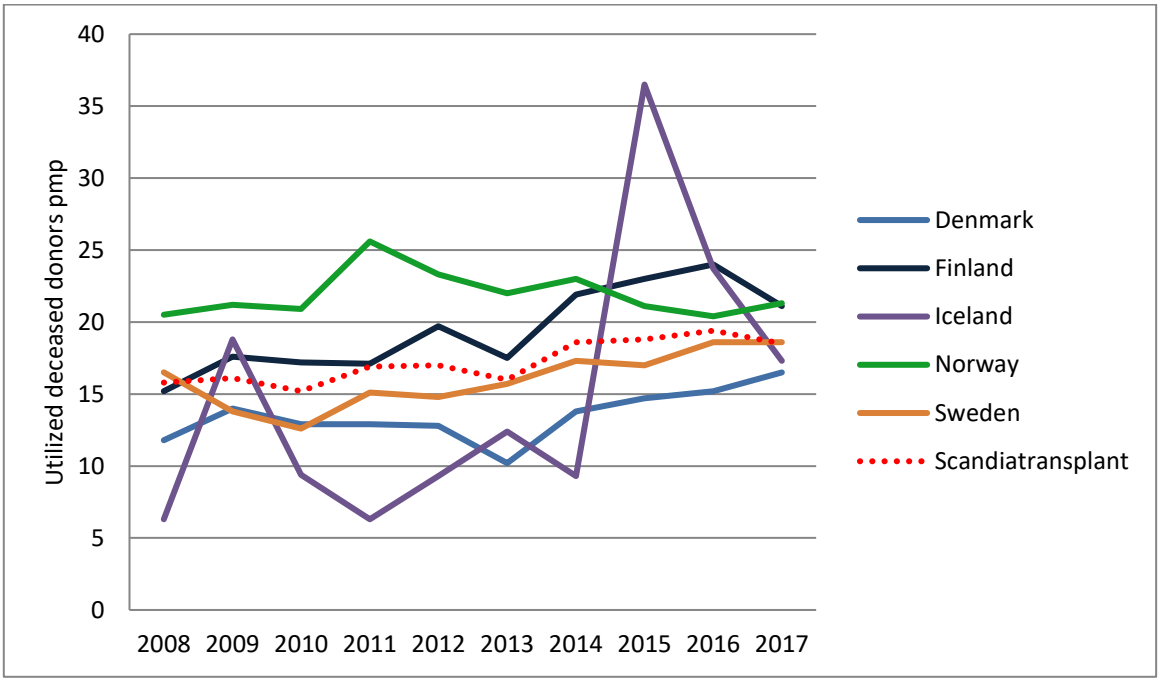


[4]Definition of utilized donor: An actual donor from whom at least one solid organ was transplanted. http://www.scandiatransplant.org/data/Deceaseddonordefv_3.pdf

[5] Figures included from Estonia year 2017 starts from October 1st 2017

Utilized deceased donors pmp[6] in Scandiatransplant

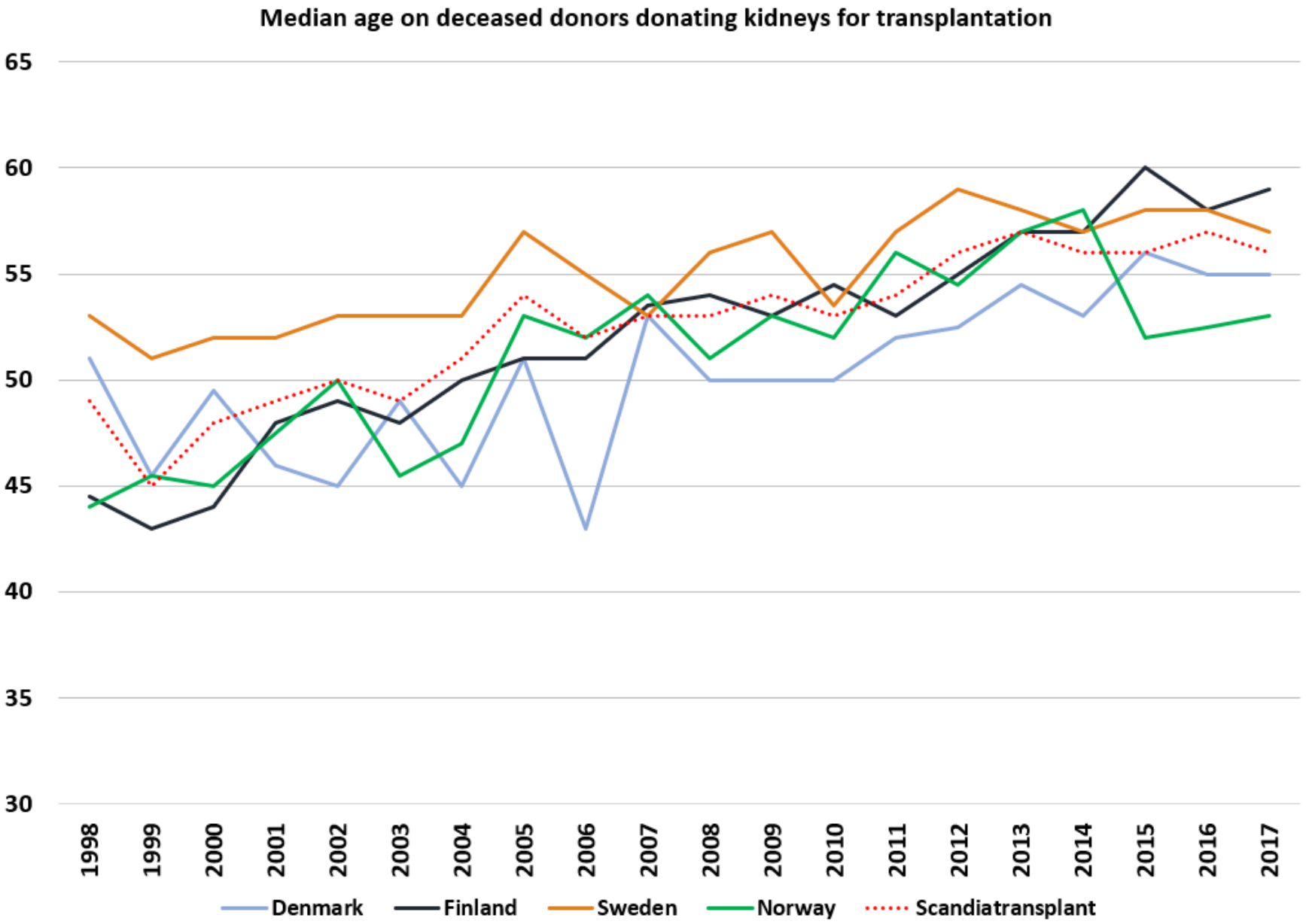
Year	Denmark	Estonia[7]	Finland	Iceland	Norway	Sweden	Scandiatransplant
2008	11,8		15,2	6,3	20,5	16,5	15,8
2009	14,0		17,6	18,8	21,2	13,8	16,1
2010	12,9		17,2	9,4	20,9	12,6	15,2
2011	12,9		17,1	6,3	25,6	15,1	16,9
2012	12,8		19,7	9,3	23,3	14,8	17,0
2013	10,2		17,5	12,4	22,0	15,7	16,0
2014	13,8		21,9	9,3	23,0	17,3	18,6
2015	14,7		23,0	36,5	21,1	17,0	18,8
2016	15,2		24,0	23,7	20,4	18,6	19,4
2017	16,5	5,3	21,1	17,3	21,3	18,6	18,5

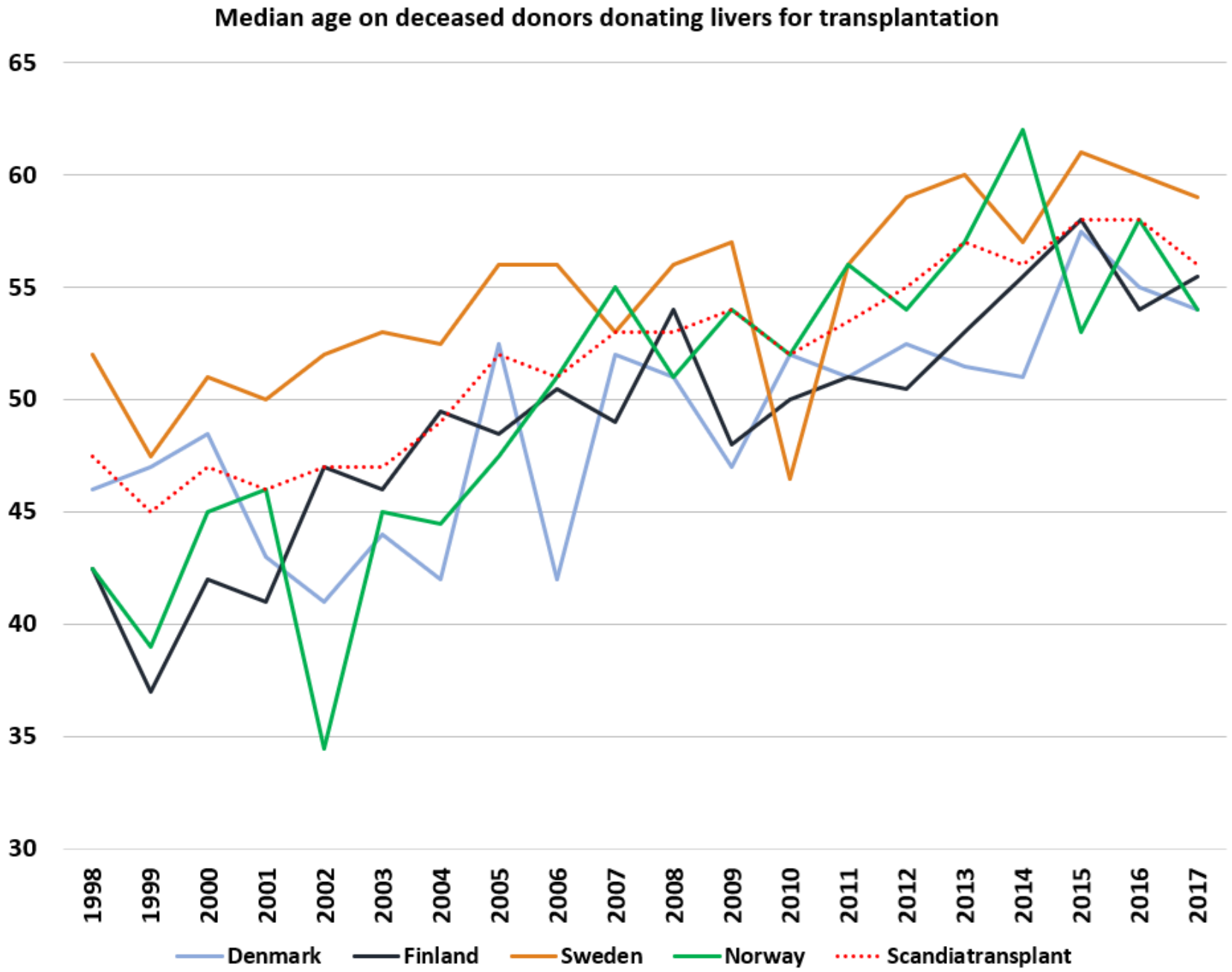


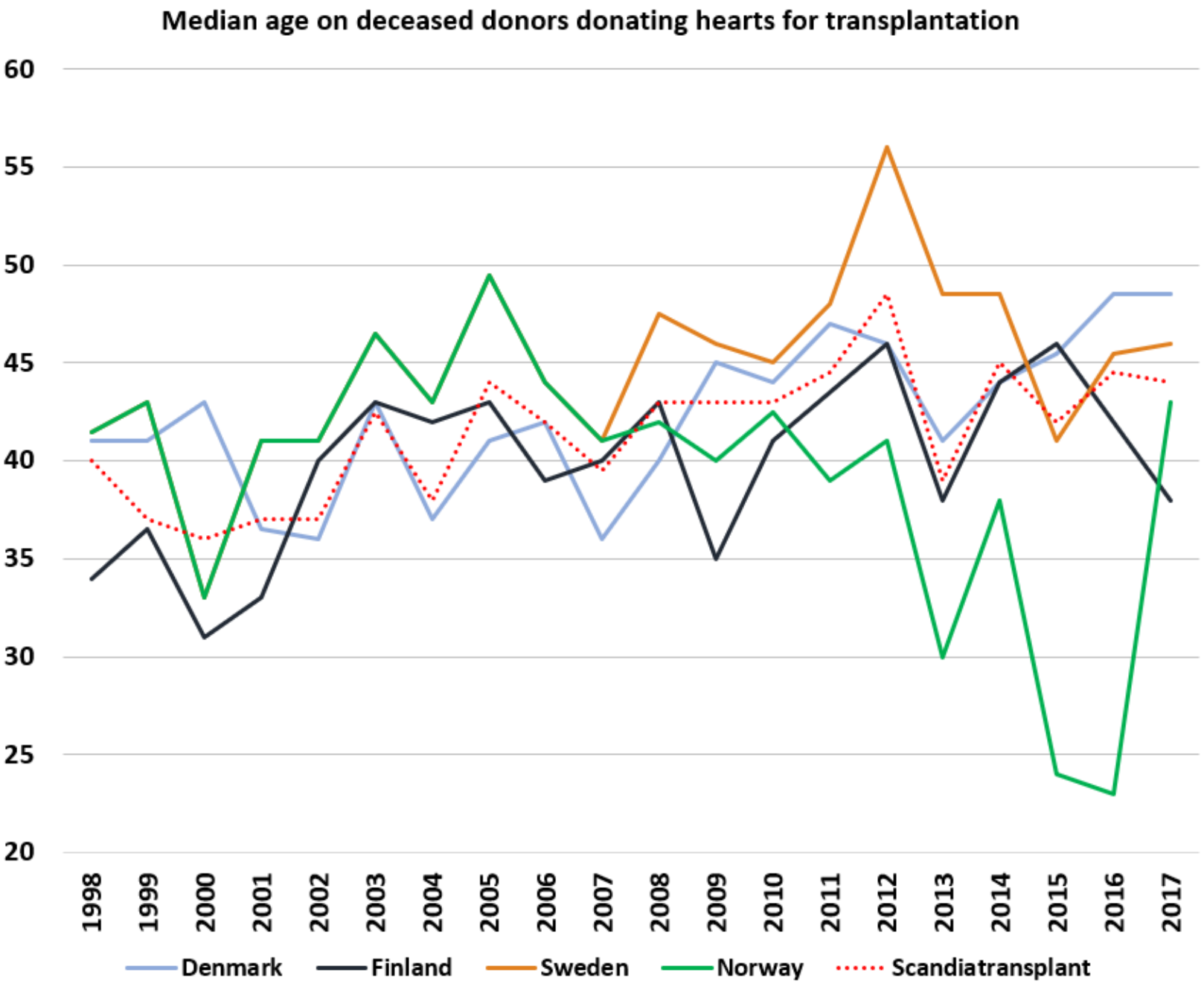
[6] pmp: per million population

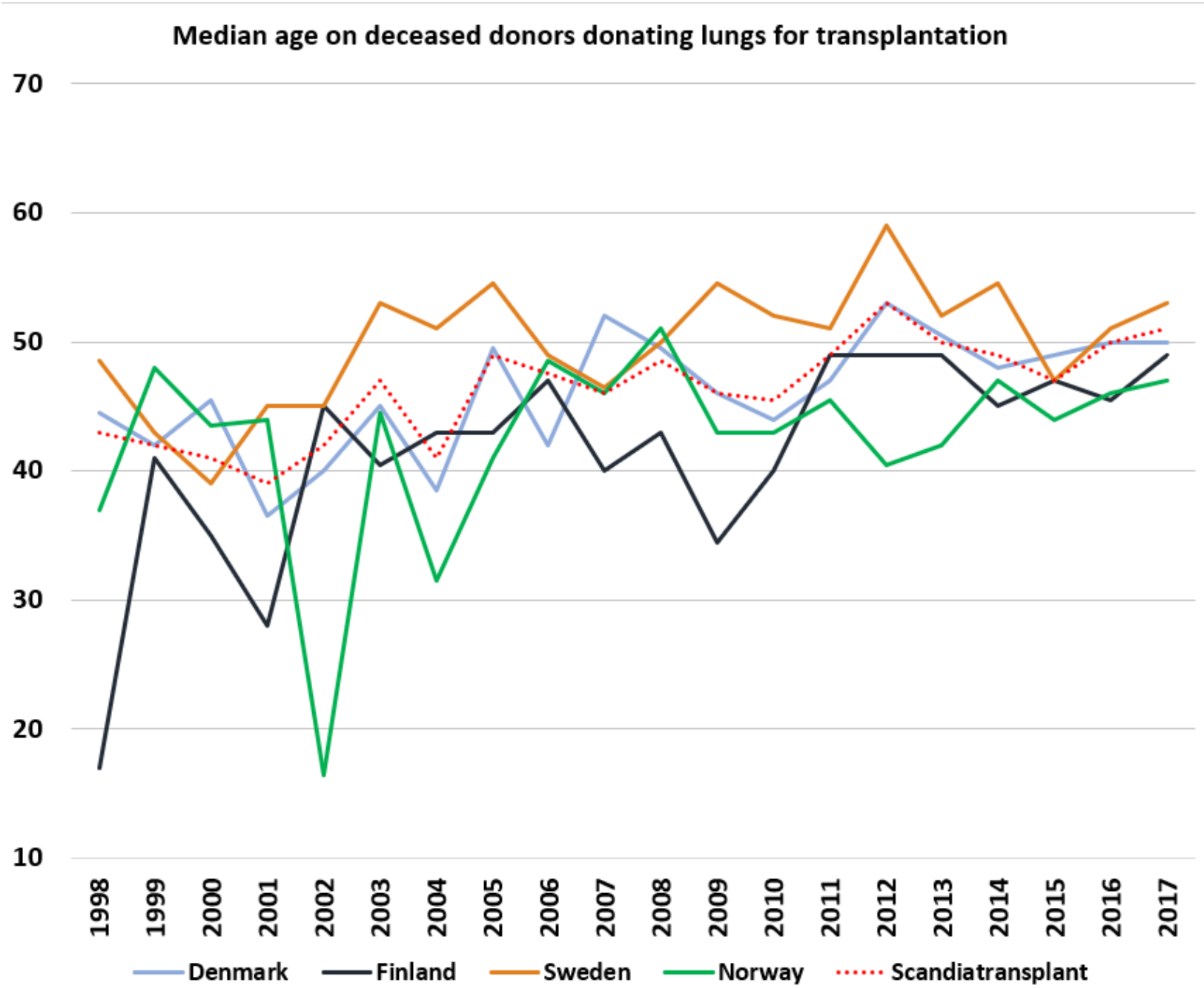
[7] Figures included from Estonia year 2017 starts from October 1st 2017

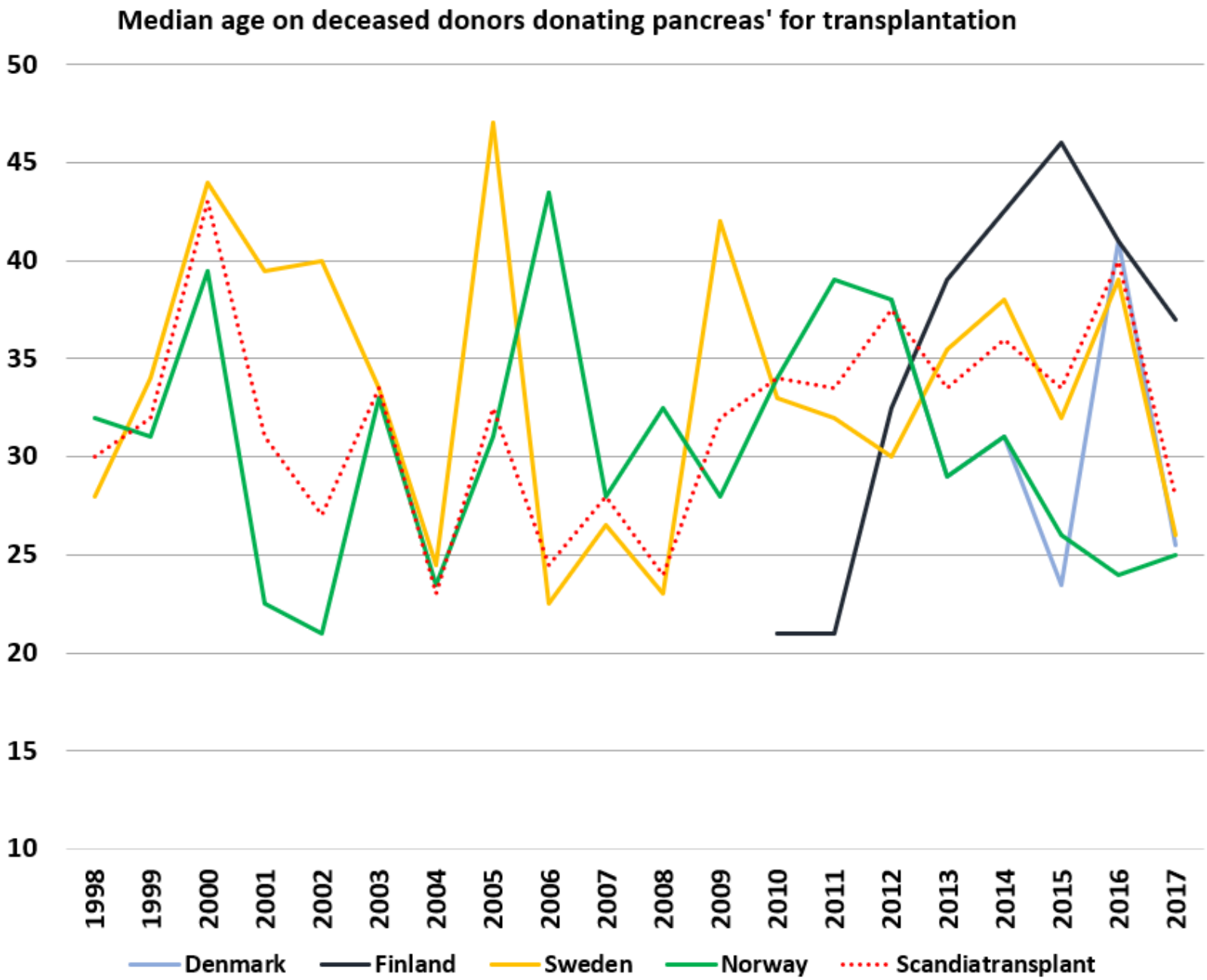
Median age on utilized deceased donors




Median age on deceased donors donating livers for transplantation
65
60
55
50
45
40
35
30
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Denmark
Finland
Sweden
Norway
Scandiatransplant


Median age on deceased donors donating hearts for transplantation
60
55
50
45
40
35
30
25
20
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Denmark
Finland
Sweden
Norway
Scandiatransplant


Median age on deceased donors donating lungs for transplantation
70
60
50
40
30
20
10
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Denmark
Finland
Sweden
Norway
Scandiatransplant

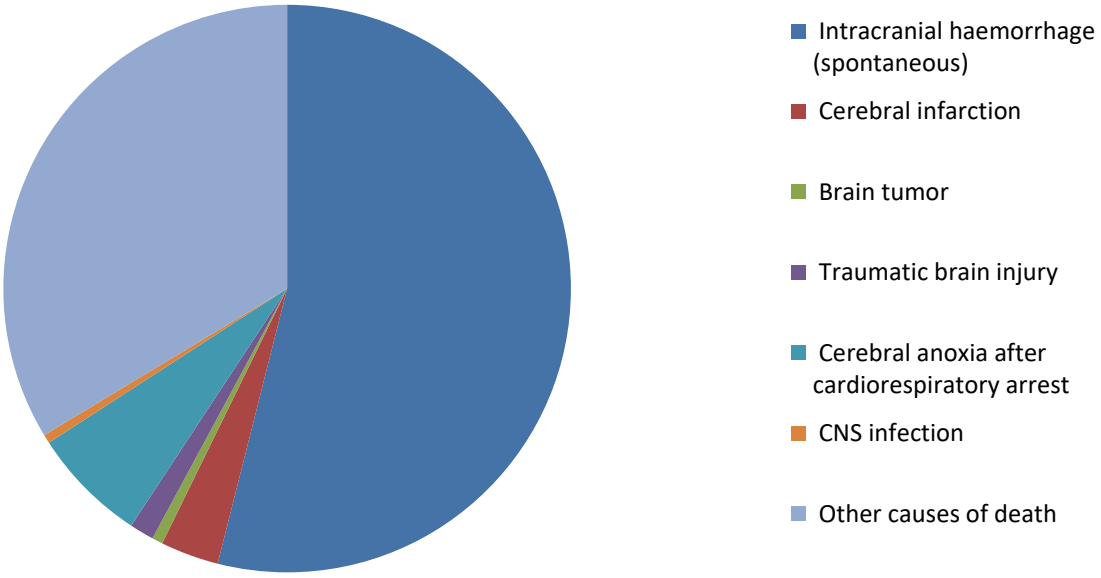

Median age on deceased donors donating pancreas' for transplantation
50
45
40
35
30
25
20
15
10
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Denmark
Finland
Sweden
Norway
Scandiatransplant

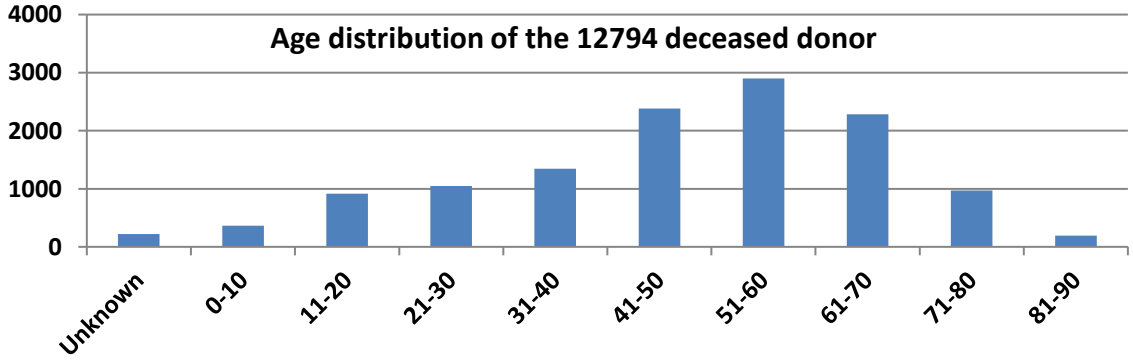
Deceased donor death causes

The old classification of deceased donor death causes was difficult to work with and turned out to be useless for scientific purposes. A group led by Runólfur Pálsson, Iceland, were given the task of suggesting a new classification, which should be easy to work with in the acute situation, be of scientific value, and still make the best use of the over 12000 donors in the registry. The Council of Representatives adopted the new classification for deceased donor death causes in May 2017. The group "Other causes" was about 20% in the old classification and 34% in the new. However, this increase in "other causes" is to a great extent related to that some of the old classifications did not fit in to the new system and is expected to decrease with time since its proportion is likely to be limited in future registrations.

Death cause	Number
Intracranial haemorrhage (spontaneous)	6901
Cerebral infarction	425
Brain tumor	78
Trauma brain injury	178
Cerebral anoxia after cardiorespiratory arrest	844
CNS infection	69
Other causes of death	4304
Total in the registry	**12794**

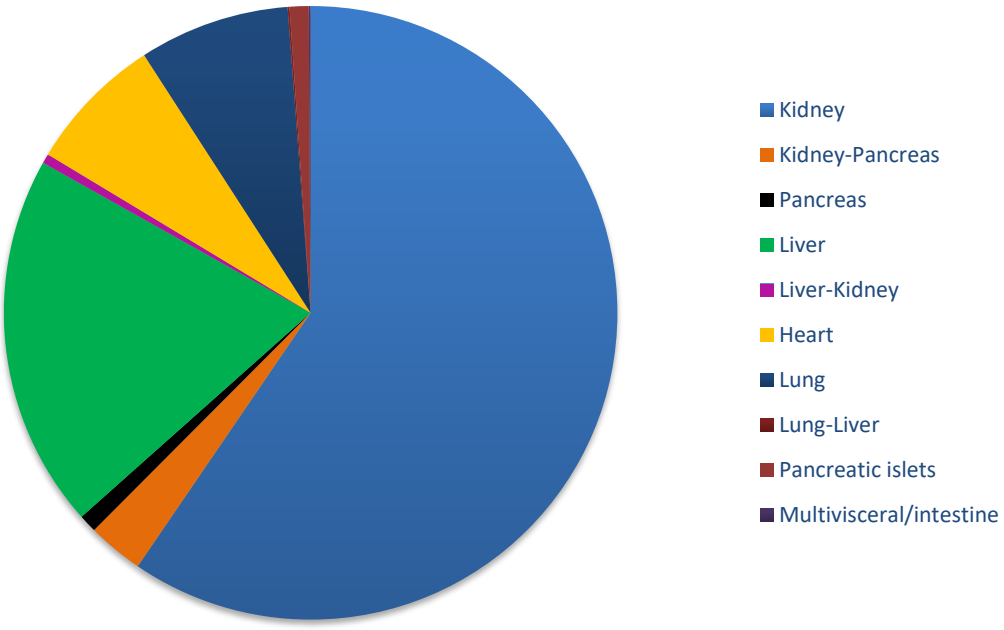
Deceased donor death causes in the registry according to new classification.





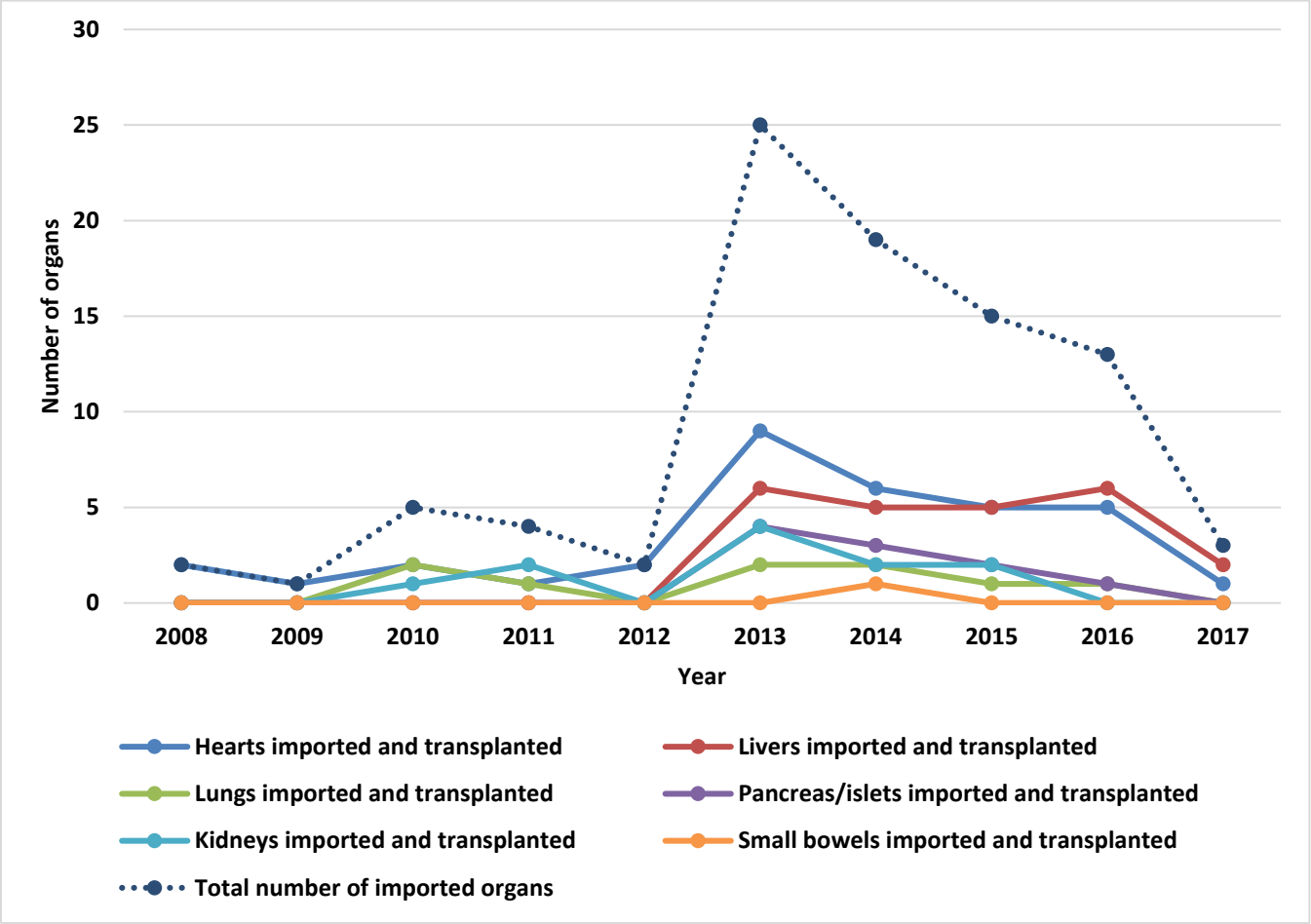
Transplanted patients in Scandiatransplant 2017

Organ(s) transplanted	Number of transplantations
Kidney	1193
Kidney-Pancreas	59
Pancreas	19
Liver	395
Liver-Kidney	10
Heart	145
Lung	159
Lung-Liver	2
Heart-Lung	0
Pancreatic islets	20
Multivisceral/intestine	2
Total transplanted patients	**2004**



Organs imported and exported between EOEO's[8] and Scandiatransplant[9]

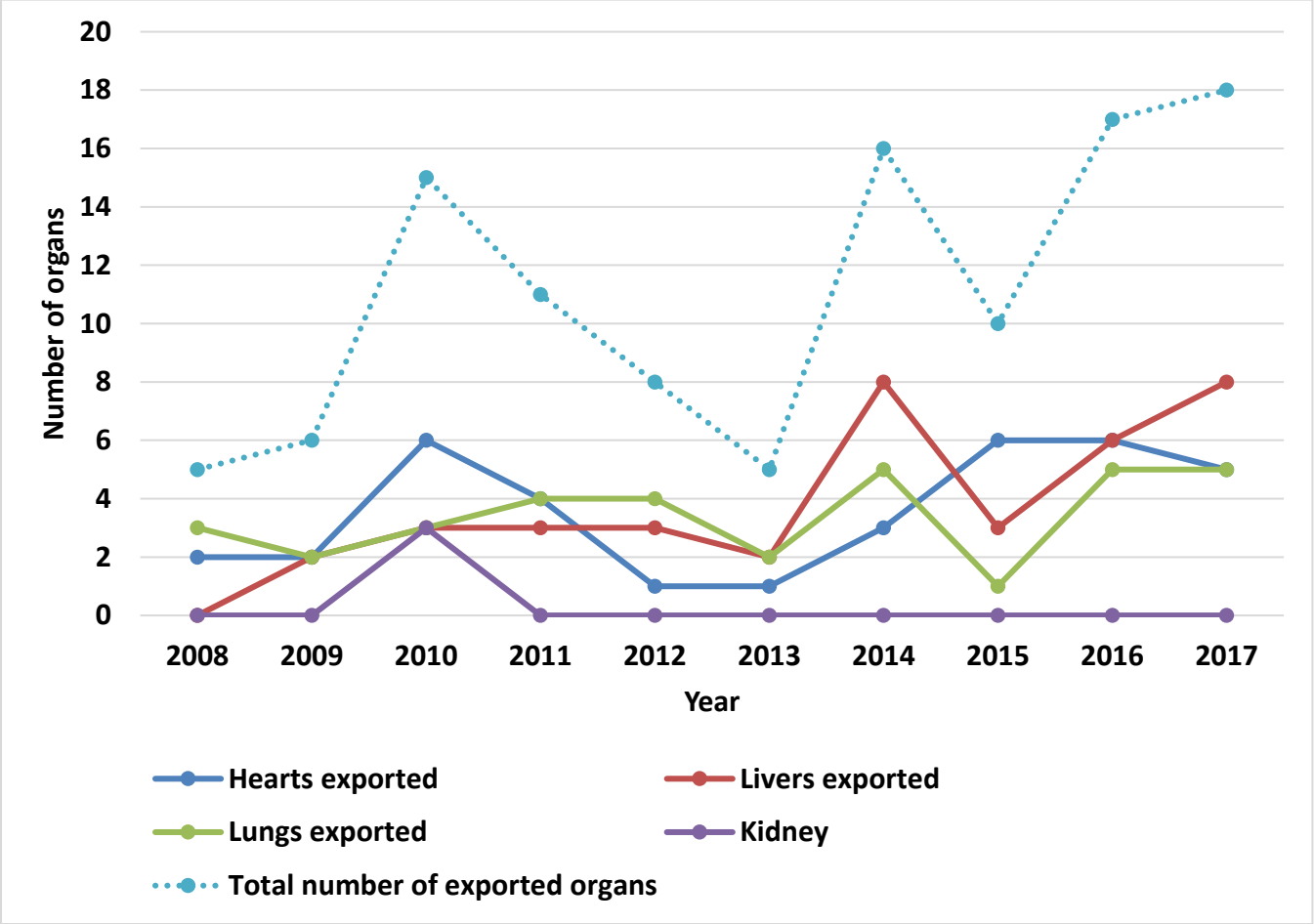
Organs imported from other EOEO's to Scandiatransplant



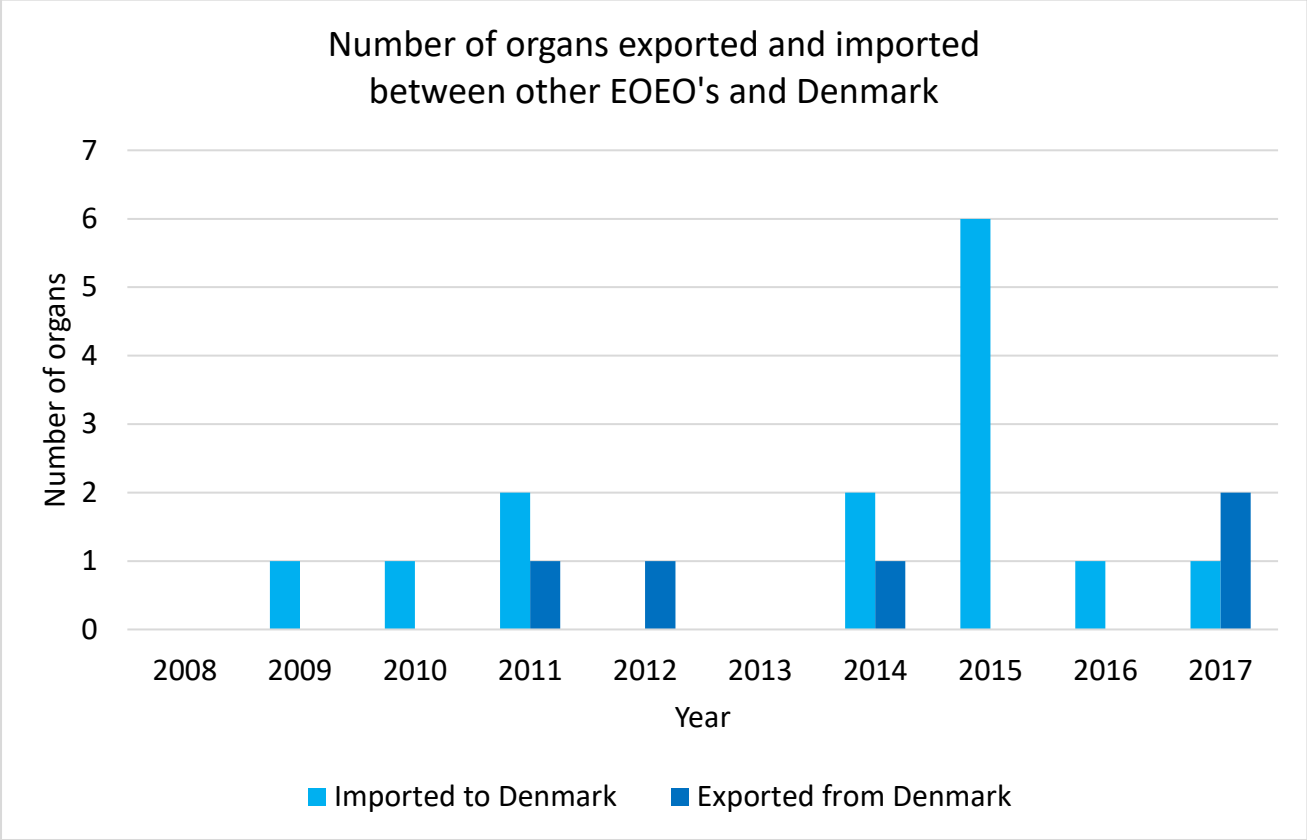
[8] EOEO: European Organ Exchange Organisations

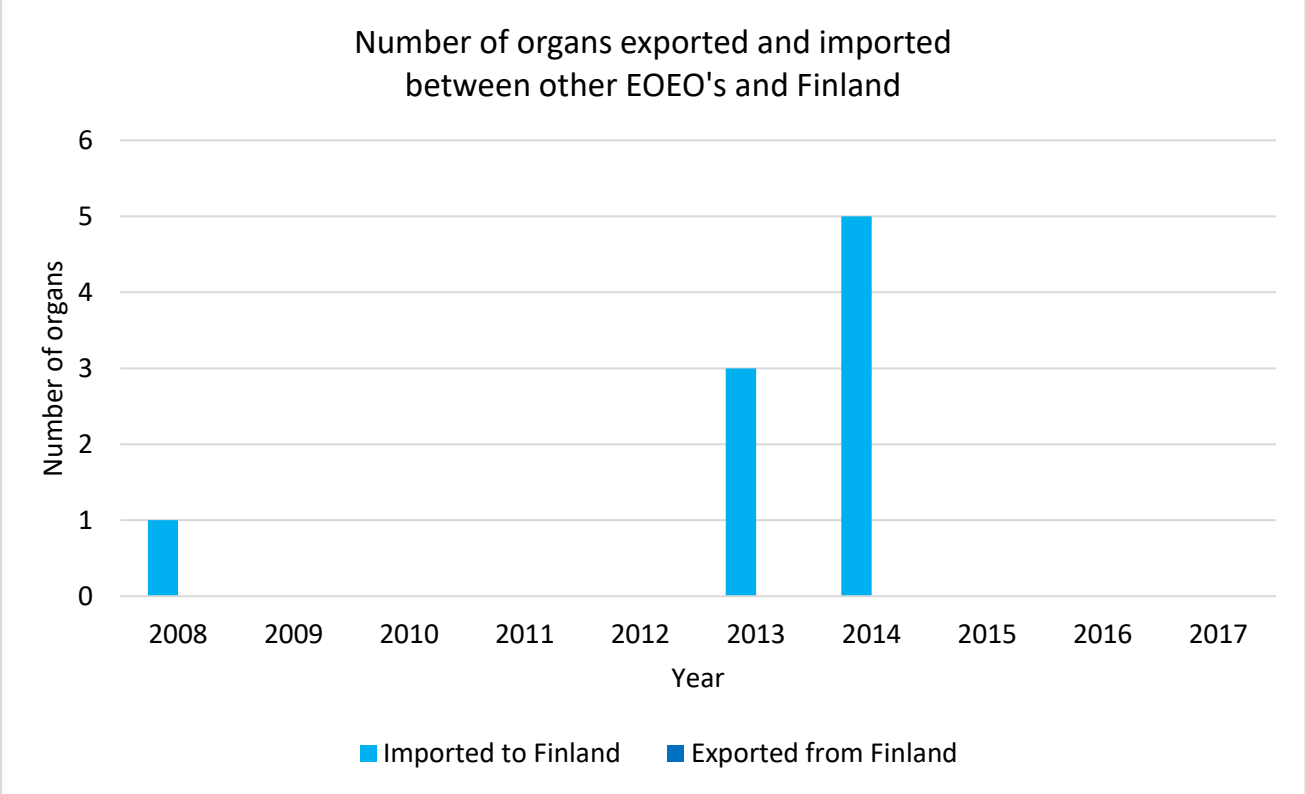
[9] From October 1st 2017 Estonia is regarded as part of Scandiatransplant

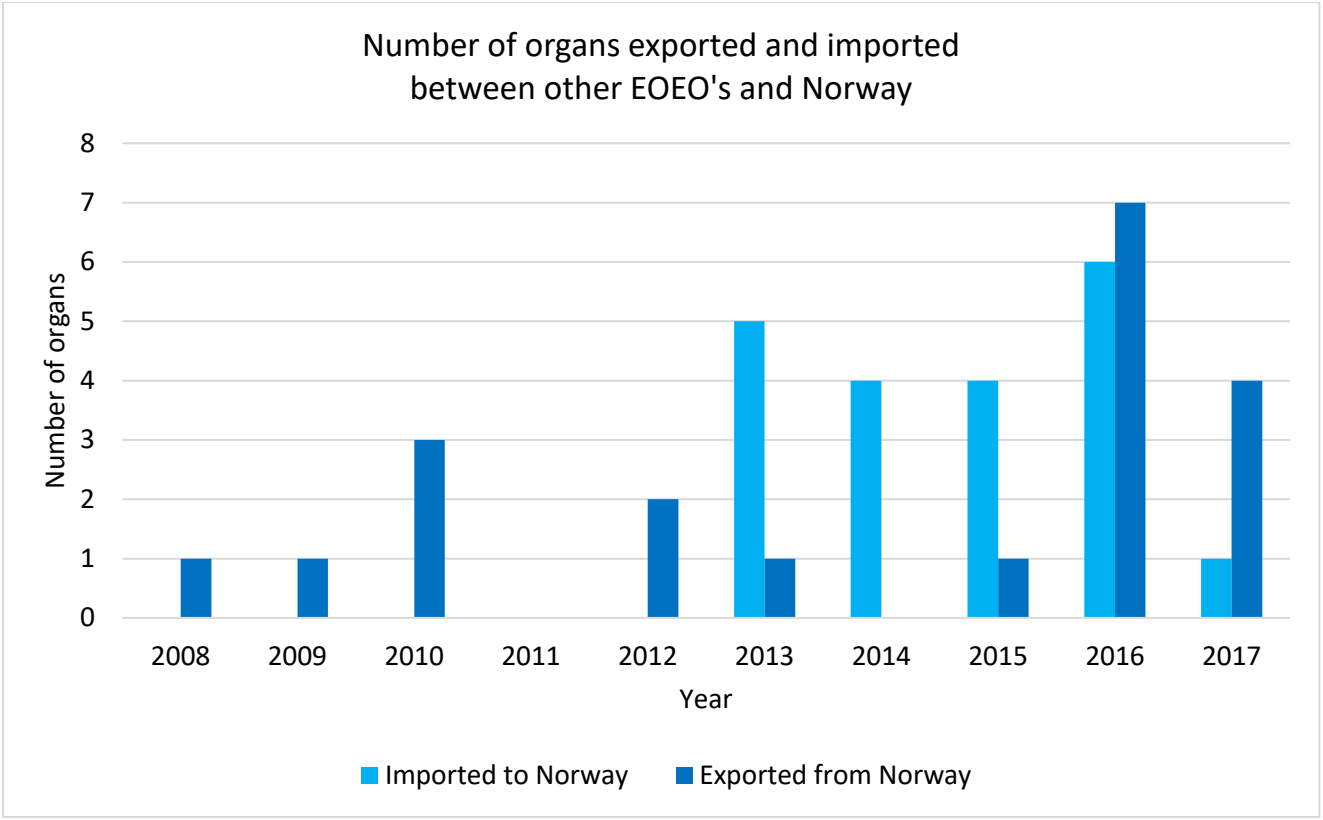
Organs exported to other EOEO's from Scandiatransplant

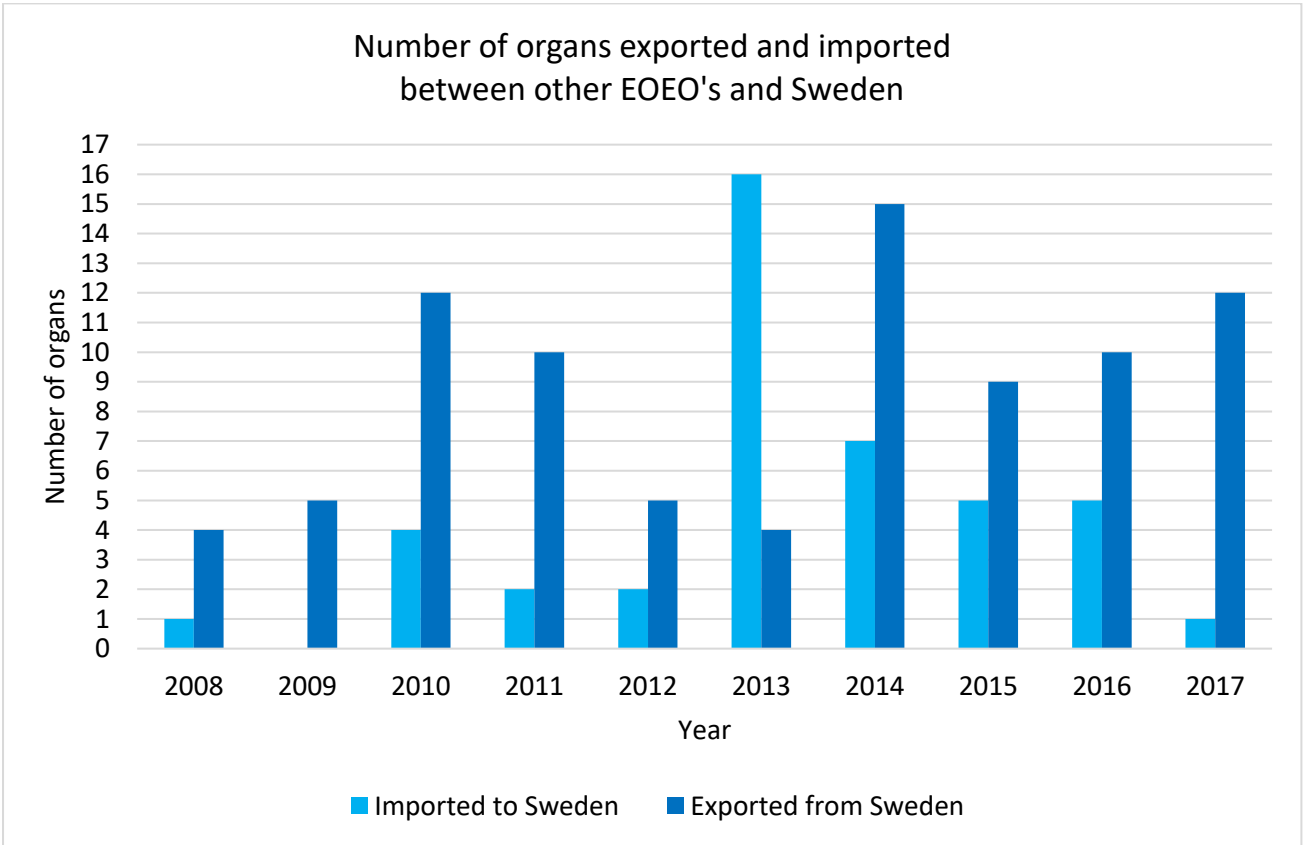


Organs exported and imported between Scandiatransplant countries and other EOEO's

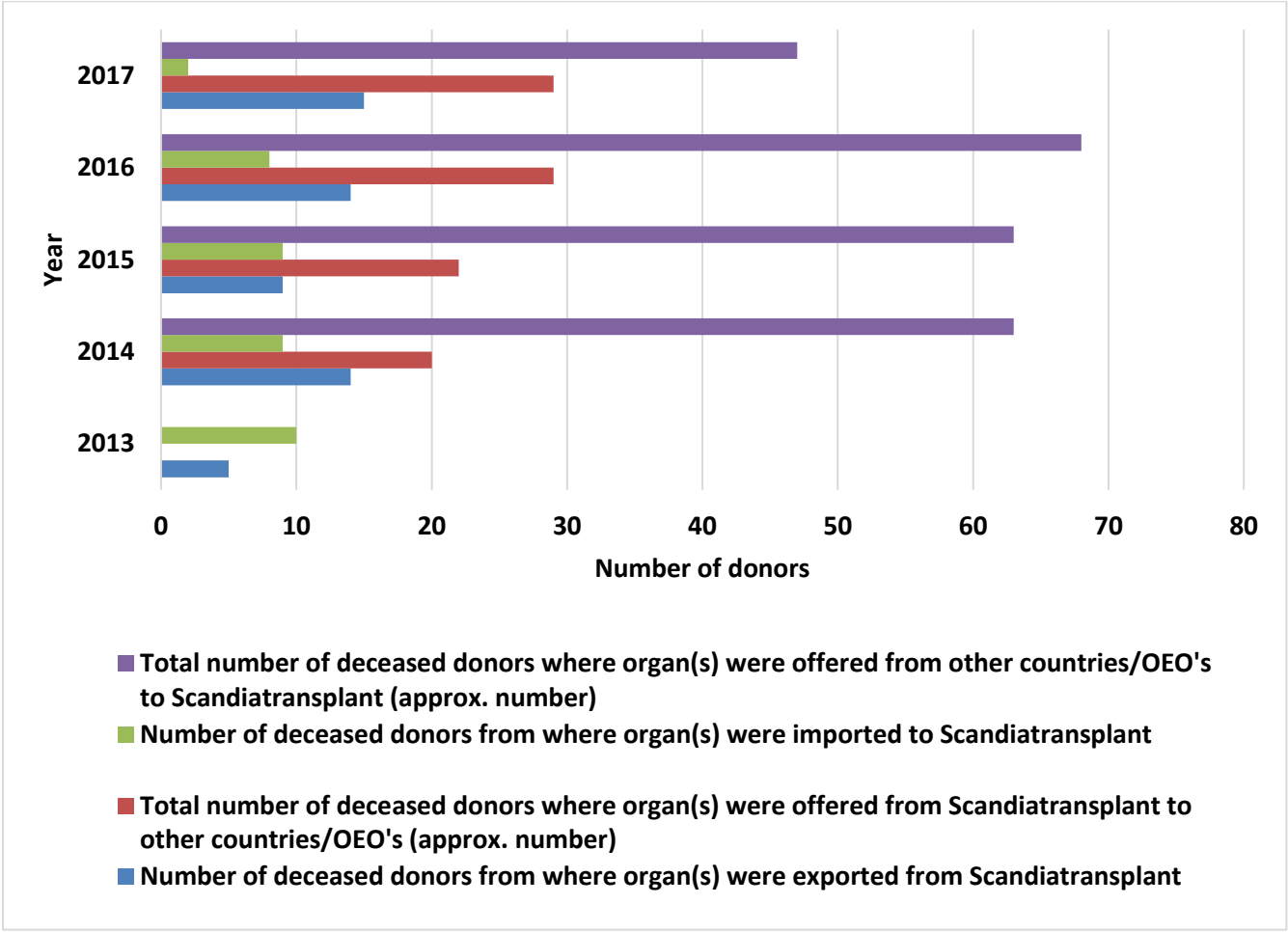





Number of organs exported and imported between other EOEO's and Norway
Number of organs
0
1
2
3
4
5
6
7
8
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year
Imported to Norway
Exported from Norway


Number of organs exported and imported between other EOEO's and Sweden
Number of organs
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year
Imported to Sweden
Exported from Sweden

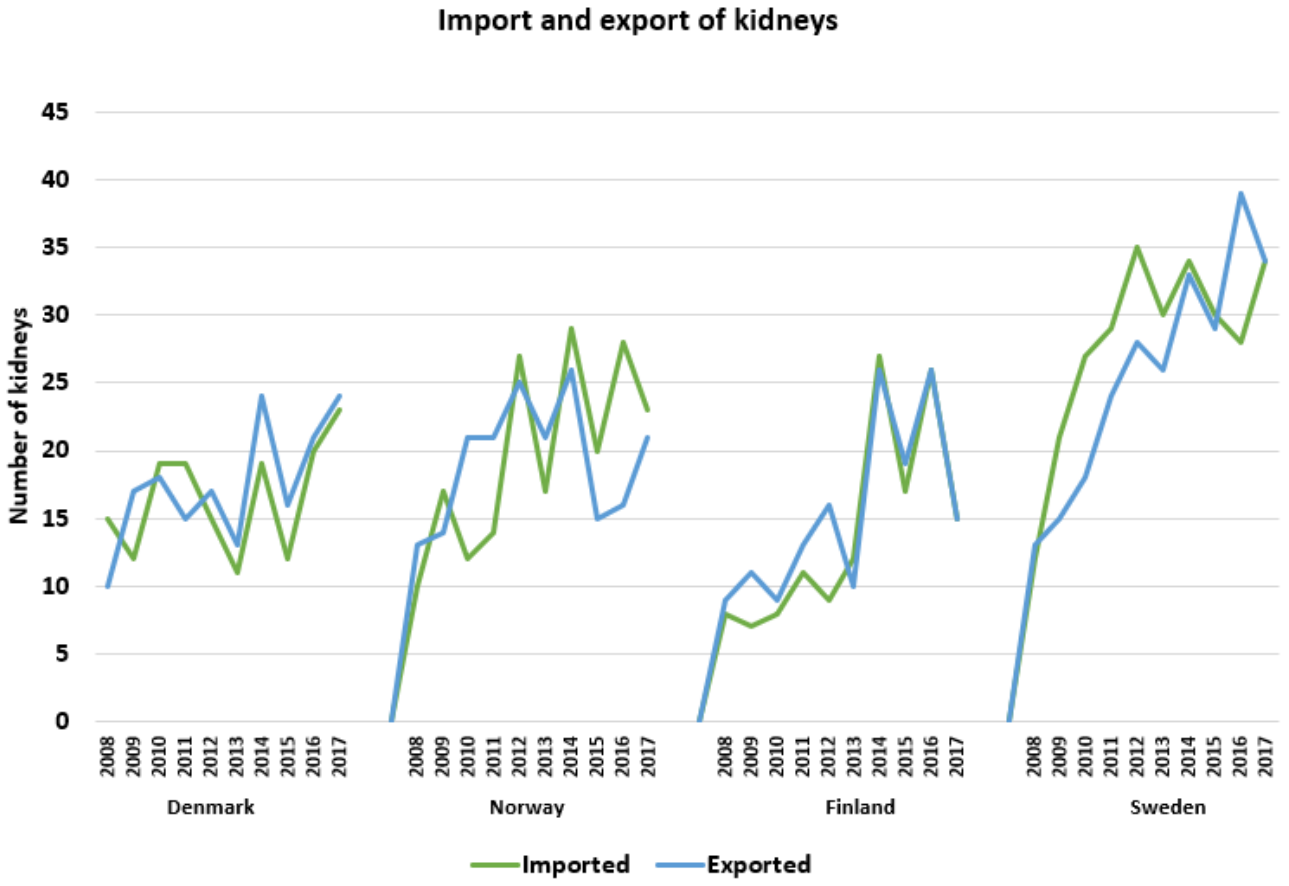
Number of deceased donors where organ(s) were offered[10][11]

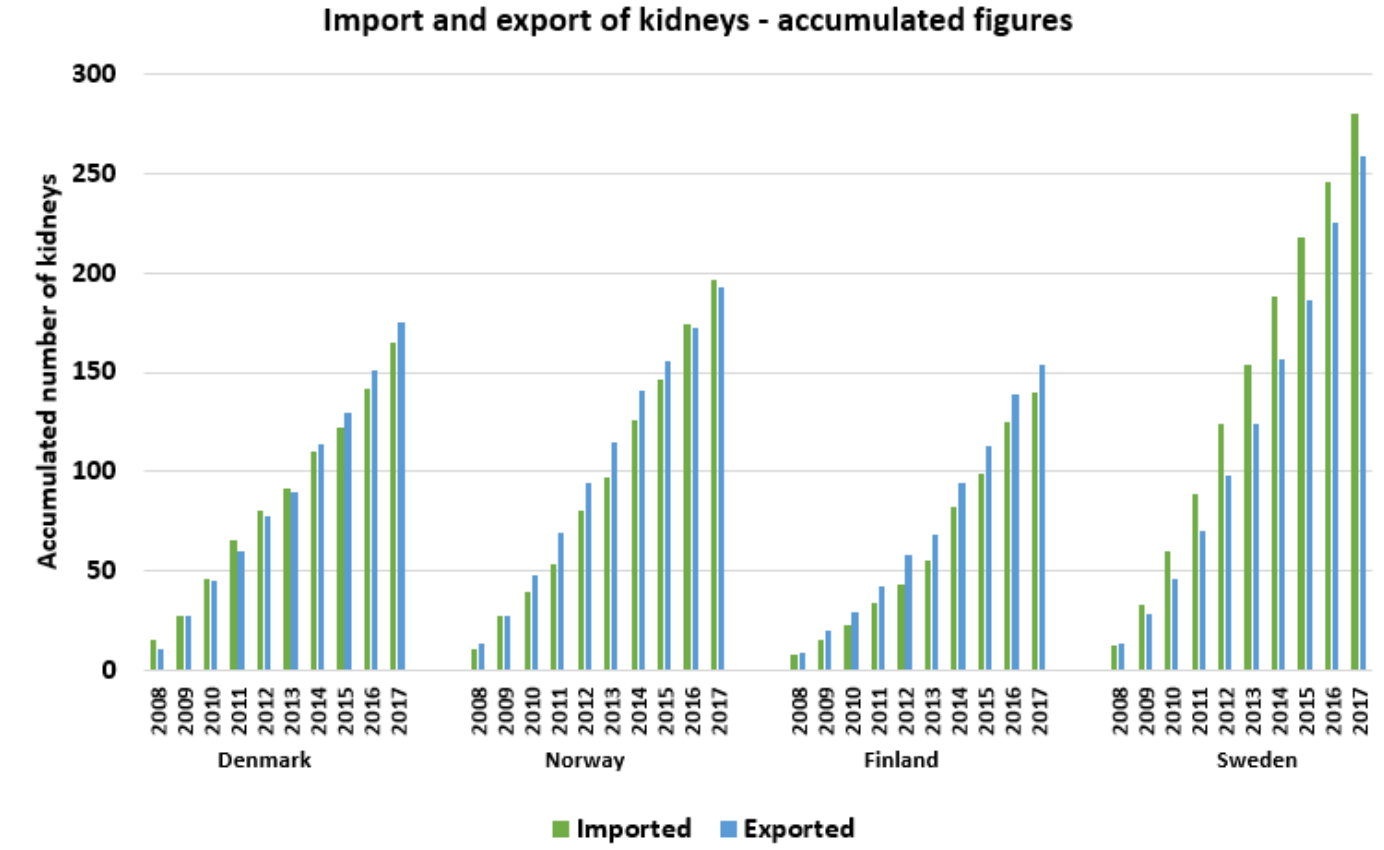


[10] The web-based organ offer form and related communication systems for organ offers were introduced in year 2013

[11] From October 1st 2017 Estonia is regarded as part of Scandiatransplant

Kidneys exported and imported between the Scandiatransplant countries[12]





[12] Only kidneys used for transplantation are included

Kidneys exported and imported[13] between the Scandiatransplant countries in numbers[14] (including import and export to other EOEO's)

Denmark

	Kidneys transplanted	Import	Export	Import EOEO	Export EOEO
2008	122	15	10	0	0
2009	141	12	17	0	0
2010	130	19	18	1	0
2011	135	19	15	1	0
2012	137	15	17	0	0
2013	108	11	13	0	0
2014	139	19	24	1	0
2015	154	12	16	2	0
2016	154	20	21	0	0
2017	165	23	24	0	0

Norway

	Kidneys transplanted	Import	Export	Import EOEO	Export EOEO
2008	180	10	13	0	0
2009	188	17	14	0	0
2010	180	12	21	0	0
2011	229	14	21	0	0
2012	218	27	25	0	0
2013	202	17	21	0	0
2014	206	29	26	0	0
2015	191	20	15	0	0
2016	193	28	16	0	0
2017	197	23	21	0	0

[13] Only kidneys used for transplantation are included

[14] Kidney double transplantations are counted as 1

Finland

	Kidneys transplanted	Import	Export	Import EOEO	Export EOEO
2008	141	8	9	0	0
2009	174	7	11	0	0
2010	164	8	9	0	0
2011	164	11	13	0	0
2012	188	9	16	0	0
2013	176	12	10	0	0
2014	225	27	26	0	0
2015	229	17	19	0	0
2016	240	26	26	0	0
2017	211	15	15	0	0

Sweden

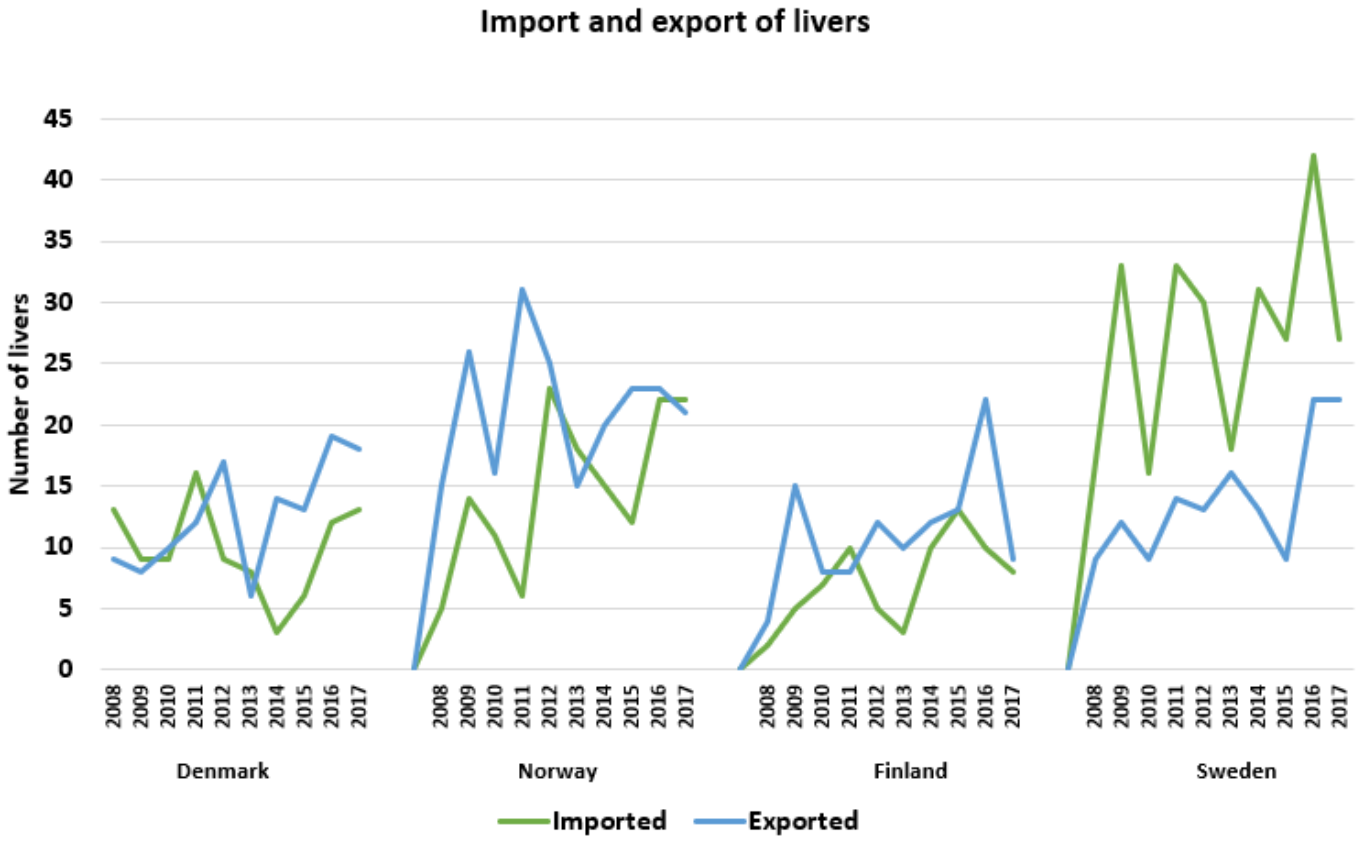
	Kidneys transplanted	Import	Export	Import EOEO	Export EOEO
2008	283	12	13	0	0
2009	229	21	15	0	0
2010	202	27	18	0	3
2011	251	29	24	1	0
2012	243	35	28	0	0
2013	270	30	26	4	0
2014	289	34	33	1	0
2015	295	30	29	0	0
2016	290	28	39	0	0
2017	349	34	34	0	0

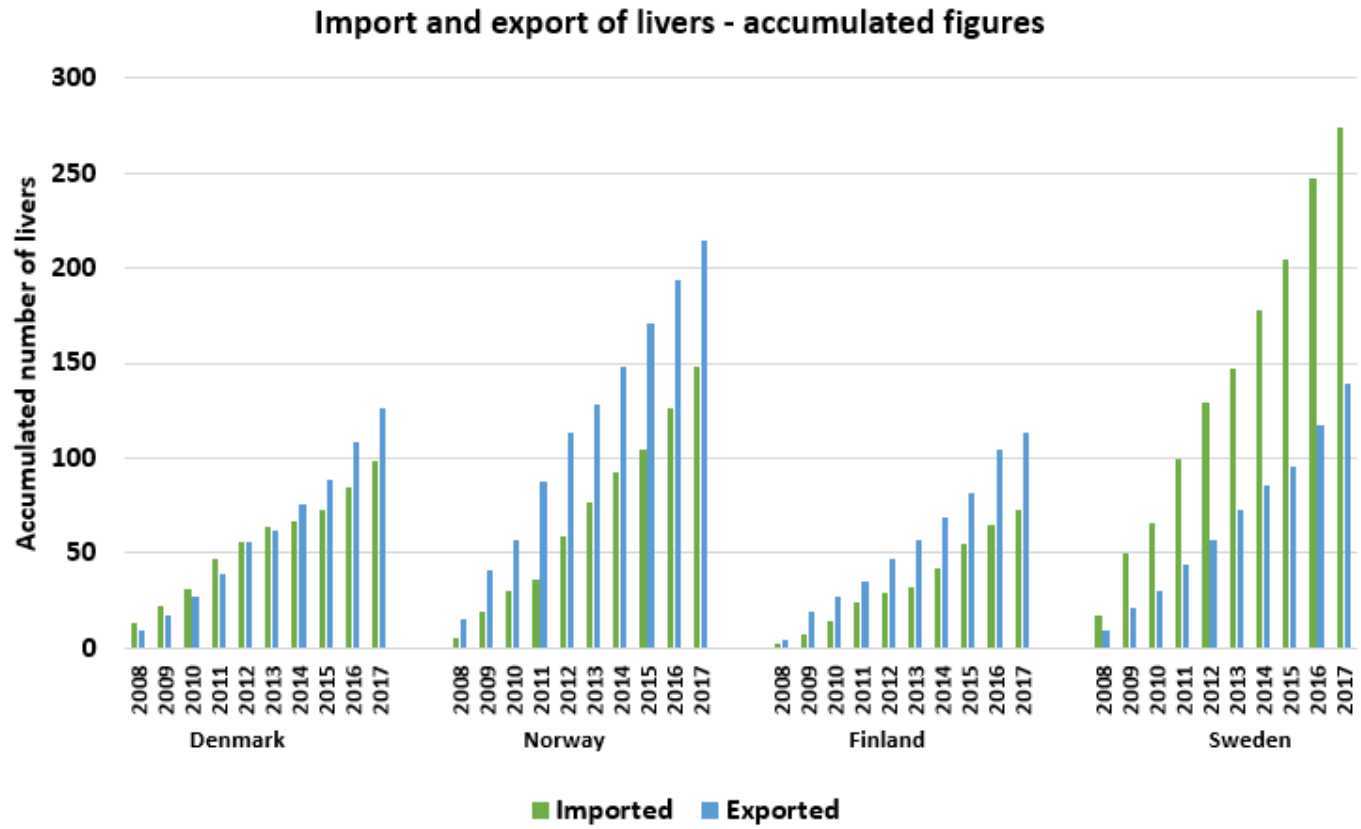
Estonia[15]

	Kidneys transplanted	Import	Export	Import EOEO	Export EOEO
2017	10	0	1	0	0

[15] From October 1st 2017 Estonia is regarded as part of Scandiatransplant

Livers exported and imported between the Scandiatransplant countries[16]





[16] Only livers used for transplantation are included

Livers exported and imported[17] between the Scandiatransplant countries in numbers[18] (including import and export to other EOEO's)

Denmark

	Livers transplanted	Import	Export	Import EOEO	Export EOEO
2008	44	13	9	0	0
2009	39	9	8	0	0
2010	47	9	10	0	0
2011	51	16	12	0	0
2012	48	9	17	0	0
2013	42	8	6	0	0
2014	47	3	14	1	0
2015	58	6	13	1	0
2016	59	12	19	0	0
2017	57	13	18	1	1

Norway

	Livers transplanted	Import	Export	Import EOEO	Export EOEO
2008	79	5	15	0	0
2009	82	14	26	0	1
2010	89	11	16	0	1
2011	89	6	31	0	0
2012	100	23	25	0	2
2013	110	18	15	2	1
2014	100	15	20	1	0
2015	83	12	23	2	1
2016	100	22	23	4	4
2017	102	22	21	1	3

[17] Only livers used for transplantation are included

[18] If the liver is transplanted as split liver, each split is counted as 1

Finland

	Livers transplanted	Import	Export	Import EOEO	Export EOEO
2008	47	2	4	0	0
2009	48	5	15	0	0
2010	50	7	8	0	0
2011	56	10	8	0	0
2012	52	5	12	0	0
2013	49	3	10	0	0
2014	59	10	12	0	0
2015	77	13	13	0	0
2016	61	10	22	0	0
2017	63	8	9	0	0

Sweden

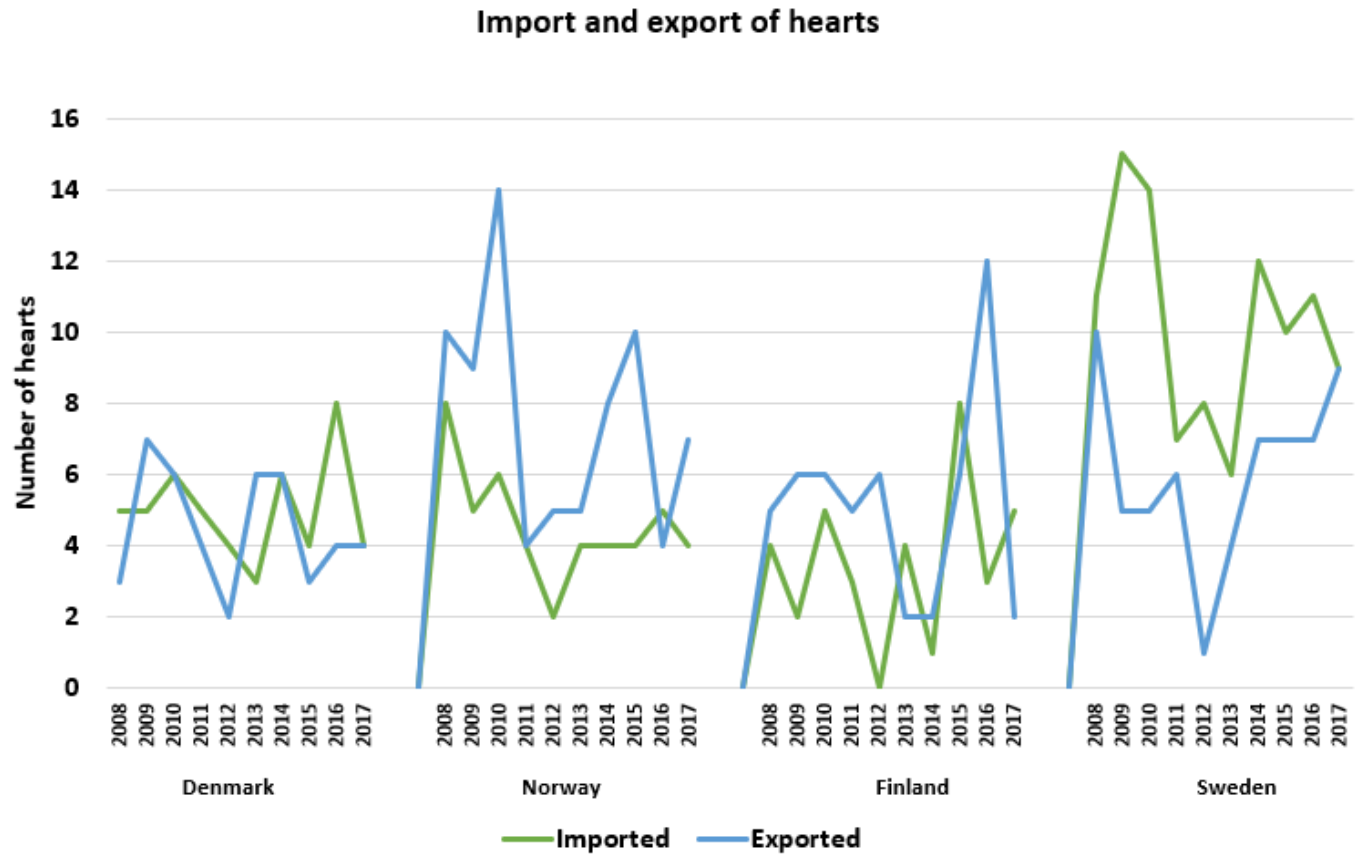
	Livers transplanted	Import	Export	Import EOEO	Export EOEO
2008	133	17	9	0	0
2009	137	33	12	0	1
2010	122	16	9	0	2
2011	149	33	14	0	3
2012	142	30	13	0	1
2013	150	18	16	4	1
2014	171	31	13	3	3
2015	176	27	9	2	5
2016	197	42	22	2	2
2017	176	27	22	0	4

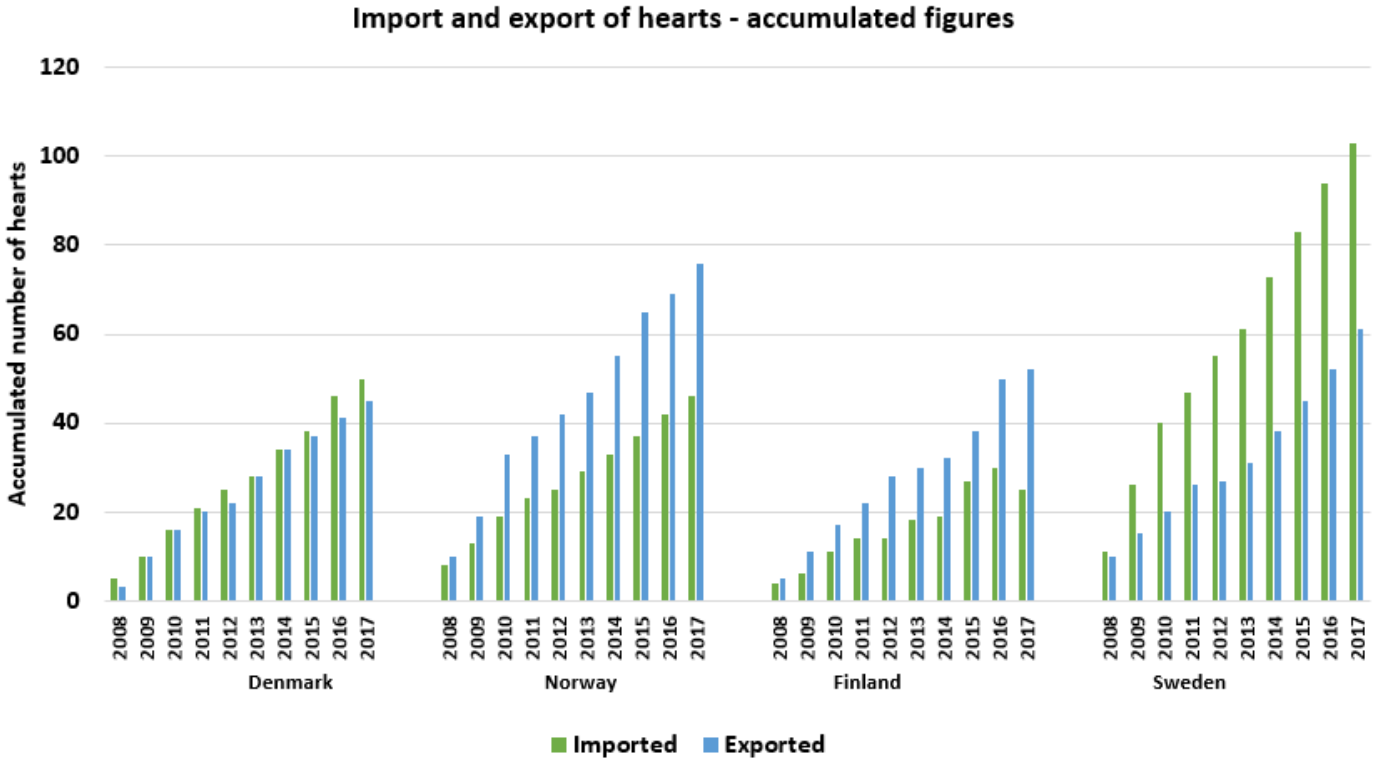
Estonia[19]

	Livers transplanted	Import	Export	Import EOEO	Export EOEO
2017	6	2	2	0	0

[19] From October 1st 2017 Estonia is regarded as part of Scandiatransplant

Hearts exported and imported between the Scandiatransplant countries[20]





[20] Only hearts used for transplantation are included

Hearts exported and imported[21] between the Scandiatransplant countries in numbers (including import and export to other EOEO's)

Denmark

	Hearts transplanted	Import	Export	Import EOEO	Export EOEO
2008	20	5	3	0	0
2009	27	5	7	1	0
2010	22	6	6	0	0
2011	29	5	4	0	0
2012	26	4	2	0	0
2013	17	3	6	0	0
2014	32	6	6	0	0
2015	27	4	3	2	0
2016	29	8	4	1	0
2017	25	4	4	0	1

Norway

	Hearts transplanted	Import	Export	Import EOEO	Export EOEO
2008	36	8	10	0	1
2009	27	5	9	0	0
2010	30	6	14	0	2
2011	29	4	4	0	0
2012	32	2	5	0	0
2013	37	4	5	0	0
2014	34	4	8	1	0
2015	37	4	10	0	0
2016	21	5	4	1	2
2017	32	4	7	0	1

[21] Only hearts used for transplantation are included

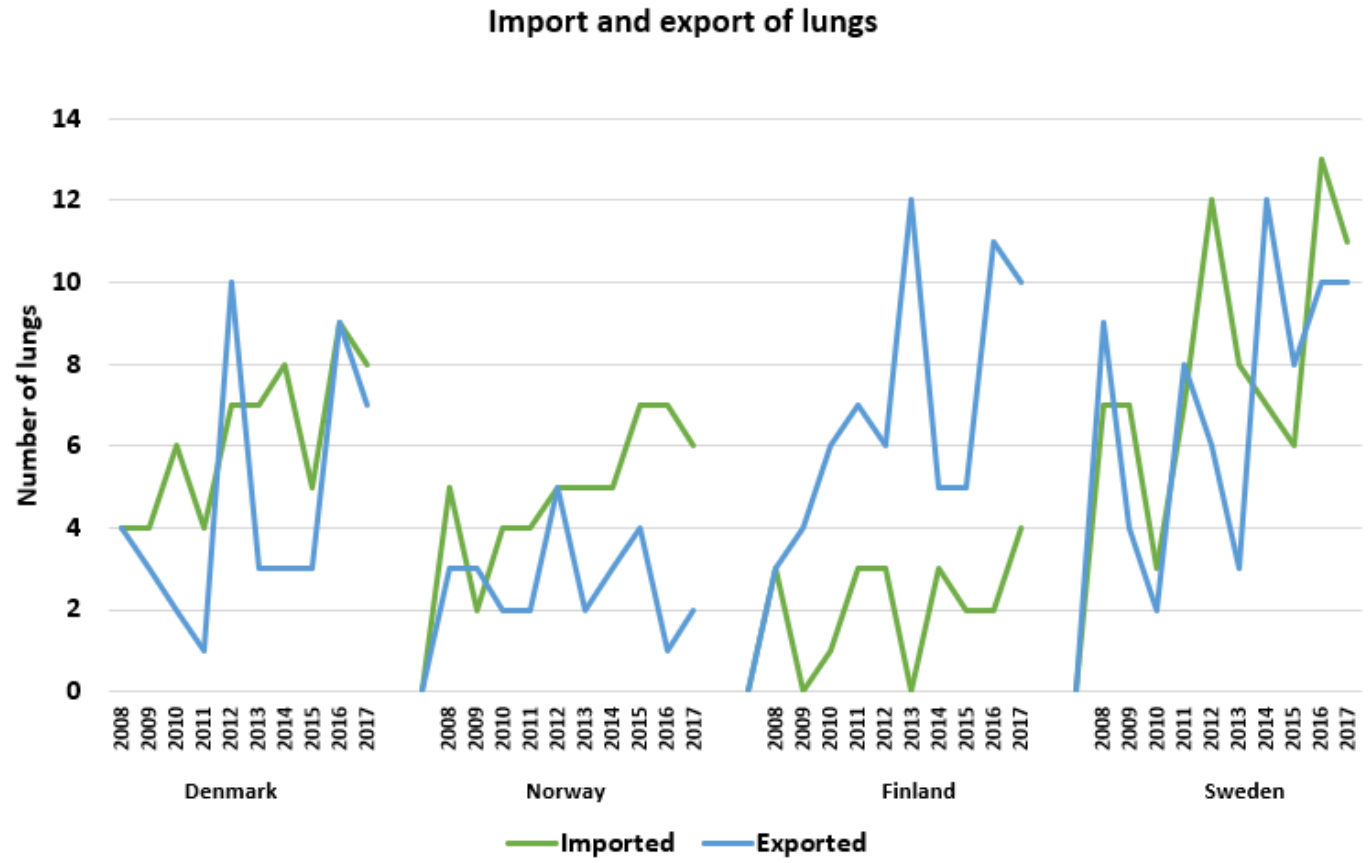
Finland

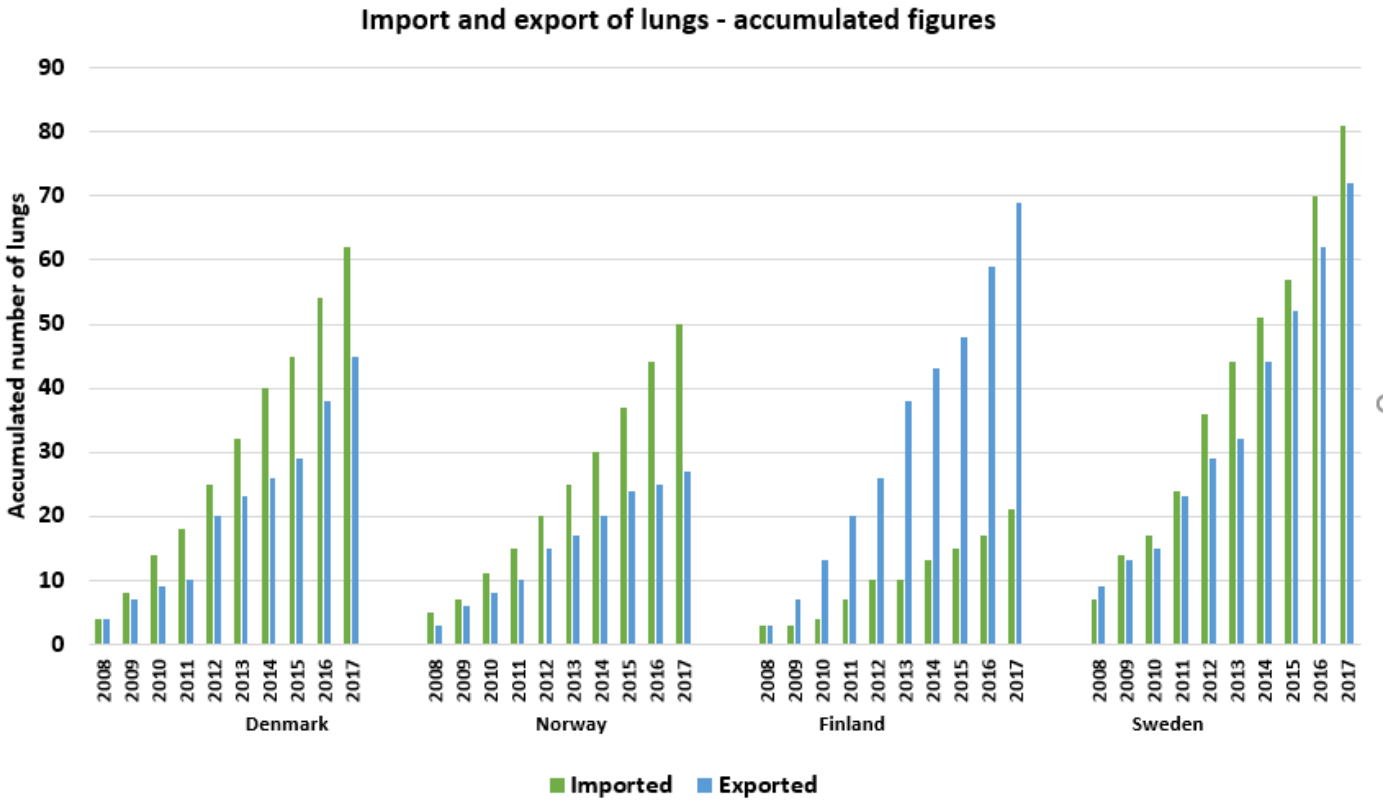
	Hearts transplanted	Import	Export	Import EOEO	Export EOEO
2008	21	4	5	1	0
2009	13	2	6	0	0
2010	22	5	6	0	0
2011	18	3	5	0	0
2012	22	0	6	0	0
2013	21	4	2	3	0
2014	24	1	2	4	0
2015	27	8	6	0	0
2016	31	3	12	0	0
2017	26	5	2	0	0

Sweden

	Hearts transplanted	Import	Export	Import EOEO	Export EOEO
2008	44	11	10	1	1
2009	55	15	5	0	2
2010	56	14	5	2	4
2011	51	7	6	1	4
2012	46	8	1	2	1
2013	55	6	4	6	1
2014	67	12	7	1	4
2015	63	10	7	3	1
2016	64	11	7	2	4
2017	62	9	9	1	3

Lungs exported and imported between the Scandiatransplant countries[22]





[22] Only lungs used for transplantation are included

Lungs exported and imported[23] between the Scandiatransplant countries in numbers[24] (including import and export to other EOEO's)

Denmark

	Lungs transplanted	Import	Export	Import EOEO	Export EOEO
2008	18	4	4	0	0
2009	29	4	3	0	0
2010	31	6	2	0	0
2011	30	4	1	1	1
2012	30	7	10	0	1
2013	31	7	3	0	0
2014	29	8	3	0	1
2015	35	5	3	1	0
2016	29	9	9	0	0
2017	35	8	7	0	0

Norway

	Lungs transplanted	Import	Export	Import EOEO	Export EOEO
2008	30	5	3	0	0
2009	24	2	3	0	0
2010	32	4	2	0	0
2011	28	4	2	0	0
2012	28	5	5	0	0
2013	33	5	2	1	0
2014	33	5	3	0	0
2015	34	7	4	0	0
2016	34	7	1	1	1
2017	35	6	2	0	0

[23] Only lungs used for transplantation are included

[24] Single lung, double lung and heart-lung transplantations are all counted as 1

Finland

	Lungs transplanted	Import	Export	Import EOEO	Export EOEO
2008	12	3	3	0	0
2009	14	0	4	0	0
2010	15	1	6	0	0
2011	23	3	7	0	0
2012	27	3	6	0	0
2013	15	0	12	0	0
2014	17	3	5	1	0
2015	24	2	5	0	0
2016	18	2	11	0	0
2017	24	4	10	0	0

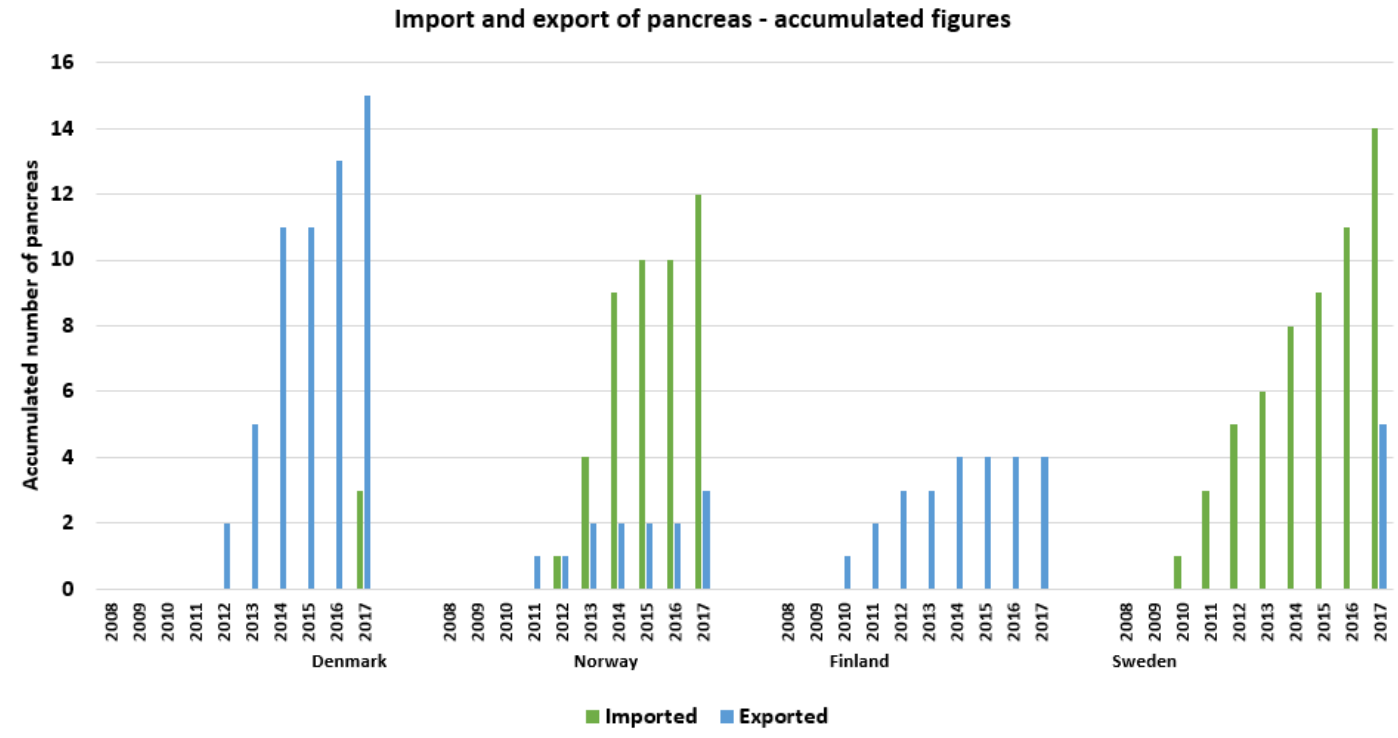
Sweden

	Lungs transplanted	Import	Export	Import EOEO	Export EOEO
2008	52	7	9	0	3
2009	51	7	4	0	2
2010	51	3	2	2	3
2011	60	7	8	0	3
2012	60	12	6	0	3
2013	58	8	3	1	2
2014	65	7	12	1	8
2015	48	6	8	0	3
2016	62	13	10	0	4
2017	65	11	10	0	5

Estonia

	Lungs transplanted	Import	Export	Import EOEO	Export EOEO
2017	2	0	0	0	0

Pancreas exported and imported between the Scandiatransplant countries[25],[26]



[25] Only pancreas used for whole pancreas transplantation are included

[26] In the years 2012-2015 14 Danish patients were transplanted with kidney-pancreas/pancreas in Norway, which explains the increase in exports and imports of pancreas for these two countries.

Pancreas exported and imported[27] between the Scandiatransplant countries in numbers (including import and export to other EOEO's)

Denmark

	Pancreas transplanted	Import	Export	Import EOEO	Export EOEO
2008	0	0	0	0	0
2009	0	0	0	0	0
2010	0	0	0	0	0
2011	0	0	0	0	0
2012	0	0	2	0	0
2013	0	0	3	0	0
2014	0	0	6	0	0
2015	2	0	0	0	0
2016	7	0	2	0	0
2017	9	3	2	0	0

Norway

	Pancreas transplanted	Import	Export	Import EOEO	Export EOEO
2008	10	0	0	0	0
2009	16	0	0	0	0
2010	15	0	0	0	0
2011	20	0	1	0	0
2012	28	1	0	0	0
2013	39	3	1	2	0
2014	31	5	0	2	0
2015	31	1	0	2	0
2016	20	0	0	0	0
2017	24	2	1[28]	0	0

[27] Only pancreas used for whole pancreas transplantation are included

[28] +1 for a Norwegian recipient transplanted in Sweden

Finland

	Pancreas transplanted	Import	Export	Import EOEO	Export EOEO
2008	0	0	0	0	0
2009	0	0	0	0	0
2010	2	0	1	0	0
2011	1	0	1	0	0
2012	8	0	1	0	0
2013	10	0	0	0	0
2014	15	0	1	0	0
2015	17	0	0	0	0
2016	27	0	0	0	0
2017	21	0	0	0	0

Sweden

	Pancreas transplanted	Import	Export	Import EOEO	Export EOEO
2008	10	0	0	0	0
2009	20	0	0	0	0
2010	26	1	0	0	0
2011	35	2	0	0	0
2012	28	2	0	0	0
2013	38	1	0	1	0
2014	38	2	0	1	0
2015	30	1	0	0	0
2016	24	2	0	1	0
2017	25	3	5	0	0

Estonia

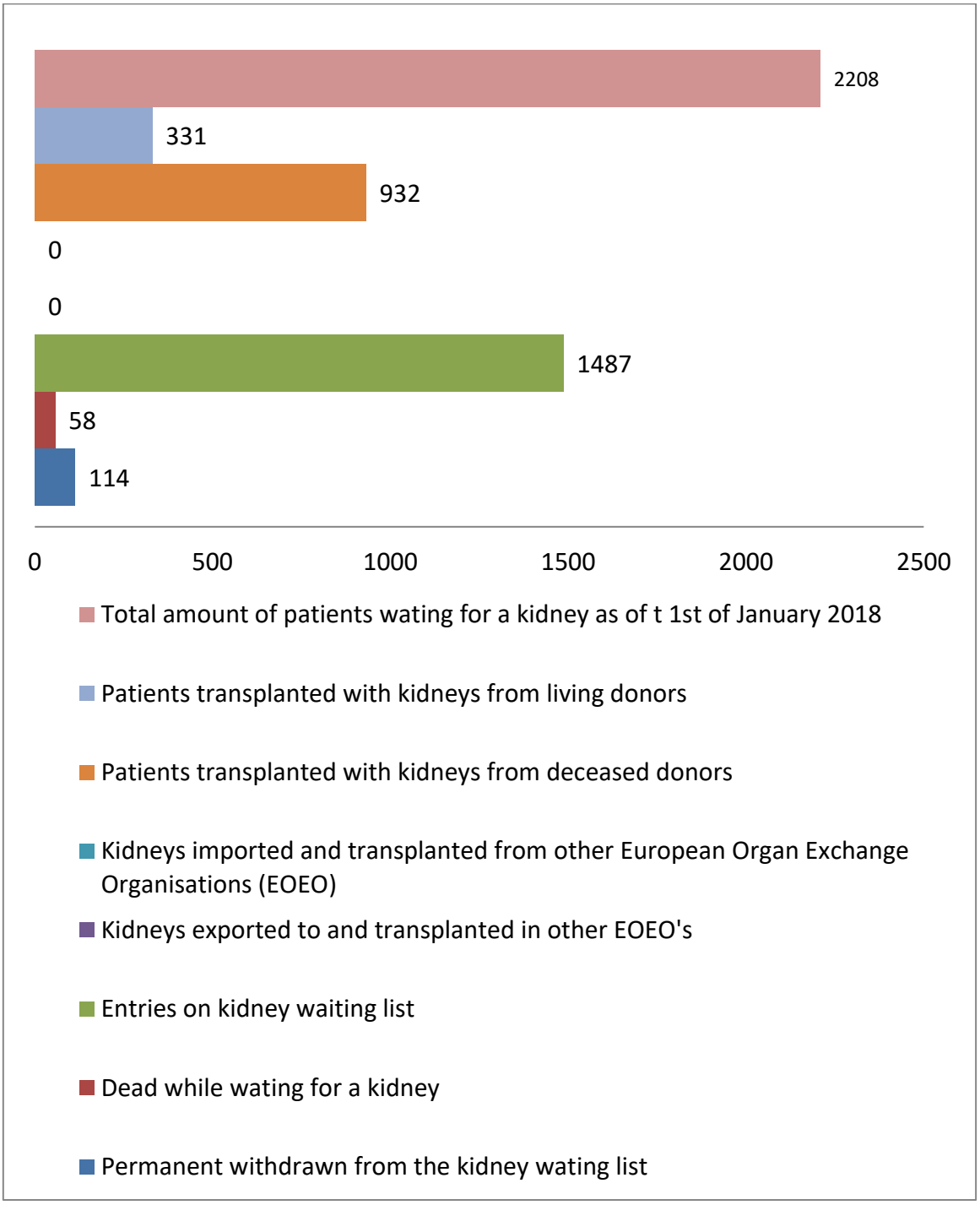
	Pancreas transplanted	Import	Export	Import EOEO	Export EOEO
2017	1	0	0	0	0

Intestine exported and imported[29] between the Scandiatransplant countries and other EOEO's

	Import/export	Import/export EOEO
2008	2 from Norway to Sweden	0
2009	0	0
2010	0	0
2011	0	0
2012	0	0
2013	0	0
2014	0	1 from EOEO to Sweden
2015	0	0
2016	1 from Denmark to Sweden	0
2017	1 from Norway to Sweden (Norwegian recipient)	0

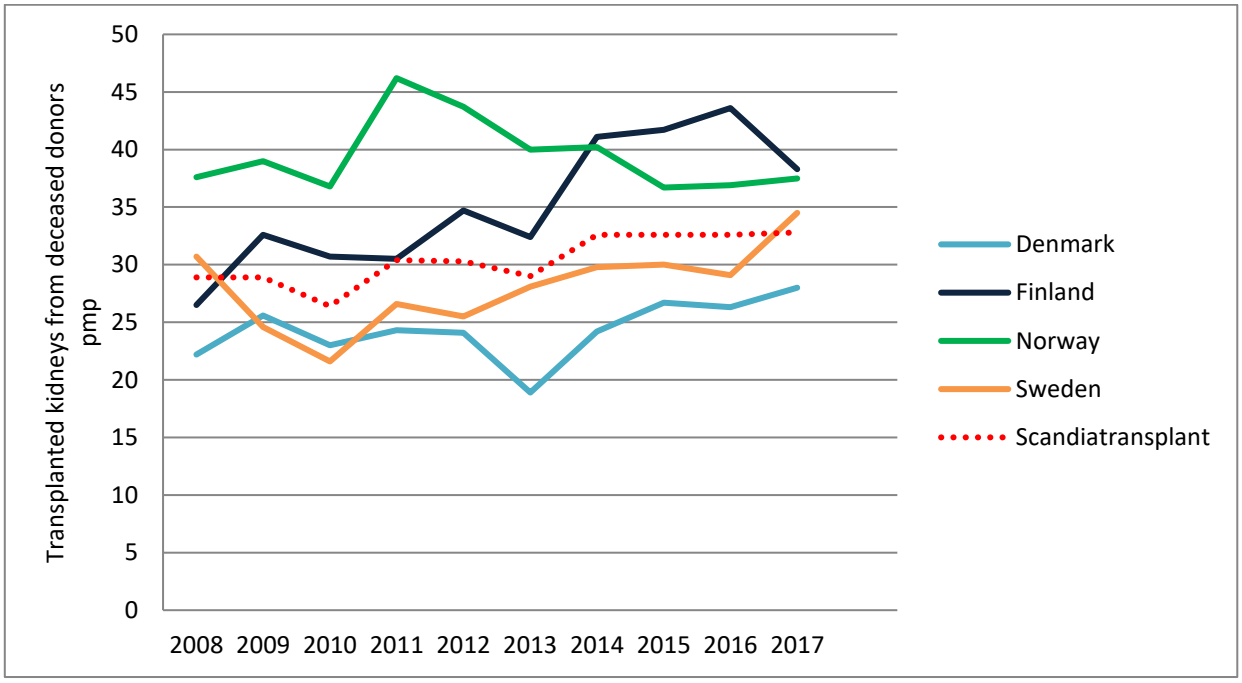
[29] Only intestine used for transplantation is included

Kidneys 2017



Transplanted kidneys pmp[30] from deceased donors per year

Year	Denmark	Estonia	Finland	Norway	Sweden	Scandiatransplant
2008	22,2		26,5	37,6	30,7	28,9
2009	25,6		32,6	39,0	24,6	28,9
2010	23,0		30,7	36,8	21,6	26,4
2011	24,3		30,5	46,2	26,6	30,4
2012	24,1		34,7	43,7	25,5	30,3
2013	18,9		32,4	40,0	28,1	29
2014	24,2		41,1	40,2	29,8	32,6
2015	26,7		41,7	36,7	30,0	32,6
2016	26,3		43,6	36,9	29,1	32,6
2017	28,0	7,6[31]	38,3	37,5	34,5	32,8

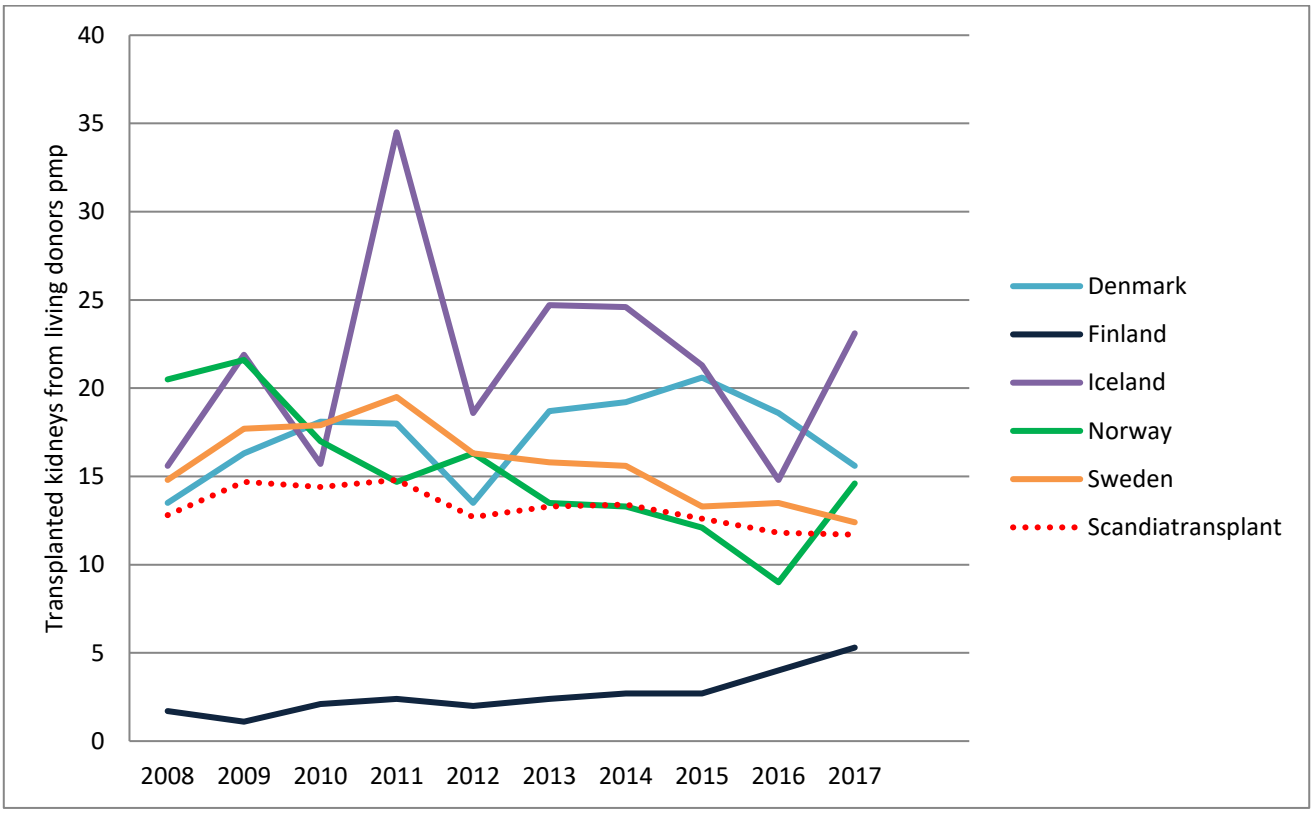


[30] pmp: per million population

[31] Figures included from Estonia year 2017 starts from October 1st 2017, which has negative impact on PMP for Estonia and Scandiatransplant

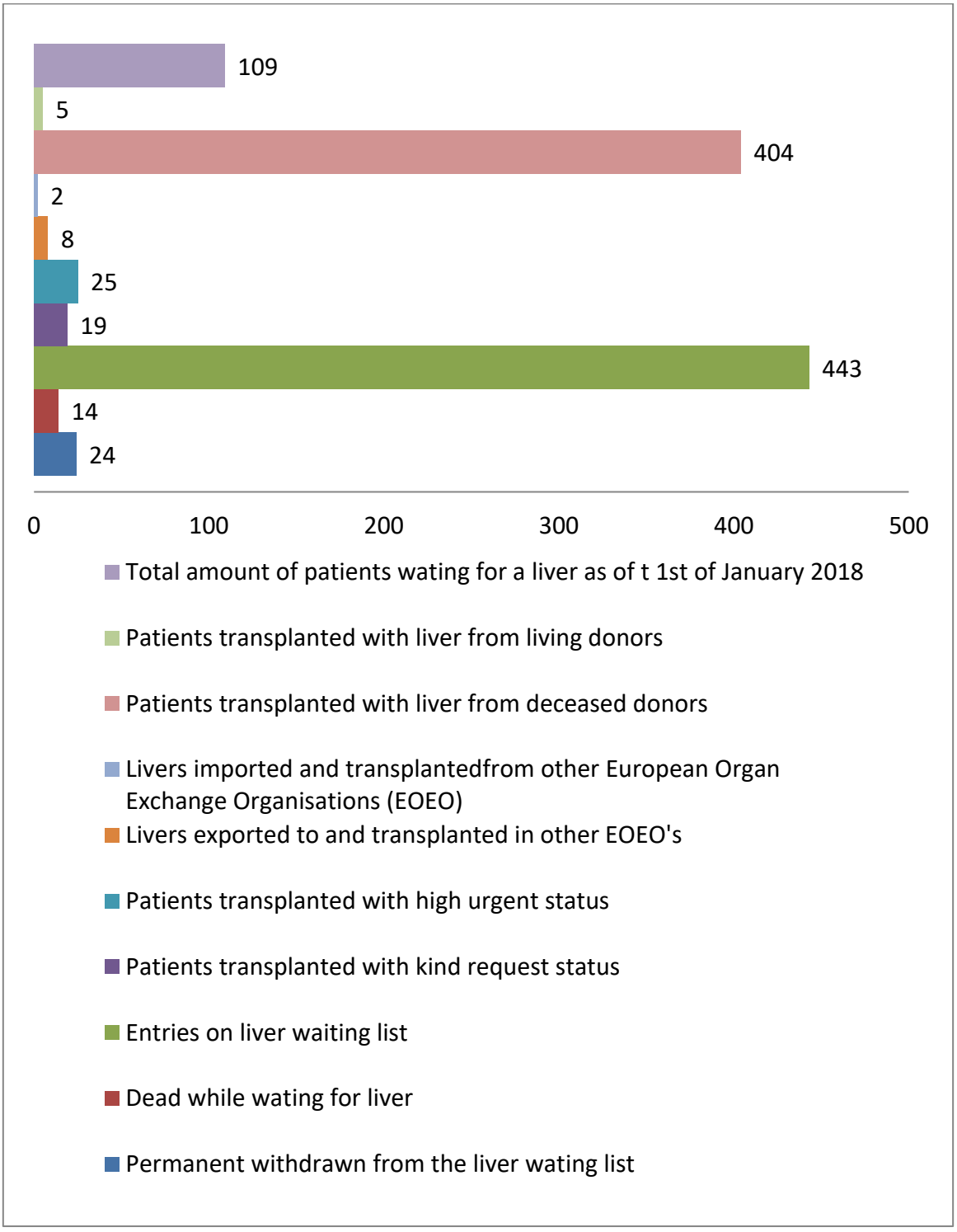
Transplanted kidneys pmp[32] from living donors per year

Year	Denmark	Finland	Iceland	Norway	Sweden	Scandiatransplant
2008	13,5	1,7	15,6	20,5	14,8	12,8
2009	16,3	1,1	21,9	21,6	17,7	14,7
2010	18,1	2,1	15,7	17,0	17,9	14,4
2011	18,0	2,4	34,5	14,7	19,5	14,8
2012	13,5	2,0	18,6	16,3	16,3	12,7
2013	18,7	2,4	24,7	13,5	15,8	13,3
2014	19,2	2,7	24,6	13,3	15,6	13,4
2015	20,6	2,7	21,3	12,1	13,3	12,6
2016	18,6	4,0	14,8	9,0	13,5	11,8
2017	15,6	5,3	23,1	14,6	12,4	11,7



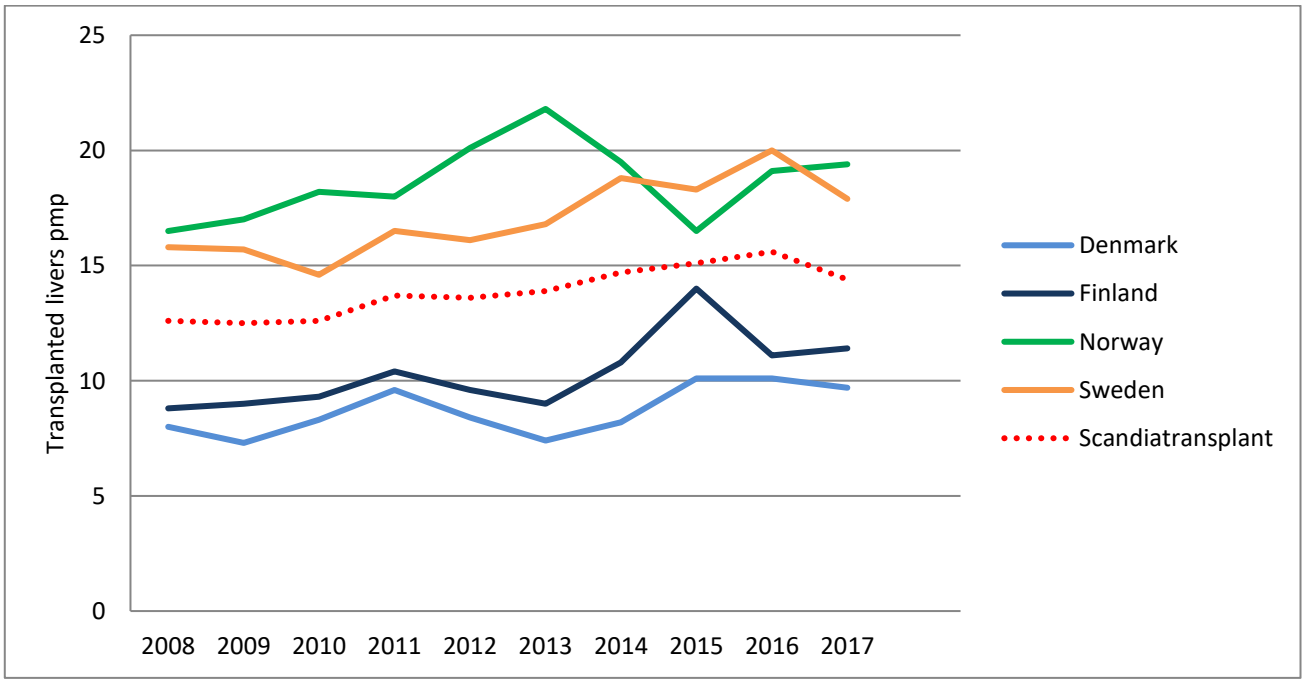
[32] pmp: per million population

Livers 2017


109
5
404
2
8
25
19
443
14
24
0
100
200
300
400
500
Total amount of patients wating for a liver as of t 1st of January 2018
Patients transplanted with liver from living donors
Patients transplanted with liver from deceased donors
Livers imported and transplantedfrom other European Organ Exchange Organisations (EOEO)
Livers exported to and transplanted in other EOEO's
Patients transplanted with high urgent status
Patients transplanted with kind request status
Entries on liver waiting list
Dead while wating for liver
Permanent withdrawn from the liver wating list

Transplanted livers (Deceased and living donors) pmp[33] per year

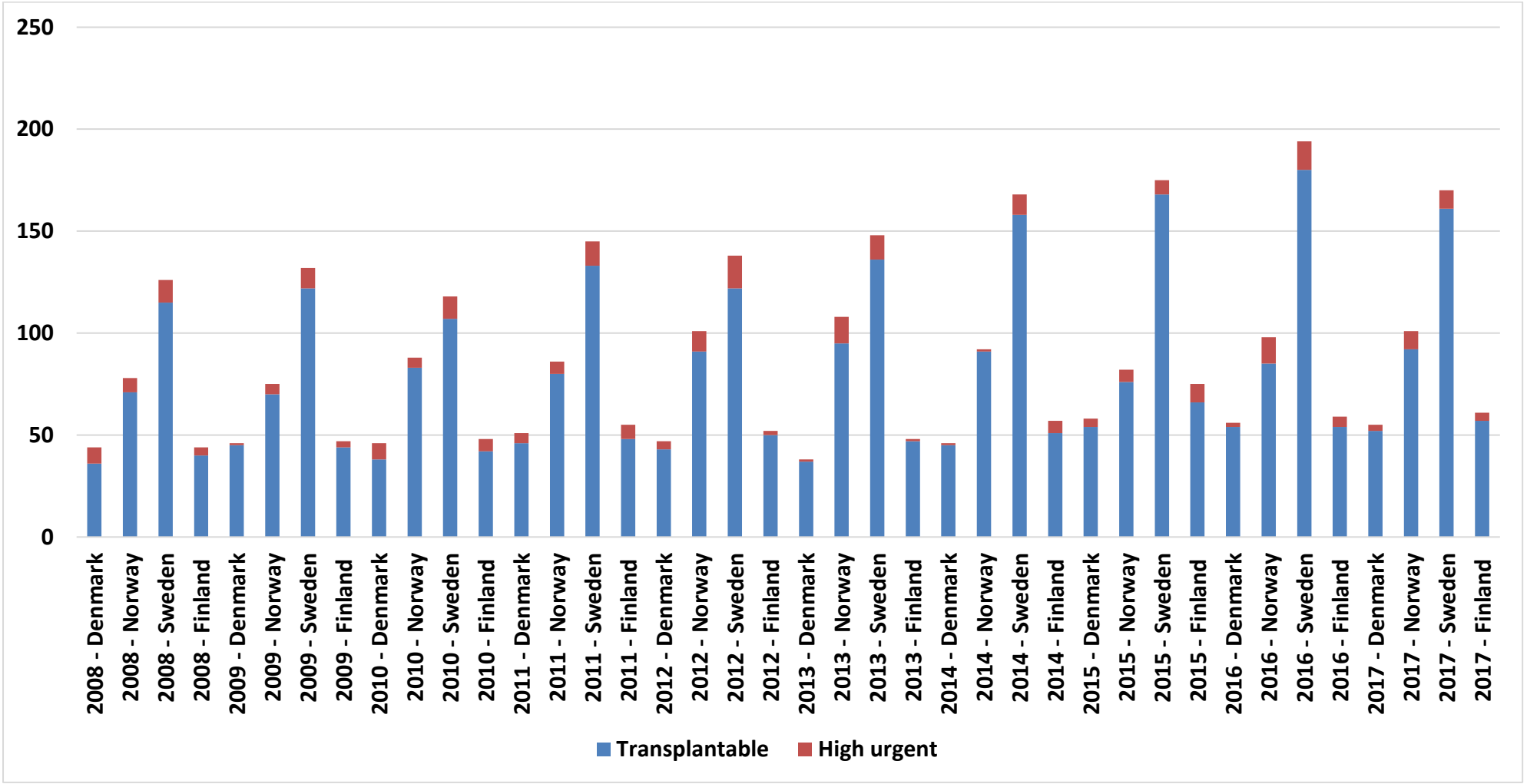
Year	Denmark	Estonia	Finland	Norway	Sweden	Scandiatransplant
2008	8,0		8,8	16,5	15,8	12,6
2009	7,3		9,0	17,0	15,7	12,5
2010	8,3		9,3	18,2	14,6	12,6
2011	9,6		10,4	18,0	16,5	13,7
2012	8,4		9,6	20,1	16,1	13,6
2013	7,4		9,0	21,8	16,8	13,9
2014	8,2		10,8	19,5	18,8	14,7
2015	10,1		14,0	16,5	18,3	15,1
2016	10,1		11,1	19,1	20,0	15,6
2017	9,7	4,6[34]	11,4	19,4	17,9	14,4



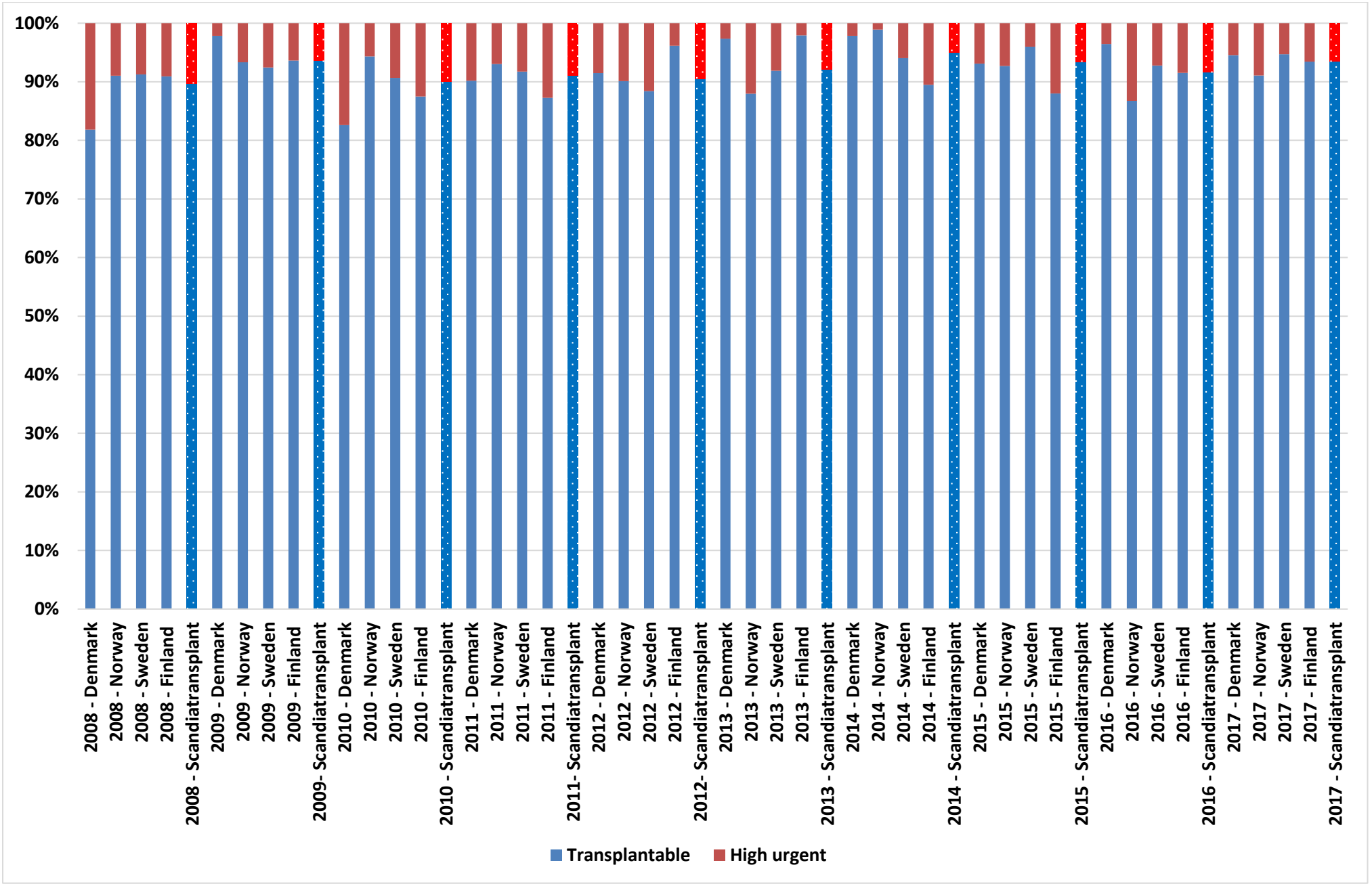
[33] pmp: per million population

[34] Figures included from Estonia year 2017 starts from October 1st 2017, which has negative impact on PMP for Estonia and Scandiatransplant

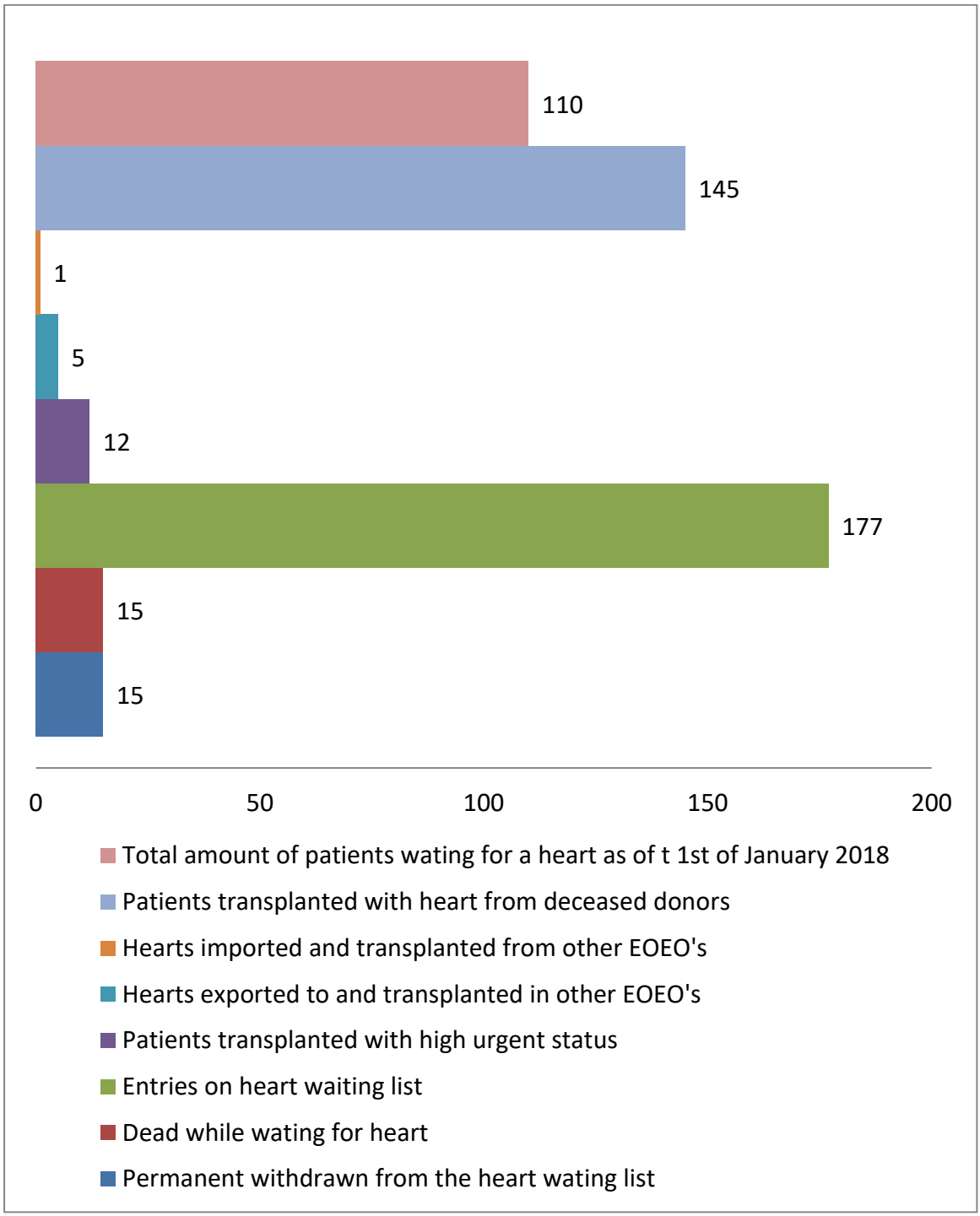
Transplanted livers[35] by urgency



[35] Combined transplantations are not included

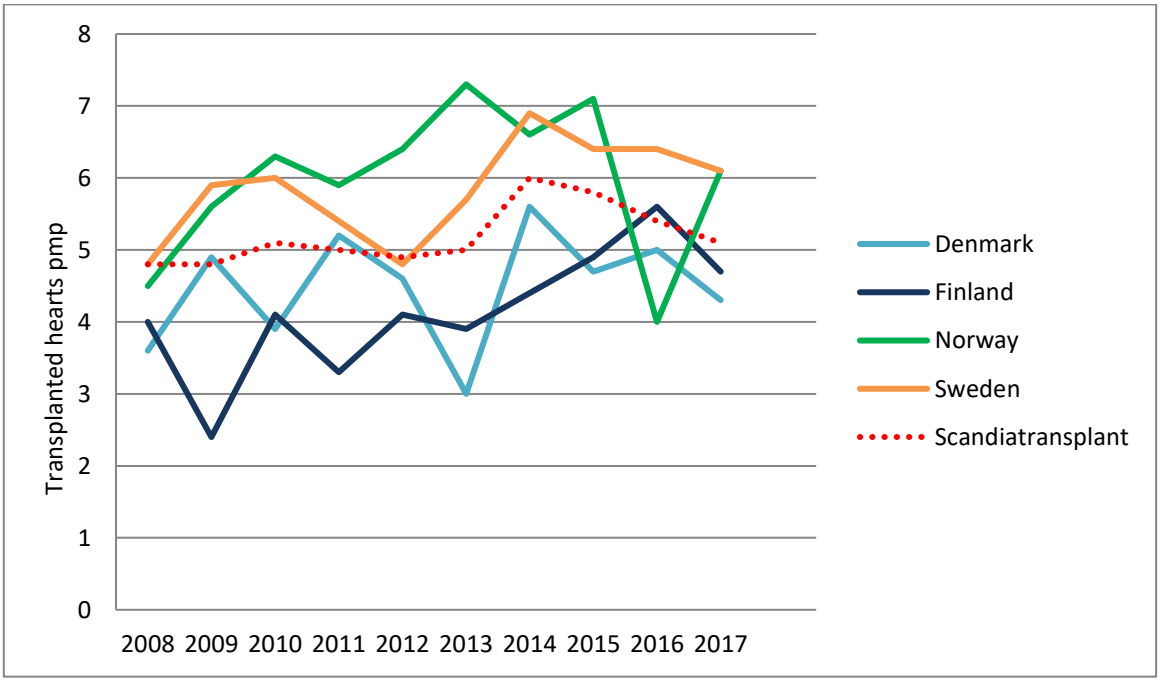

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2008 - Denmark
2008 - Norway
2008 - Sweden
2008 - Finland
2008 - Scandiatransplant
2009 - Denmark
2009 - Norway
2009 - Sweden
2009 - Finland
2009- Scandiatransplant
2010 - Denmark
2010 - Norway
2010 - Sweden
2010 - Finland
2010 - Scandiatransplant
2011 - Denmark
2011 - Norway
2011 - Sweden
2011 - Finland
2011- Scandiatransplant
2012 - Denmark
2012 - Norway
2012 - Sweden
2012 - Finland
2012- Scandiatransplant
2013 - Denmark
2013 - Norway
2013 - Sweden
2013 - Finland
2013 - Scandiatransplant
2014 - Denmark
2014 - Norway
2014 - Sweden
2014 - Finland
2014 - Scandiatransplant
2015 - Denmark
2015 - Norway
2015 - Sweden
2015 - Finland
2015 - Scandiatransplant
2016 - Denmark
2016 - Norway
2016 - Sweden
2016 - Finland
2016 - Scandiatransplant
2017 - Denmark
2017 - Norway
2017 - Sweden
2017 - Finland
2017 - Scandiatransplant
Transplantable
High urgent

Hearts 2017


110
145
1
5
12
177
15
15
0
50
100
150
200
Total amount of patients wating for a heart as of t 1st of January 2018
Patients transplanted with heart from deceased donors
Hearts imported and transplanted from other EOEO's
Hearts exported to and transplanted in other EOEO's
Patients transplanted with high urgent status
Entries on heart waiting list
Dead while wating for heart
Permanent withdrawn from the heart wating list

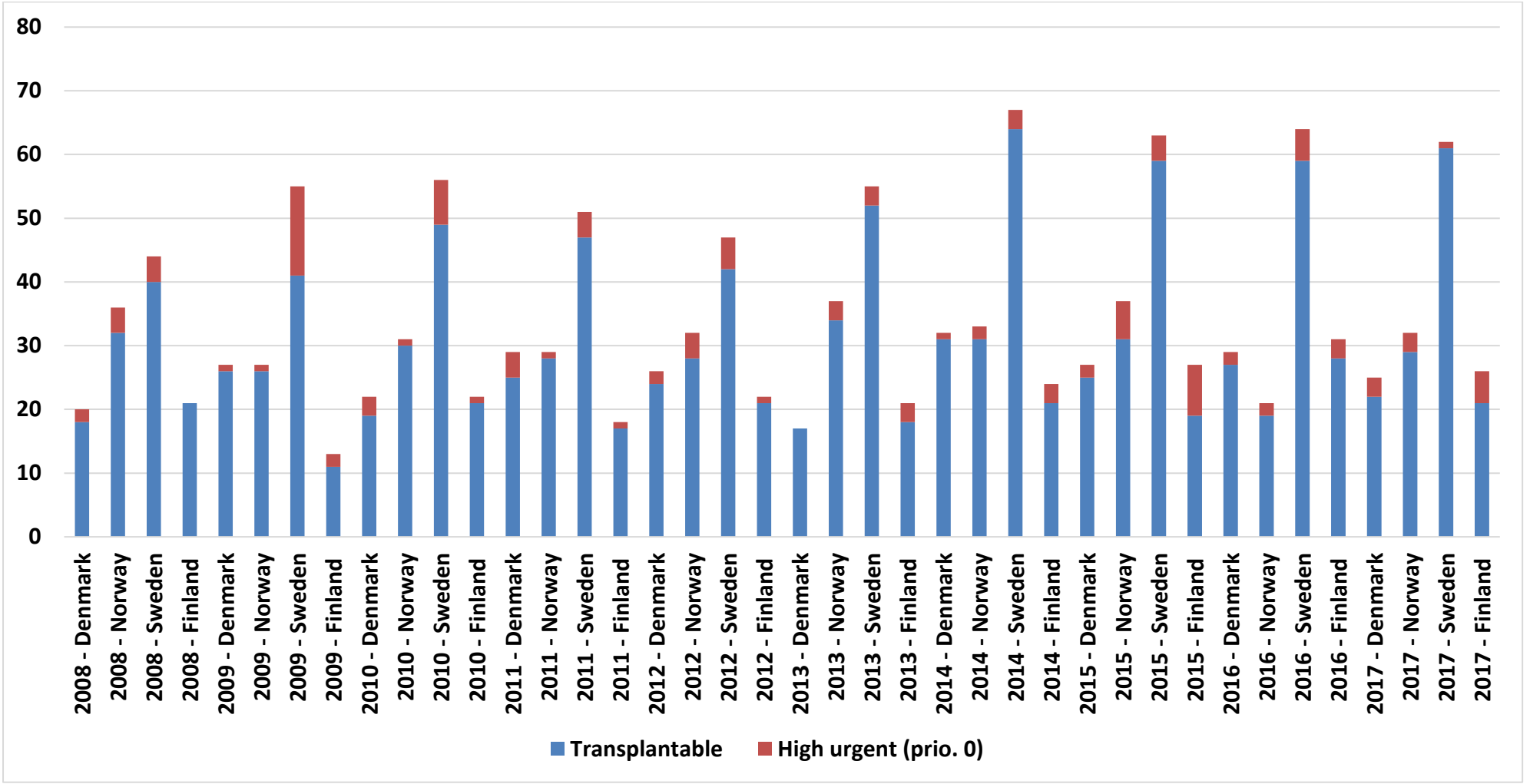
Transplanted hearts pmp[36] per year

Year	Denmark	Finland	Norway	Sweden	Scandiatransplant
2008	3,6	4,0	4,5	4,8	4,8
2009	4,9	2,4	5,6	5,9	4,8
2010	3,9	4,1	6,3	6,0	5,1
2011	5,2	3,3	5,9	5,4	5,0
2012	4,6	4,1	6,4	4,8	4,9
2013	3,0	3,9	7,3	5,7	5,0
2014	5,6	4,4	6,6	6,9	6,0
2015	4,7	4,9	7,1	6,4	5,8
2016	5,0	5,6	4,0	6,4	5,4
2017	4,3	4,7	6,1	6,1	5,1

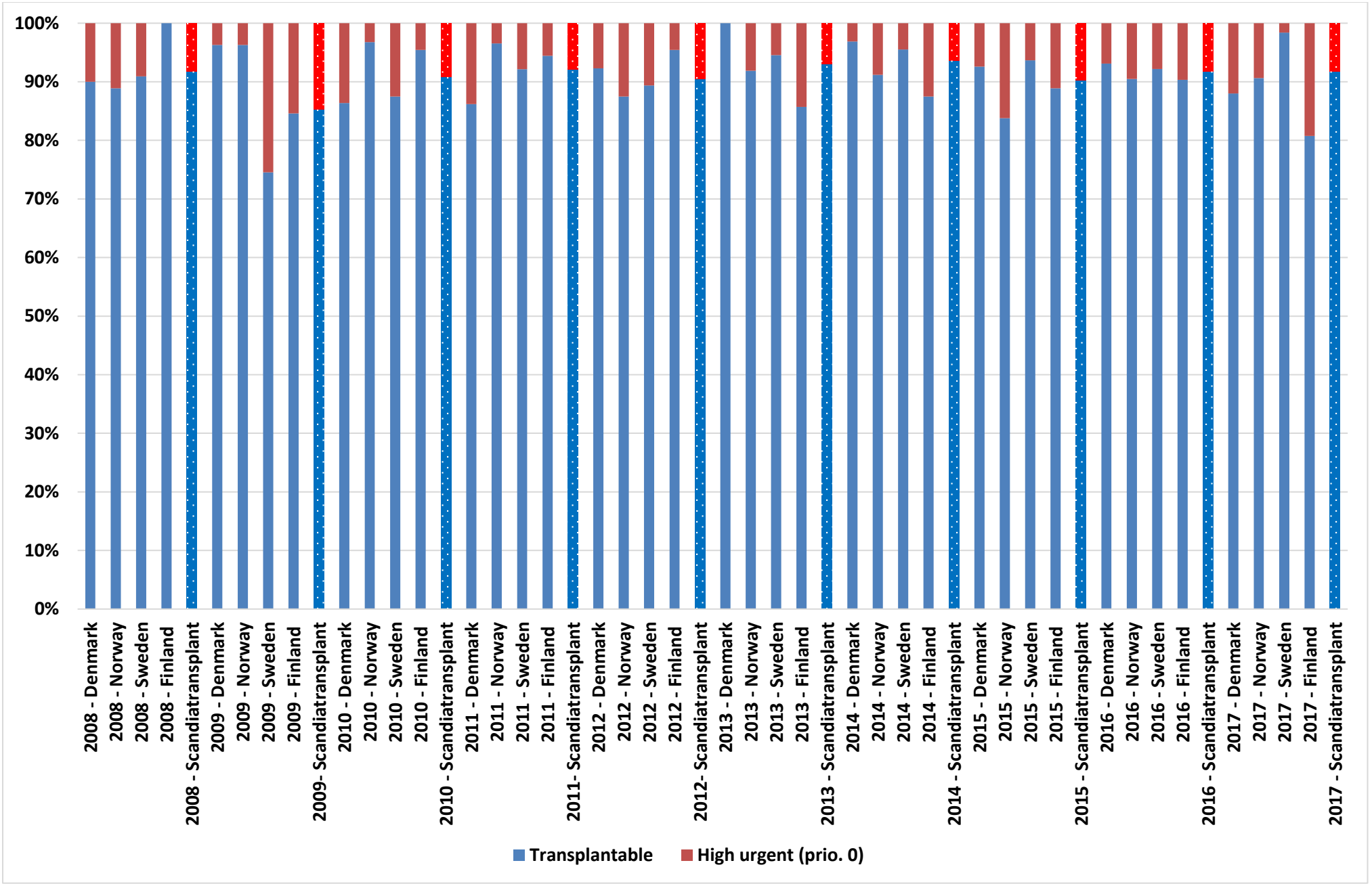


[36] pmp: per million population

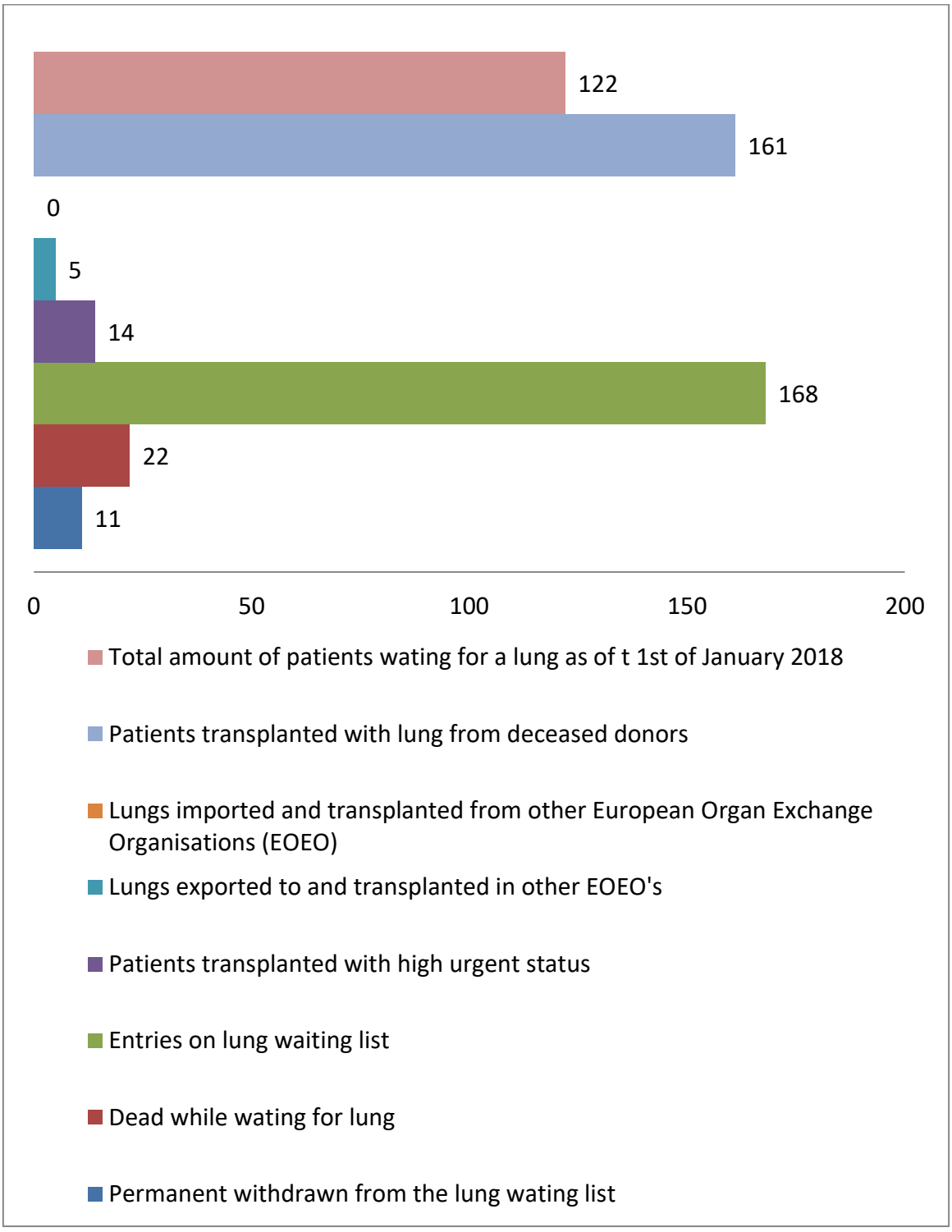
Transplanted hearts[37] by urgency



[37] Combined transplantations are not included

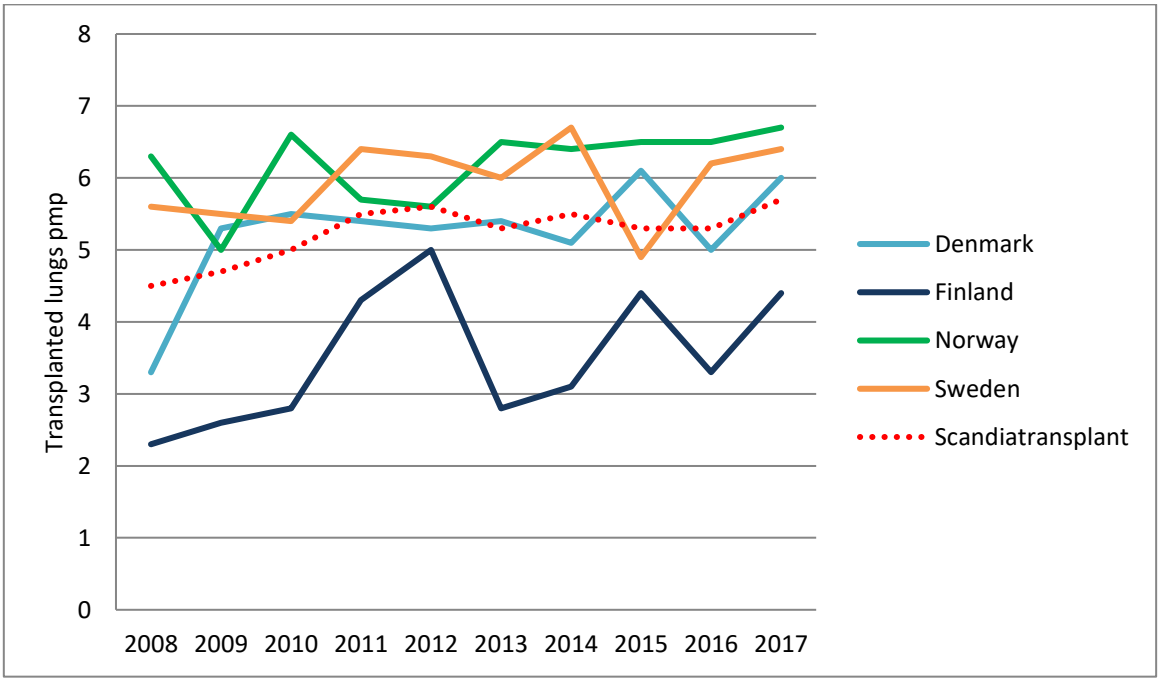

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2008 - Denmark
2008 - Norway
2008 - Sweden
2008 - Finland
2008 - Scandiatransplant
2009 - Denmark
2009 - Norway
2009 - Sweden
2009 - Finland
2009- Scandiatransplant
2010 - Denmark
2010 - Norway
2010 - Sweden
2010 - Finland
2010 - Scandiatransplant
2011 - Denmark
2011 - Norway
2011 - Sweden
2011 - Finland
2011- Scandiatransplant
2012 - Denmark
2012 - Norway
2012 - Sweden
2012 - Finland
2012- Scandiatransplant
2013 - Denmark
2013 - Norway
2013 - Sweden
2013 - Finland
2013 - Scandiatransplant
2014 - Denmark
2014 - Norway
2014 - Sweden
2014 - Finland
2014 - Scandiatransplant
2015 - Denmark
2015 - Norway
2015 - Sweden
2015 - Finland
2015 - Scandiatransplant
2016 - Denmark
2016 - Norway
2016 - Sweden
2016 - Finland
2016 - Scandiatransplant
2017 - Denmark
2017 - Norway
2017 - Sweden
2017 - Finland
2017 - Scandiatransplant
Transplantable
High urgent (prio. 0)

Lungs 2017


122
161
0
5
14
168
22
11
0
50
100
150
200
Total amount of patients wating for a lung as of t 1st of January 2018
Patients transplanted with lung from deceased donors
Lungs imported and transplanted from other European Organ Exchange Organisations (EOEO)
Lungs exported to and transplanted in other EOEO's
Patients transplanted with high urgent status
Entries on lung waiting list
Dead while wating for lung
Permanent withdrawn from the lung wating list

Transplanted lungs (Double, single and heart-lung) pmp[38] per year

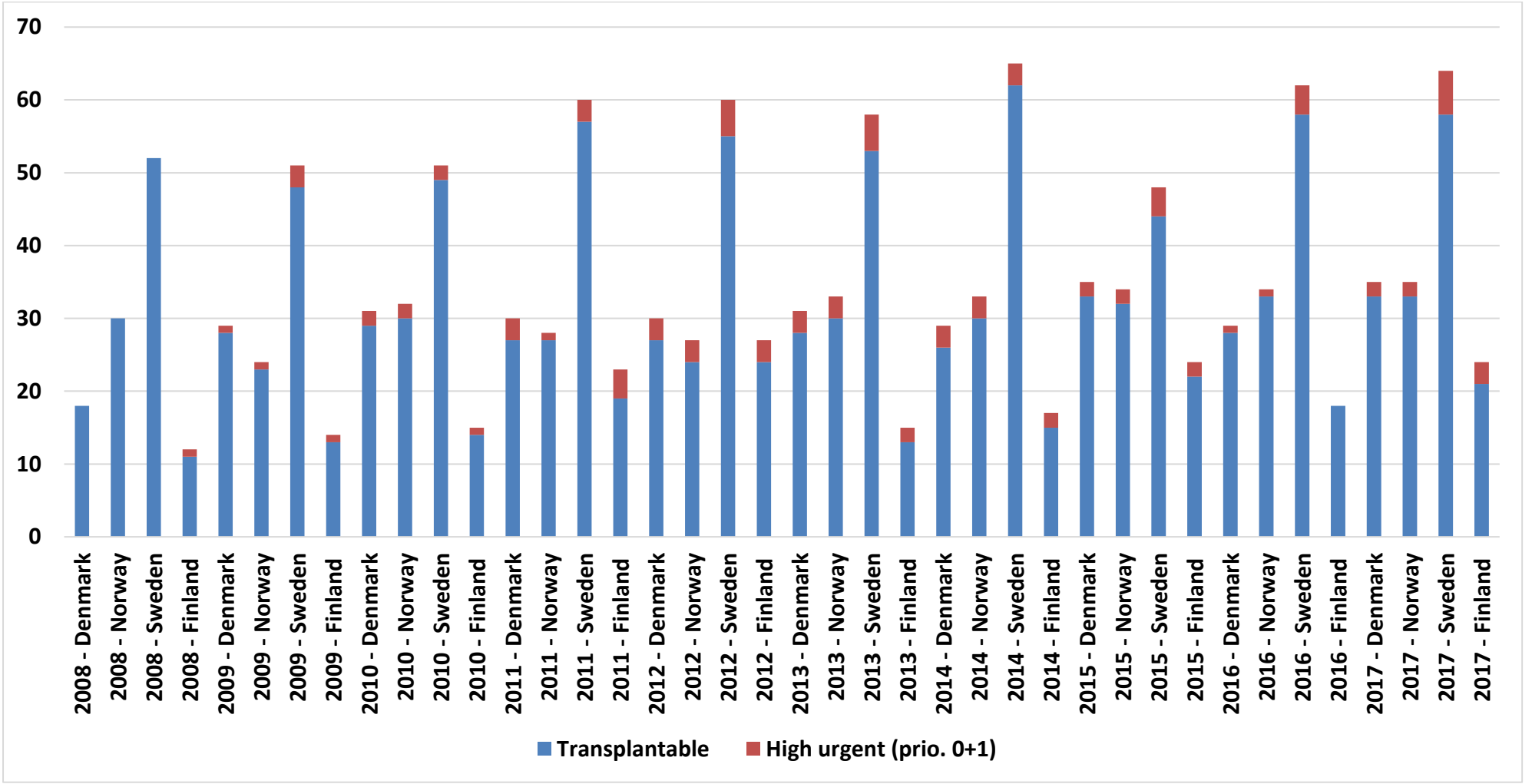
Year	Denmark	Estonia	Finland	Norway	Sweden	Scandiatransplant
2008	3,3		2,3	6,3	5,6	4,5
2009	5,3		2,6	5,0	5,5	4,7
2010	5,5		2,8	6,6	5,4	5,0
2011	5,4		4,3	5,7	6,4	5,5
2012	5,3		5,0	5,6	6,3	5,6
2013	5,4		2,8	6,5	6,0	5,3
2014	5,1		3,1	6,4	6,7	5,5
2015	6,1		4,4	6,5	4,9	5,3
2016	5,0		3,3	6,5	6,2	5,3
2017	6,0	1,5[39]	4,4	6,7	6,4	5,7



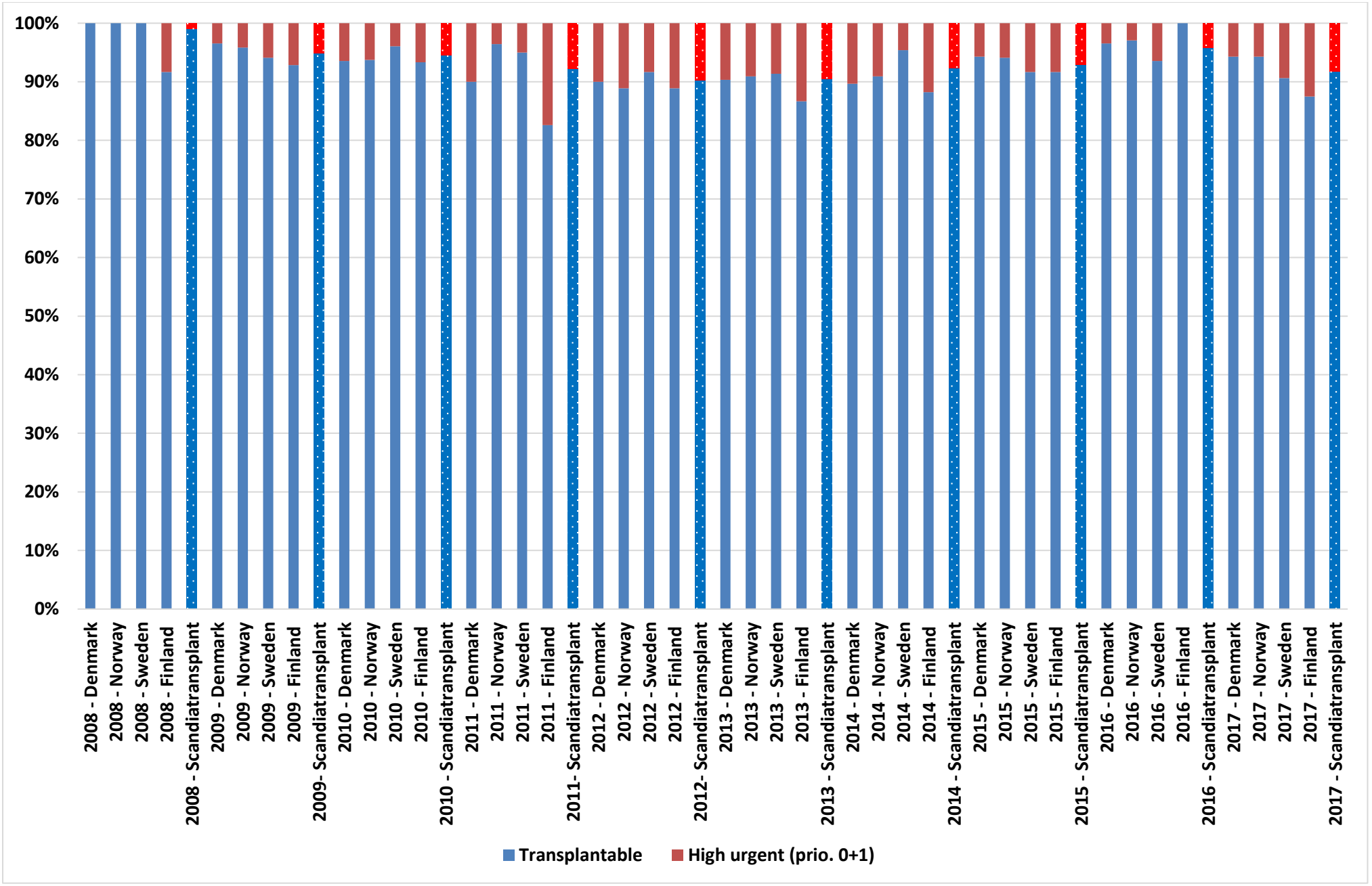
[38] pmp: per million population

[39] Figures included from Estonia year 2017 starts from October 1st 2017, which has negative impact on PMP for Estonia and Scandiatransplant

Transplanted lungs[40] by urgency



[40] Combined transplantations are not included


100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2008 - Denmark
2008 - Norway
2008 - Sweden
2008 - Finland
2008 - Scandiatransplant
2009 - Denmark
2009 - Norway
2009 - Sweden
2009 - Finland
2009- Scandiatransplant
2010 - Denmark
2010 - Norway
2010 - Sweden
2010 - Finland
2010 - Scandiatransplant
2011 - Denmark
2011 - Norway
2011 - Sweden
2011 - Finland
2011- Scandiatransplant
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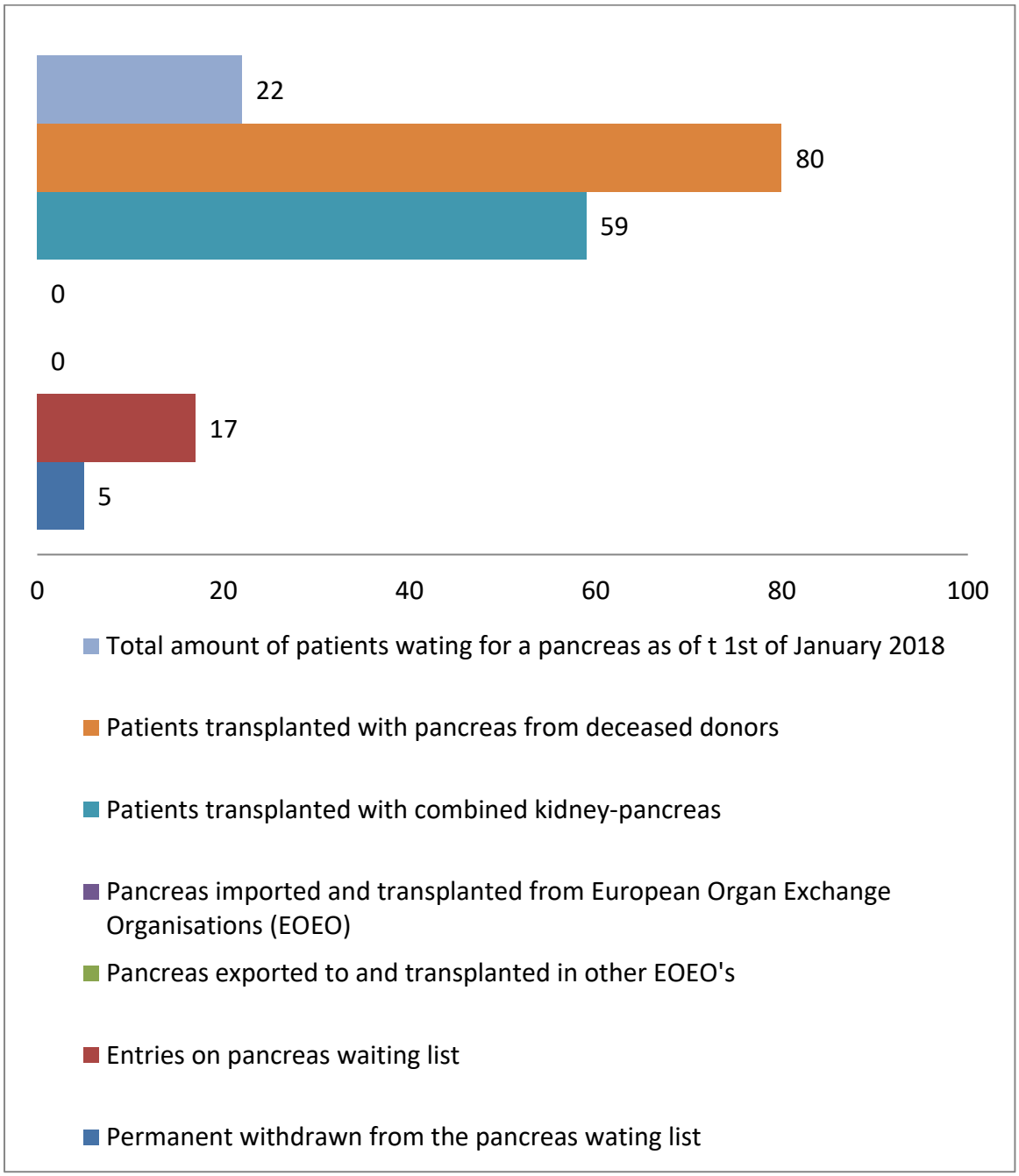
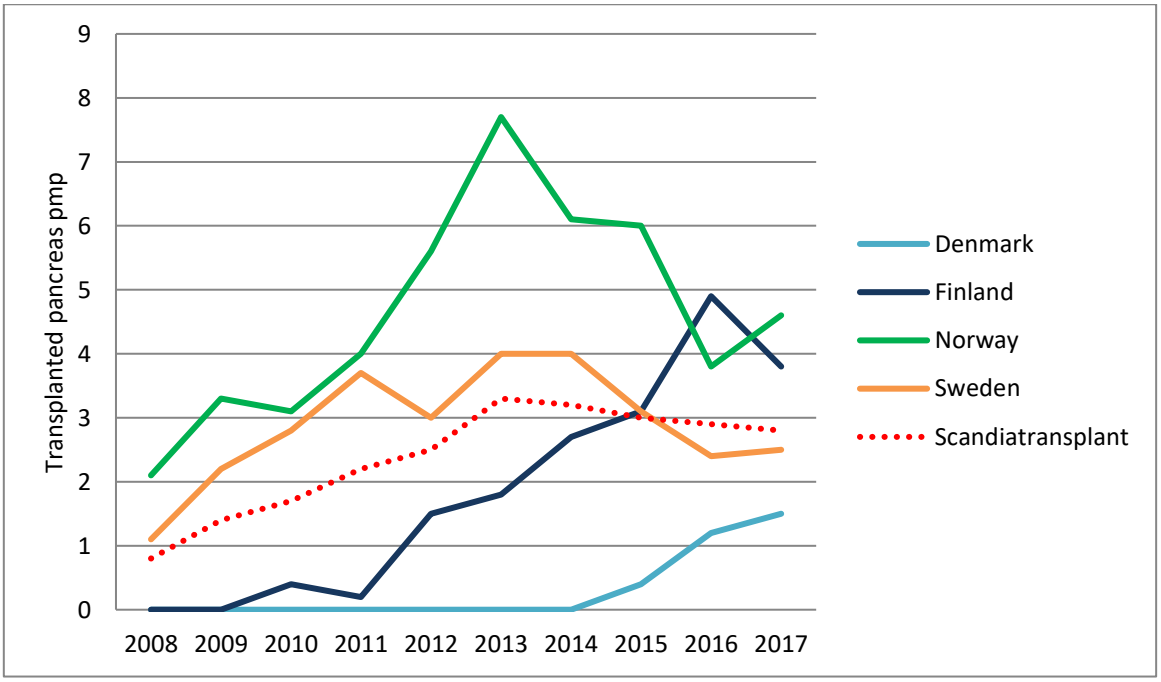
2015 - Sweden
2015 - Finland
2015 - Scandiatransplant
2016 - Denmark
2016 - Norway
2016 - Sweden
2016 - Finland
2016 - Scandiatransplant
2017 - Denmark
2017 - Norway
2017 - Sweden
2017 - Finland
2017 - Scandiatransplant
Transplantable
High urgent (prio. 0+1)

Pancreas 2017



Transplanted pancreas pmp[41] per year

Year	Denmark	Estonia	Finland	Norway	Sweden	Scandiatransplant
2008	0		0	2,1	1,1	0,8
2009	0		0	3,3	2,2	1,4
2010	0		0,4	3,1	2,8	1,7
2011	0		0,2	4,0	3,7	2,2
2012	0		1,5	5,6	3,0	2,5
2013	0		1,8	7,7	4,0	3,3
2014	0		2,7	6,1	4,0	3,2
2015	0,4		3,1	6,0	3,1	3,0
2016	1,2		4,9	3,8	2,4	2,9
2017	1,5	0,8[42]	3,8	4,6	2,5	2,8



[41] pmp: per million population

[42] Figures included from Estonia year 2017 starts from October 1st 2017, which has negative impact on PMP for Estonia and Scandiatransplant

On behalf of Scandiatransplant

Bo-Göran Ericzon (Chairman)	Kaj Anker Jørgensen (Medical Director)	Ilse D. Weinreich (Clinical Data Manager)