



Blood and marrow transplantation activity in Europe 1995

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Summary:

In 1995, a total of 12 101 blood or marrow transplants, performed in Europe by 343 teams from 31 countries, were reported to the European Group for Blood and Marrow Transplantation (EBMT). Of these, 3858 (32%) were allogeneic, 8243 (68%) autologous transplants. Of the autologous transplants 1384 (17%) were bone marrow derived, 6504 (79%) from peripheral blood stem cells and 355 (4%) combined bone marrow and peripheral blood stem cell transplants. Of the allogeneic transplants, 571 (15%) were peripheral blood stem cell transplants, the remainder, 3287 (85%) bone marrow transplants. Main indications were leukemias with 4408 transplants (36%), 2977 allogeneic (68%) and 1431 autologous (32%); lymphomas with 4671 transplants (39%), 272 allogeneic (6%) and 4399 autologous (94%); severe aplastic anemia with 237 transplants (2%), 237 allogeneic (100%) and 0 autologous (0%); solid tumors with 2399 transplants (20%), 17 allogeneic (1%) and 2382 autologous (99%); and congenital disorders with 294 transplants (2%), 294 allogeneic (100%) and 0 autologous (0%) and others with 92 transplants (1%), 61 allogeneic (66%) and 31 autologous (34%). There were major differences between participating countries. The absolute numbers of teams and transplants per country differ widely and range from 0.2 to 33.3 teams per 10 million inhabitants (median 5.8); 3.2 to 733.3 total transplants per 10 million (median 200); 0.7 to 210 allogeneic transplants per 10 million (median 65); 0.3 to 700 autologous transplants per 10 million (median 122); 0 to 47.7 unrelated transplants per 10 million inhabitants (median 8.7). There is also a difference in the relative number of transplants for the individual indications. The coefficient of variation for selected diseases was calculated for those 14 countries with a minimum of 100 transplants. A narrow coefficient of variation indicates consensus amongst grafting physicians. It is narrowest for chronic myeloid leukemia in allogeneic transplants (36.7%) and for Hodgkin's disease in autologous transplants (44.8%). These data reflect the present status of blood and marrow transplantation in Europe and provide a basis for patient counselling and health care planning.

Keywords: bone marrow transplant; peripheral blood stem cell transplant; epidemiology; transplant activity; Europe; coefficient of variation

Transplantation of hematopoietic stem cells has become established therapy for a vast number of congenital or acquired disorders of the hematopoietic system as well as for chemo- or radiosensitive malignancies.¹⁻³ The rapidly rising utilization of this technique over the past few years has been documented by the annual transplant activity report of the European Group for Blood and Marrow Transplantation (EBMT)⁴⁻⁸ and the survey of the International Bone Marrow Transplant Registry (IBMTR).⁹⁻¹⁰ The present report, the sixth of a series, summarizes transplant activity in Europe in 1995 and concentrates on differences in the European countries and the application of this therapy for specific indications. It reflects the current situation in Europe and provides a basis for decision-making in treatment and health care planning.

Patients and methods

By annual questionnaire, all EBMT member are requested to report their transplant figures for the preceding year according to indication, donor source and donor type (Table 1). This survey covers the year 1995. The same questionnaire is also sent to non-members known to the investigators as transplanting centers. Additional teams contacted us of their own accord or were announced to us by national organisations, neighboring teams or hospital administrators.

The survey is standardized and covers the number of patients rather than the number of transplants. Second, double, or re-transplants are not counted. Reported data are entered in the computer. A printout is sent out to each team for validation and verification before the data analysis is done.

Three hundred and forty-three teams from 31 European countries and, by tradition of the EBMT, teams from Israel, Saudi Arabia and Iran report their allogeneic and autologous transplants. They are listed in the Appendix in alphabetical order of country, town and reporting physician. With the help of the International Society for Hematology, data were also obtained from European countries not traditionally reporting to EBMT. According to personal, unofficial, information no blood or marrow transplants were

Table 1 Indications and types of transplant performed in Europe in 1995 by donor source

Indication	Allogeneic								Autologous			Total		
	HLA-id		Non-id		Twin		Unrelated		BM only	PBPC only	BM + PBPC	Allo	Auto	Total
	BM	PBPC	BM	PBPC	BM	PBPC	BM	PBPC						
Acute myeloid leukemia														
1st complete remission	413	80	22	5	3	2	27	1	260	242	49	553	551	1104
not 1st complete remission	187	60	14	24	1	1	109	3	112	76	5	399	193	592
Acute lymphatic leukemia														
1st complete remission	215	31	6	3	1	—	42	—	101	104	15	298	220	518
not 1st complete remission	290	36	21	43	5	—	168	1	90	63	11	564	164	728
Chronic myeloid leukemia														
chronic phase	432	62	21	6	3	—	162	3	28	115	3	689	146	835
not 1st chronic phase	68	15	7	18	1	—	84	2	15	53	1	195	69	264
Myelodysplastic syndrome	132	39	6	6	3	1	60	2	17	21	2	249	40	289
Chronic lymphatic leukemia	22	3	1	—	1	—	3	—	11	33	4	30	48	78
Myeloma	72	21	1	1	3	2	3	—	98	1150	51	103	1299	1402
Hodgkin's lymphoma	9	6	—	1	—	—	—	—	178	679	61	16	918	934
Non-Hodgkin lymphoma	110	25	1	5	1	3	6	2	287	1820	75	153	2182	2335
Neuroblastoma	1	—	—	—	—	—	—	—	63	120	13	1	196	197
Glioma	—	—	—	—	—	—	—	—	23	28	4	—	55	55
Soft tissue sarcoma	2	—	1	1	—	—	—	—	13	63	9	4	85	89
Germinal tumors	—	—	—	—	—	—	—	—	24	243	16	—	283	283
Breast carcinoma	—	7	—	—	—	2	—	—	32	1300	15	9	1347	1356
Ewing	1	—	—	—	—	—	—	—	5	105	7	1	117	118
Other solid tumors	—	1	—	—	—	1	—	—	24	261	14	2	299	301
Severe aplastic anemia + Fanconi	180	12	4	4	3	—	34	—	—	—	—	237	—	237
Thalassemia	143	5	—	—	—	—	1	—	—	—	—	149	—	149
SCID	13	1	25	7	—	—	11	—	—	—	—	57	—	57
Inborn errors	36	3	12	7	—	—	29	1	—	—	—	88	—	88
Others	42	6	3	—	—	—	10	—	3	28	—	61	31	92
Total	2368	413	145	131	25	12	749	15	1384	6504	355	3858	8243	12101

HLA-id = identical sibling donor; Non-id = family donor other than HLA-identical sibling; BM = bone marrow; PBPC = peripheral precursor blood cells; Both = bone marrow + peripheral precursor blood cells; Allo = total of allogeneic transplants; Auto = total of autologous transplants.

performed in 1995 in Albania, Andorra, Armenia, Azerbaijan, Bosnia-Herzegovina, Bulgaria, Cyprus, Georgia, Iceland, Latvia, Liechtenstein, Lithuania, Macedonia, Malta, Moldova, Monaco, Romania, San Marino, Ukraine and Vatican.

The relative transplant activity per 10 million inhabitants was calculated for participating countries by computing the number of teams and transplants against the number of inhabitants as taken from the Fischer's Weltalmanach¹¹ (Table 2). The same calculations were repeated for the allogeneic, autologous and unrelated transplants separately.

The coefficient of variation was used, as previously described, to assess consensus for certain indications.¹² The number of transplants per 10 million inhabitants was calculated for each indication and country. The coefficient of variation was determined for those indications with at least 100 transplants among those 14 European countries that also had at least 100 transplants in 1995 (Tables 3a and b).

Results

Three hundred and forty-three participating teams from 31 countries reported to the survey. Compared to the 1994 survey with 306 teams, this represents a 12% increase with

37 more teams.⁸ The report includes EBMT member teams and all teams except five reporting to the 1994 survey (response = 98.5%).

The majority of the teams, ie 71%, do both allogeneic and autologous transplants, 28% of the teams restrict their activity to autologous, 1% to allogeneic transplants only (Table 2).

Transplant figures

A total of 12 101 transplants, 3858 allogeneic (32%) and 8243 autologous (68%) were performed in 1995. This represents a marked increase of 13% compared to 10 666 transplants in 1994 (3502 allogeneic, 6564 autologous) resulting from both an increase in new teams and higher numbers of transplants by established teams. The 306 teams participating in both the 1994⁸ and 1995 survey showed an increase from 10 666 to 11 336 transplants, as illustrated in Table 4.

Main indications

The main indications for transplants remain lymphomas (39%), leukemias (36%), solid tumors (20%), severe aplastic anemia (2%) and congenital disorders (2%). Details are listed in Table 1 according to donor type and transplant

Table 2 European transplantation data 1995 by country

Country	Pop in mil	Team numbers					Transplant numbers							
		Total	Allo only	Auto only	Allo + auto	Per 10 mil	BMT		Allo		Auto		Unrel	
							Total	Per 10 mil	Total	Per 10 mil	Total	Per 10 mil	Total	Per 10 mil
Austria	7.9	9		4	5	11.4	214	270.9	70	88.6	144	182.3	26	32.9
Belgium	10	14		2	12	14.0	399	399.0	111	111.0	288	288.0	29	29.0
Croatia	4.8	2		1	1	4.2	97	202.1	31	64.6	66	137.5	3	6.3
Czech Rep	10.3	7		3	4	6.8	200	194.2	56	54.4	144	139.8	9	8.7
Denmark	5.2	3		1	2	5.8	109	209.6	44	84.6	65	125.0	15	28.8
Estonia	1.6	1		1		6.3	9	56.3	1	6.3	8	50.0	0	0.0
Finland	5	5		2	3	10.0	179	358.0	47	94.0	132	264.0	16	32.0
France	57.4	47		16	31	8.2	2246	391.3	552	96.2	1694	295.1	103	17.9
Germany	81	38		8	30	4.7	1623	200.4	634	78.3	989	122.1	165	20.4
Greece	10.3	5			5	4.9	137	133.0	59	57.3	78	75.7	4	3.9
Hungary	10.3	2		2	1.9		42	40.8	35	34.0	7	6.8	4	3.9
Iran	57.7	1		1	0.2		22	3.8	20	3.5	2	0.3	0	0.0
Ireland	3.5	2			2	5.7	46	131.4	26	74.3	20	57.1	7	20.0
Israel	4.9	3			3	6.1	284	579.6	103	210.2	181	369.4	8	16.3
Italy	57.7	49		16	33	8.5	1690	292.9	582	100.9	1108	192.0	58	10.1
Luxembourg	0.3	1			1	33.3	22	733.3	1	33.3	21	700.0	0	0.0
Netherlands	15	10		3	7	6.7	346	230.7	162	108.0	184	122.7	29	19.3
Norway	4.3	2		1	1	4.7	91	211.6	33	76.7	58	134.9	14	32.6
Poland	38.4	8	1	1	6	2.1	142	37.0	64	16.7	78	20.3	0	0.0
Portugal	9.9	3			3	3.0	138	139.4	52	52.5	86	86.9	1	1.0
Rep of Belarus	10.3	1			1	1.0	20	19.4	7	6.8	13	12.6	0	0.0
Russia	148.7	5		1	4	0.3	47	3.2	10	0.7	37	2.5	1	0.1
Saudi Arabia	16.9	1			1	0.6	47	27.8	39	23.1	8	4.7	0	0.0
Slovakia	5.3	3	1		2	5.7	59	111.3	15	28.3	44	83.0	0	0.0
Slovenia	2	1			1	5.0	5	25.0	4	20.0	1	5.0	0	0.0
Spain	38.9	48		16	32	12.3	1578	405.7	316	81.2	1262	324.4	29	7.5
Sweden	8.6	8		4	4	9.3	297	345.3	93	108.1	204	237.2	41	47.7
Switzerland	6.9	7		4	3	10.1	208	301.4	54	78.3	154	223.2	12	17.4
Turkey	57.2	7	2		5	1.2	92	16.1	68	11.9	24	4.2	0	0.0
United Kingdom	57.6	47		9	37	8.2	1677	291.1	541	93.9	1136	197.2	190	33.0
Yugoslavia (Serbia + Montenegro)	10.4	3	1		2	2.9	35	33.7	28	26.9	7	6.7	0	0.0
Total		343	5	93	244		12101		3858		8243		764	

source. Table 3 illustrates the main indications for the 306 teams which took part in both the 1994⁸ and 1995 survey. There is a rise in absolute numbers, but no change in relative proportions.

Donor type and source

For the 3858 allogeneic transplants, donors were an HLA-identical sibling (72%) for 2781 recipients, an HLA non-identical family member (8%) for 276 recipients, a syngeneic twin (4%) for 37 recipients and an unrelated, matched, volunteer donor (20%) for 764 recipients. Compared to 1994 there is an absolute and relative increase in unrelated transplants from 385 (17%) to 764 (20%). Peripheral blood continues to replace bone marrow as a transplant source (Table 1). 6504 (79%) of the autologous and 571 (15%) of the allogeneic transplants were peripheral blood stem cell transplants.¹³

Transplant frequency per number of inhabitants

There are significant differences between the participating countries, as illustrated in Table 2. The number of teams

ranges from <1 to >10 per 10 million inhabitants (Figure 1). The number of teams does not correlate with the total number of transplants. In general, differences in transplant activity are similar for the total of transplants (Figure 2), for allogeneic (Figure 3), autologous (Figure 4), or unrelated (Figure 5).

The very high number of transplants per 10 million inhabitants in Israel might in part be explained by a high frequency of transplants for patients who are not residents of this country (personal communication S Slavin).

Variation of transplant frequency by indication

The number of transplants per 10 million inhabitants for selected indications is illustrated in Tables 3a (leukemias) and b (myeloproliferative disorders) and c (solid tumors, severe aplastic anemia and congenital disorders). The coefficient of variation between those 14 countries with at least 100 transplants in 1995 ranges from 39.7 to 201.7% (Tables 3a and b). It confirms previous findings with a narrowest coefficient of variation for chronic myeloid leukemia (39.7%) in allogeneic and for Hodgkin's disease (44.8%) in autologous transplants. In contrast, a wide coef-

Table 3a Transplantation frequency in Europe for selected indications in 1995: leukemia

	AML				ALL				CML				MDS				
	Allo		Auto		Allo		Auto		Allo		Auto		Allo		Auto		
	Pop in mil	Total	Per 10 mil	Total	Per 10 mil	Total	Per 10 mil	Total	Per 10 mil	Total	Per 10 mil	Total	Per 10 mil	Total	Per 10 mil		
Austria	7.9	21	26.6	12	15.2	18	22.8	0	0.0	12	15.2	1	1.3	2	2.5	0	0.0
Belgium	10	39	39.0	32	32.0	15	15.0	13	13.0	13	13.0	9	9.0	9	9.0	8	8.0
Czech Rep	10.3	14	13.6	9	8.7	13	12.6	8	7.8	16	15.5	1	1.0	7	6.8	1	1.0
Denmark	5.2	9	17.3	4	7.7	14	26.9	1	1.9	7	13.5	2	3.8	2	3.8	0	0.0
Finland	5	14	28.0	1	2.0	12	24.0	4	8.0	7	14.0	1	2.0	6	12.0	0	0.0
France	57.4	135	23.5	120	20.9	124	21.6	57	9.9	98	17.1	51	8.9	50	8.7	9	1.6
Germany	81	172	21.2	65	8.0	122	15.1	35	4.3	193	23.8	23	2.8	35	4.3	2	0.2
Greece	10.3	15	14.6	5	4.9	6	5.8	0	0.0	17	16.5	3	2.9	5	4.9	0	0.0
Italy	57.7	133	23.1	162	28.1	130	22.5	61	10.6	108	18.7	34	5.9	36	6.2	7	1.2
Netherlands	15	37	24.7	22	14.7	32	21.3	16	10.7	33	22.0	1	0.7	14	9.3	4	2.7
Poland	38.4	16	4.2	14	3.6	11	2.9	9	2.3	24	6.3	8	2.1	1	0.3	0	0.0
Portugal	9.9	10	10.1	9	9.1	14	14.1	5	5.1	10	10.1	2	2.0	3	3.0	0	0.0
Spain	38.9	76	19.5	140	36.0	90	23.1	87	22.4	78	20.1	21	5.4	18	4.6	1	0.3
Sweden	9.6	14	16.3	16	18.6	22	25.6	9	10.5	25	29.1	5	5.8	9	10.5	1	1.2
Switzerland	6.9	13	18.8	17	24.6	21	30.4	3	4.3	5	7.1	1	1.4	5	7.2	1	1.4
United Kingdom	57.6	129	22.4	71	12.3	146	25.3	49	8.5	125	21.7	39	6.8	33	5.7	3	0.5
Mean			20.2		15.4		19.3		7.5		16.5		3.9		6.2		1.1
s.d.			8.0		10.4		7.7		5.7		6.0		2.8		3.2		2.0
CV			39.7		67.5		39.8		76.1		36.7		71.2		51.0		176.4

allo = allogeneic transplants; auto = autologous transplants; s.d. = standard deviation; CV = coefficient of variation.

Table 3b Transplantation frequency in Europe for selected indications in 1995: lymphoproliferative disorders

	Myeloma				HD				NHL				
	Allo		Auto		Allo		Auto		Allo		Auto		
	Pop in mil	Total	Per 10 mil	Total	Per 10 mil	Total	Per 10 mil	Total	Per 10 mil	Total	Per 10 mil	Total	Per 10 mil
Austria	7.9	0	0.0	11	13.9	0	0.0	12	15.2	5	6.3	41	51.9
Belgium	10	8	8.0	75	75.0	1	1.0	28	28.0	9	9.0	84	84.0
Czech Rep	10.3	0	0.0	14	13.6	0	0.0	30	29.1	0	0.0	33	32.0
Denmark	5.2	1	1.9	13	25.0	0	0.0	10	19.2	2	3.8	24	46.2
Finland	5	1	2.0	31	62.0	0	0.0	5	10.0	4	8.0	40	80.0
France	57.4	6	1.0	371	64.6	4	0.7	117	20.4	45	7.8	446	77.7
Germany	81	14	1.7	102	12.6	5	0.6	97	12.0	13	1.6	311	38.4
Greece	10.3	3	2.9	8	7.8	0	0.0	24	23.3	2	1.9	19	18.4
Italy	57.7	23	4.0	126	21.8	3	0.5	130	22.5	21	3.6	332	57.5
Netherlands	15	10	6.7	17	11.3	0	0.0	11	7.3	13	8.7	53	35.3
Poland	38.4	2	0.5	4	1.0	0	0.0	13	3.4	1	0.3	14	3.6
Portugal	9.9	2	2.0	17	17.2	0	0.0	21	21.2	0	0.0	17	17.2
Spain	38.9	10	2.6	140	36.0	1	0.3	131	33.7	11	2.8	226	58.1
Sweden	8.8	3	3.5	59	68.6	0	0.0	13	15.1	4	4.7	34	39.5
Switzerland	6.9	1	1.4	21	30.4	0	0.0	19	27.5	1	1.4	42	60.9
United Kingdom	57.6	16	2.8	235	40.8	0	0.0	185	32.1	14	2.4	360	62.5
Mean			2.6		31.4		0.2		20.0		3.9		47.7
s.d.			2.2		24.0		0.3		9.0		3.2		23.3
CV			85.3		76.5		169.4		44.8		80.9		48.9

HD = Hodgkin's disease, NHL = non-Hodgkin's lymphoma.

cient of variation for thalassemia (20.8%) and some indications for solid tumor autografts, such as carcinoma of the breast (92.7%).

Discussion

The present report, the sixth of a series, gives information on transplant figures, donor sources, donor types and indi-

cations for blood and marrow transplants in Europe. No information is given on outcome. These data are collected and reported elsewhere.¹⁴ The report clearly underscores the rapid evolution of blood and marrow transplantation from what was an experimental undertaking 25 years ago¹⁵ to an established procedure today. More than 12 000 such transplants were performed last year in Europe, an estimated number of 30 000 worldwide. This evolution appears unbroken despite increasing economic difficulties. The

Table 3c Transplantation frequency in Europe for selected indications in 1995: solid tumors and congenital disorders

	Pop in mil	Neuro Auto		Germinal Auto		Breast Auto		SAA + Fan Allo		Thalassemia Allo		SCID + IE Allo	
		Total	Per 10 mil	Total	Per 10 mil	Total	Per 10 mil	Total	Per 10 mil	Total	Per 10 mil	Total	Per 10 mil
Austria	7.9	8	10.1	4	5.1	40	50.6	3	3.8	0	0.0	2	2.5
Belgium	10	5	5.0	2	2.0	19	19.0	6	6.0	0	0.0	4	4.0
Czech Rep	10.3	10	9.7	6	5.8	19	18.4	3	2.9	0	0.0	3	2.9
Denmark	5.2	1	1.9	7	13.5	3	5.8	5	9.6	0	0.0	0	0.0
Finland	5	6	12.0	5	10.0	23	46.0	1	2.0	0	0.0	2	4.0
France	57.4	49	8.5	50	8.7	213	37.1	31	5.4	2	0.3	31	5.4
Germany	81	18	2.2	85	10.5	159	19.6	39	4.8	5	0.6	24	3.0
Greece	10.3	3	2.9	1	1.0	5	4.9	1	1.0	7	6.8	0	0.0
Italy	57.7	29	5.0	10	1.7	153	26.5	24	4.2	79	13.7	18	3.1
Netherlands	15	5	3.3	9	6.0	41	27.3	9	6.0	1	0.7	8	5.3
Poland	38.4	1	0.3	0	0.0	1	0.3	9	2.3	0	0.0	0	0.0
Portugal	9.9	3	3.0	1	1.0	8	8.1	7	7.1	0	0.0	2	2.0
Spain	38.9	13	3.3	24	6.2	413	106.2	15	3.9	3	0.8	5	1.3
Sweden	8.6	1	1.2	7	8.1	48	55.8	10	11.6	1	1.2	3	3.5
Switzerland	6.9	6	8.7	13	18.8	18	26.1	2	2.9	1	1.4	3	4.3
United Kingdom	57.6	28	4.9	44	7.6	46	8.0	25	4.3	19	3.3	22	3.8
Mean			5.1		6.6		28.7		4.9		1.8		2.8
s.d.			3.6		5.1		26.6		2.8		3.6		1.8
CV			69.6		76.6		92.7		57.3		201.7		62.4

Neuro = neuroblastoma; Germinal = germinal tumors; Breast = breast carcinoma; SAA + Fan = severe aplastic anemia + Fanconi anemia; SCID + IE = severe combined immune deficiencies and inborn errors.

Table 4 Main indications for blood and marrow transplants in Europe, restricted to the 306 teams participating in both 1994 and 1995 survey

	1994						1995					
	Total		Allo BMT		Auto BMT		Total		Allo BMT		Auto BMT	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Leukemia	4193	37	2825	67	1368	33	4408	36	2977	68	1431	32
Lymphoma	4339	38	255	6	4084	94	4671	39	272	6	4399	94
SAA	224	2	224	100	0	0	237	2	237	100	0	0
Solid tumors	2225	20	17	1	2208	99	2399	20	17	1	2382	99
Congenital disorders	271	2	271	100	0	0	294	2	294	100	0	0
Others	84	1	56	67	28	33	92	1	61	66	31	34
Total	11336	100	3648	32	7688	68	12101	100	3858	32	8243	68

No. = number of transplants; Allo = allogeneic transplants; Auto = autologous transplants; SAA = severe aplastic anemia.





trend is likely to continue. Recent publications of prospective controlled randomized studies document the value of high-dose therapy and autologous stem cell support.¹⁶⁻¹⁸ Clear data document the potential of healthy allogeneic cells for providing a graft-versus-tumor response¹⁹ and cord blood is emerging as a new source of stem cells for those patients with no potential for autologous transplants and no family donor.^{20,21}

The current analysis concentrates on differences among the participating European countries as regards transplant activity and transplant indications. It confirms previously observed discrepancies in procedure availability between Western and Eastern Europe which reflect differences in economic status between these countries.²² It is comforting to note an increasing activity at least in some Eastern European countries. Further to economic aspects, heterogeneity in medical opinion explains some of the differences

observed between European countries, when indications for individual diseases are analyzed in relation to the number of inhabitants per country. The coefficient of variation has been confirmed as an adequate tool for assessment of consensus on medical indications. This is evident for those diseases with the same relative frequency in most European countries.¹² According to available data, this is probably the case for most hematological malignancies in Europe.²³ It is different for some congenital diseases, such as thalassemia.

In summary, collection of transplant activity data, in connection with previous reports and those of sister organizations, provides a valuable method for the observation of trends and the establishment of consensus or dissension amongst treating physicians. These data form the basis for health care planning, procurement of guidelines and recommendations for patient counselling.³

Teams
per 10 million

-  0/unknown
-  1-2
-  3-10
-  > 10

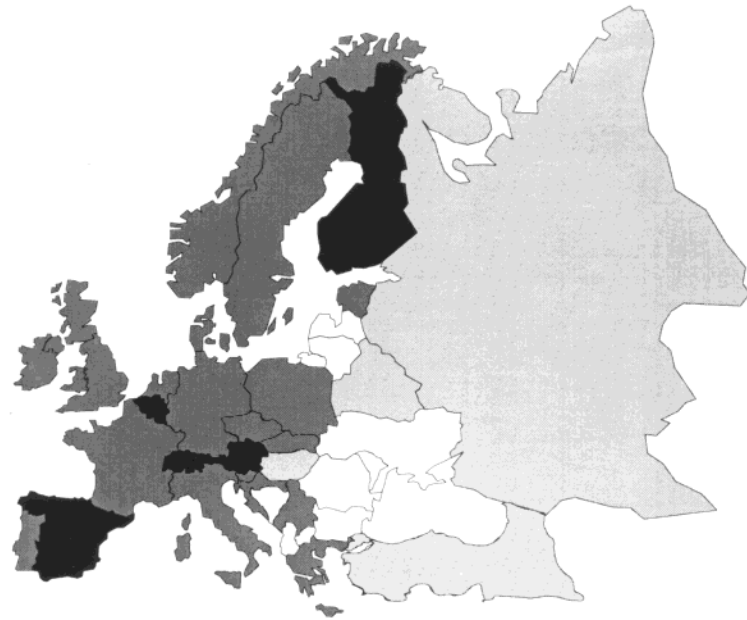






Figure 1 Number of teams per 10 million inhabitants in participating European countries in 1995.

Total transplants
per 10 million

-  0/unknown
-  1-100
-  100-200
-  >200

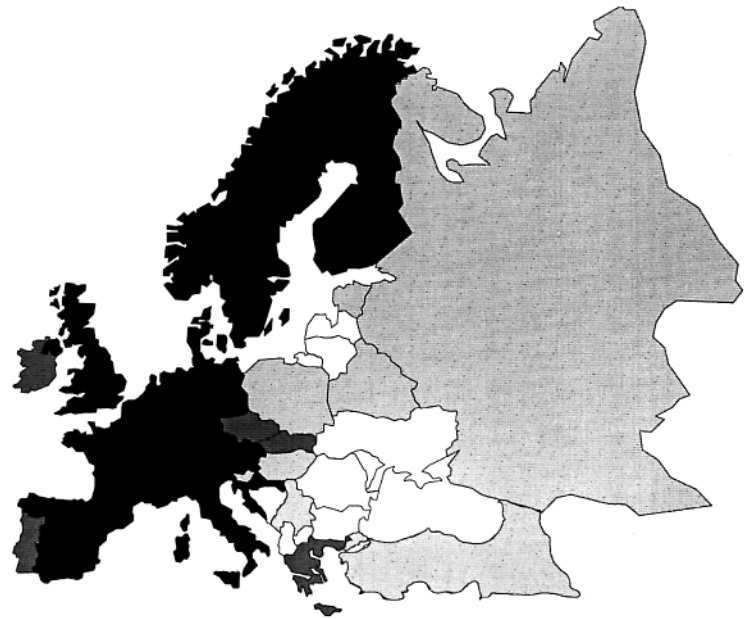


Figure 2 Number of transplants per 10 million inhabitants in participating countries in 1995.

Acknowledgements

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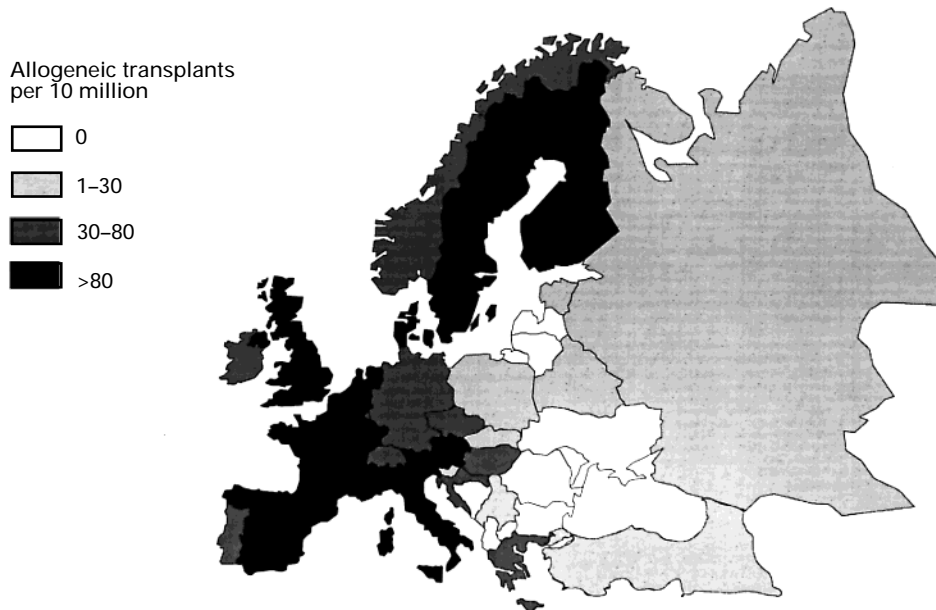


Figure 3 Number of allogeneic transplants per 10 million inhabitants in participating countries in 1995.

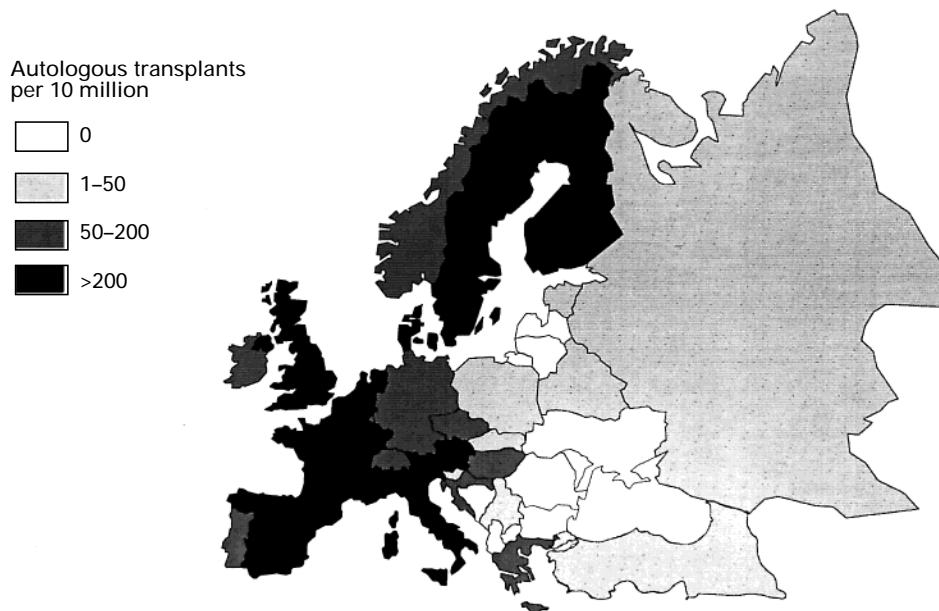


Figure 4 Number of autologous transplants per 10 million inhabitants in participating countries in 1995.

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Unrelated transplants
per 10 million

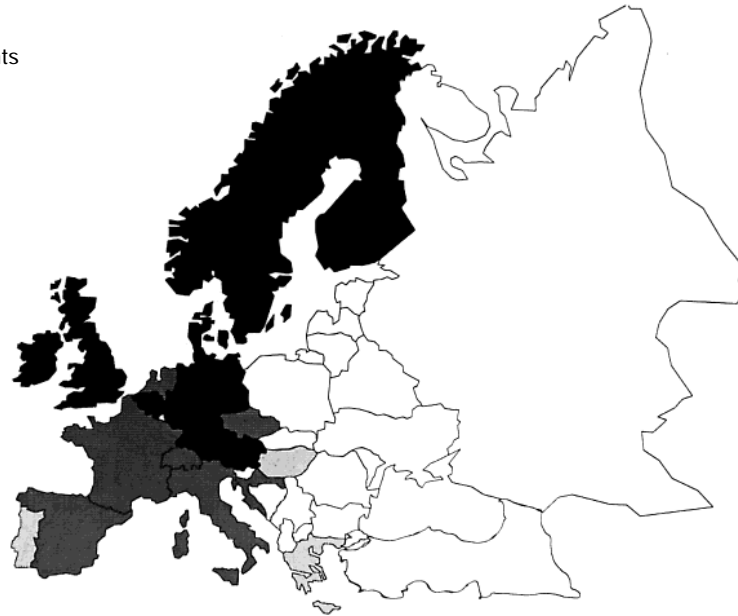
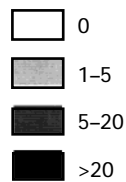


Figure 5 Number of unrelated transplants per 10 million inhabitants in participating countries in 1995.

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Appendix

List of transplant centers and number of transplants performed (numbers in brackets show total number of transplants followed by allografts/autografts).

Albania no report

Andorra no report

Armenia no report

Austria (9 teams; 214, 70/144)

Universitäts-Kinderklinik, Graz, Ch Urban (5, 0/5)

Universitätsspital, Innsbruck, D Niederwieser (33, 16/17)

1 Medizinische Abteilung, AO Krankenhaus, Linz, MA Friedrik (4, 0/4)

AOK der Elisabethinen, Linz, D Lutz (22, 2/20)

St Anna Kinderspital, Vienna, H Gadner, C Peters (41, 25/16)

Donauspital, Vienna, W Hinterberger (13, 0/13)

Universitätsklinik für Innere Medizin I-AKH, Vienna, W Linkesch, P Kalhs (63, 26/37)

Wilhelminerspitalm Vienna, H Ludwig (21, 1/20)

Hausch-Krankenhaus, Vienna, J Salamon (12, 0/12)

Azerbaijan no report

Republic of Belarus (1 team; 20, 7/13)

Hospital No 9, Minsk, N Milanovitch (20, 7/13)

Belgium (14 teams; 399, 111/288)

AZ Middelheim, Antwerpen, R de Bock (8, 1/7)

AZ St Jan, Brugge, A van Hoof, D Selleslag (22, 8/14)

Children's University Hospital, Brussels, C Devalck, E Sariban (8, 4/4)

Hôpital Erasme, Brussels, W Feremans (26, 0/26)

Clinique Universitaire St Luc (Adults), Brussels, A Ferrant (45, 13/32)

Institut Jules Bordet, Brussels, P Stryckmans, L Debusscher (33, 11/22)

University Hospital, Brussels, B van Camp, Schots (27, 11/16)

Clinique Universitaire St Luc (Pediatrics), Brussels, C Vermylen (14, 9/5)

University Antwerpen, Edegem, W Schroyens (11, 5/6)
University Hospital, Gent, LA Noens (27, 14/13)
Hôpital de Jolimont, Haine St Paul, A Delannoy (13, 0/13)
University Hospital, Leuven, MA Boogaerts (115, 19/96)
University Hospital Sart-Tilman, Liège, Y Béguin (37, 11/26)
Clinique Universitaire de Mont-Godinne, Yvoir, C Doyen (13, 5/8)

Bosnia-Herzegovina no report

Bulgaria no report

Croatia (2 teams; 97, 31/66)
Hospital Merkur, Zagreb, B Jaksic (13, 0/13)
Clinical Hospital Center, Zagreb, B Labar (76, 26/50)
late correction

Cyprus no report

Czech Republic (7 teams; 200, 56/144)
Masaryk University Hospital, Brno, J Vorlicek (20, 0/20)
Charles University, Hradec Kralové, S Filip, M Blaha (20, 0/20)
Faculty Hospital, Pilsen, V Koza (50, 19/31)
University Hospital Motol (ped), Prague, P Kavan (29, 1/28)
Institute of Hematology and Blood Transfusion, Prague, M Lukasova, P Kobylka, A Vitek (27, 22/5)
University Hospital Motol, Prague, J Stary (18, 14/4)
Charles University, Prague, M Trneny (36, 0/36)

Denmark (3 teams; 109, 44/65)
Amtssygehus, Aarhus, A Boesen (25, 0/25)
Rigshospitalet, Copenhagen, N Jacobsen (69, 43/26)
Herlev Hospital, University, Copenhagen, HE Johnson (15, 1/14)

Estonia (1 team; 9, 1/8)
University Hospital, Tartu, H Everaus (9, 1/8)

Finland (5 teams; 179, 47/132)
University Hospital, Dept Oncology, Helsinki, H Joensuu (34, 0/34)
University Hospital, Third Dept of Medicine, Helsinki, T Ruutu (51, 34/17)
Children's Hospital, Helsinki, U Saarinen (21, 9/12)
University Hospital, Tampere, M Lehtinen (24, 0/24)
University Central Hospital, Turku, K Remes (49, 4/45)

France (47 teams; 2246, 552/1694)
Centre Hospitalier, Angers, N Ifrah (33, 10/23)
Centre Hospitalier, Argenteuil, M Urbajtel (21, 3/18)
Hôpital Jean Minjot and Hôpital St Jacques (Adults and Peds), Besançon, P Hervé, J-Y Cahn, E Plouvier (73, 20/53)
Centre Hospitalier, Brest, C Berthou (39, 0/39)
Centre Hospitalier Régional, Caen, X Troussard (12, 0/12)
Centre Jean Perrin, Clermont Ferrand, M Legros (42, 5/37)
Hôpital H Mondor, Créteil, JP Vernant (81, 47/34)
Centre Georges François Leclerc, Dijon, F Mayer (1, 0/1)
Hôpital d'Enfants, Dijon, D Caillot (50, 0/50)
Centre Hospitalier, Grenoble, JJ Sotto, L Molina, F Nicolini (42, 10/32)
Hôpital Claude Huriez, Lille, JP Jouet (81, 32/49)

Hôpital Edouard Herriot, Lyon, M Michallet, A Belhabri (79, 22/57)
Centre Léon Bérard, Lyon, T Philip (94, 0/94)
Hôpital Debrousse, Lyon, G Souillet (20, 16/4)
Inst Paoli-Calmettes, Marseille, D Blaise (189, 25/164)
Hôpital d'Enfants de la Timone, Marseille, G Michel, C Coze (10, 0/10)
Hôpital du Hasenrain, Mulhouse, P Henon, Becker (10, 0/10) (*not included*)
Hôpital St Jacques, Nantes, JL Harousseau, N Milpied (131, 28/103)
Hôpital de Cimiez, Nice, N Gratecos (24, 6/18)
Centre Antoine Lacassagne, Nice, A Thyss (22, 0/22)
Hôpital Laennec, Paris, JM Andrieu, C Le Maignan (14, 0/14)
Hôpital d'Instruction des Armées Percy, Clamart, Paris, T de Revel (25, 5/20)
Hôpital Cochin, Paris, F Dreyfus (28, 0/28)
Hôpital Necker des Enfants Malades, Paris, A Fischer (31, 31/10)
Hôpital St Louis (autologous, adults?), Paris, G Gisselbrecht (63, 0/63)
Hôpital St Louis (allogeneic), Paris, E Gluckman (77, 77/0)
Hôpital St Antoine, Paris, NC Gorin, L Fouillard (34, 5/29)
Hôpital Pitié Salpêtrière, Paris, V Leblond (61, 17/44)
Hôpital Tenon, Paris, JP Lotz (34, 0/34)
Hôpital Robert Debré, Paris, P Rohrlisch, E Vilmer (22, 21/1)
Hôpital Necker (adults), Paris, B Varet, C Bélanger, A Veil (45, 25/20) (*not included*)
Hôtel Dieu, Paris, R Zittoun, B Rio (45, 9/36)
Institut Curie, Paris, JM Zucker, J Michon (29, 0/29)
Hôpital Haut-Lévêque, Pessac, J Reiffers, Fabères (119, 30/89)
Hôpital Jean Bernard, Poitiers, A Sadoun (46, 8/38)
Hôpital Pontchaillou, Rennes, C Dauriac (53, 22/31)
CHRU, Clinique Médical Infantile, Rennes, E Le Gall, C Bergeron (9, 4/5)
Centre Henri Becquerel, Rouen, H Tilly (41, 11/30)
Centre René Huguenin, St Cloud, M Janvier (18, 0/18)
Hôpital Etienne, St Etienne, P Freyçon, D Guyotat (22, 9/13)
Hôpital de Haute-pierre, Strasbourg, B Lioure (74, 18/56)
Hospices Civils, Serv de Péd 5, Strasbourg, P Lutz (11, 7/4)
Hôpital de Purpan, Toulouse, M Attal (86, 22/64)
Centre Claudius Régaud, Toulouse, H Roche, C Chevreau (18, 0/18)
Hôpital Bretonneau, Tours, P Colombat (49, 0/49)
Hôpital d'Enfants, Vandœuvre-les-Nancy, P Bordigoni (35, 20/15)
Institut G Roussy (Peds), Villejuif, O Hartmann (76, 0/76)
Hôpital Paul Brousse, Villejuif, MP Lemonnier, B Delmas (17, 0/17)
Institut G Roussy (Adults), Villejuif, JL Pico (65, 12/53)

Georgia no report

Germany (38 teams; 1623, 634/989)
Charité, Kinderheilkunde, Berlin, R Arnold (23, 16/7)
Universitäts-Klinik Benjamin Franklin, Berlin, W Berdel (19, 1/18)

Universitäts-Klinik Charlottenburg (Adults, Peds), Berlin, W Siegert (73, 29/44)
Universitätsklinikum Carl Gustav Carus, Dresden, G Ehn-inger (14, 5/9)
Zentrum für Kinderheilkunde, Düsseldorf, S Burdach (21, 11/10)
Medizinische Klinik, Düsseldorf, W Schneider, A Heyll (38, 15/23)
Universitäts-Klinik für Kinder und Jugendliche, Erlangen, JD Beck, J Greil (9, 5/4)
Universität Erlangen-Nuremberg, M Gramatzki (26, 9/17)
Evangelisches Krankenhaus Essen-Werden GmbH, Essen, W Heit (28, 0/28)
Universitäts-Klinik, Essen, UW Schaefer, DW Beelen, B Kremens (108, 101/7)
JW Goethe-Universität, Frankfurt aM, D Hoelzer, H Martin (35, 3/32)
Medizinische Universitätsklinik, Freiburg i Br, J Fink (184, 51/133)
Universitäts-Kinderklinik, Freiburg i Br, C Niemeyer (7, 2/5)
Eppendorf-Krankenhaus, Hamburg, AR Zander (87, 43/44)
Medizinische Hochschule, Abt Kinderheilkunde, Hannover, W Ebell (14, 13/1)
Medizinische Hochschule, Hannover, A Ganser, B Hertenstein (36, 13/23)
Universitäts-Poliklinik, Heidelberg, R Haas (120, 0/120)
Universität des Saarlandes, Homburg/Saar, T Trümper (41, 9/32)
Klinik für Hämato-/Onkologie, Idar-Oberstein, AA Fauser (49, 47/2)
Universitäts-Kinderklinik, Jena, F Zintl, D Fuchs (24, 9/15)
Christian-Albrechts-Universität, Kiel, N Schmitz (63, 18/45)
Kinderonkologie der Universitäts-Klinik, Köln, F Berthold (4, 0/4)
Universitäts-Klinik, Köln, H Tesche (19, 1/18)
Universitäts-Klinik Leipzig, W Helbig, R Krahl (63, 24/39)
Medizinische Klinik der Universität, Mainz, K Kolbe (61, 13/48)
Klinikum Mannheim, R Hehlmann (2, 0/2)
Medizinisches Universitätsklinik, Marburg, R Weide (30, 3/27)
Klinikum Grosshadern, Munich, H-J Kolb (85, 61/24)
Klinikum Nürnberg, H Wandt (41, 4/37)
Städtische Kliniken, Oldenburg, B Metzner (23, 0/23)
Universität Regensburg, R Andreesen (31, 0/31)
Universität Rostock, M Freund, J Casper (9, 0/9)
Olghospital, Päd Zentrum, Stuttgart, E Koscielniak (5, 0/5)
Medizinische Universitäts-Klinik, Tübingen, W Brugger, L Kanz (90, 33/57)
Medizinische Universitäts-Klinik, Abteilung Pädiatrie, Tübingen, T Klingebiel (34, 22/12)
Medizinische Universitäts-Klinik, Ulm, N Frickhofen (66, 36/30)
Kinderklinik der Universität, Ulm, W Friedrich (28, 27/1)
Deutsche Klinik für Diagnostik, Weisbaden, R Schwerdtfeger (13, 10/3)

Greece (5 teams; 137, 59/78)

Hellenic Cancer Institute St Savas, Athens, A Efremedis (28, 2/26)
'Aghia Sophia' Children's Hospital, Athens, S Graphakos (12, 6/6)
Evangelismos Hospital, Athens, D Karakasis, A Skandalis, N Harhalakis, E Nikiforakis (45, 32/13)
Diagnosis and Therapy Centre 'Hygeia', Maroussi-Athens, G Karianakis (11, 4/7)
The George Papanicolaou General Hospital, Thessaloniki, AS Fassas (41, 15/26)

Hungary (2 teams; 42, 35/7)

National Institute of Hematology, Budapest, E Kelemen, K Palocz, R Denes (19, 14/5)
Szent Laszlo Hospital, Budapest, S Fekete, T Masszi, L Timar (23, 21/2)

Iceland no report

Iran (1 team; 22, 20/2)

Shariati Hospital, Tehran, A Ghavamzadeh (22, 20/2)

Ireland (2 teams; 46, 26/20)

St James's Hospital, Dublin, SR McCann (37, 19/18)
Our Lady's Hospital of Sick Children, Crumlin, Dublin, F Breatnach, A O'Meara (9, 7/2)

Israel (3 teams; 284, 103/181)

Hadassah University Hospital, Jerusalem, R Or (140, 79/61)
Children's Medical Center, Petach-Tikva, I Yaniv (29, 20/9)
Tel-Aviv University, Sheba Medical Center, I Ben-Bassat (115, 4/111)

Italy (49 teams; 1690, 582/1108)

Ospedale Toarete, Ancona, P Leoni, A Olivieri (33, 0/33)
Giovanni di Guglielmo, Avellino, E Volpe (3, 0/3)
Policlinico, Bari, V Pavone, V Liso (18, 0/18)
Ospedale Riuniti, Bergamo, T Barbul (60, 8/52)
St Orsola University, Bologna, G Bandini, G Rosti (89, 24/65)
Clinica Pediatrica III, Bologna, A Pession (20, 7/13)
Ospedale S Maurizio, Bolzano, P Coser (31, 0/31)
Ospedali Civili, Brescia, T Izzi (5, 0/5)
Università di Brescia (Ped), F Porta (26, 19/7)
Ospedale Oncologica, Cagliari, G Broccia, P Dessalui (28, 0/28)
II Clinica Ped Cagliari, A Cao (13, 13/0)
Università di Catania, E Cacciola (7, 0/7)
Medicina II, Cremona, A Manna (24, 4/20)
Policlinico di Careggi, Firenze, A Bosi (57, 19/38)
Morgagni-Pierantoni Hospital, Forli, D Amadori, B Dino (8, 0/8)
Ospedale S Martino, Genova, A Bacigalupo, A Carella, G Santini (173, 71/102)
Istituto Giannina Gaslini, Genova, G Dini (32, 9/23)
Università di Genova, F Patrone (32, 0/32)
Istituto Scientifico HS Raffaele, Milano, C Bordignon (17, 9/8)
Istituto Nazionale Tumori, Milano, A Gianni (47, 0/47)
Università di Milano, G Lambertenghi Delilieri (33, 15/18)
Ospedale di Niguarda, Milano, P Marengo, R Cairoli (16, 10/6)

Ospedale S Gerardo, Monza, C Uderzo (15, 11/4)
Università di Napoli, B Rotoli, C Selleri (18, 13/5)
Ospedale San Francesco, Nuoro, A Gabbas, A Palmas (9, 0/9)
Centro Leucemie Infantili, Padova, F Rossetti (17, 9/8)
Trabianto Policlinico, Palermo, A Cajazzo (13, 2/11)
Ospedale V Cervello, Palermo, I Majolino (44, 17/27)
Università degli studi, Parma, V Rizzoli (10, 0/10)
Policlinico S Matteo, Pavia, C Bernasconi (59, 25/34)
Policlinico St Matteo (Ped), Pavia, F Locatelli (41, 32/9)
Fondazione Clinica del Lavoro, Pavia, P Pedrazzoli, G Robustelli della Cuna (15, 0/15)
Silvestrini Hospital, Perugia, A Amici (2, 1/1)
Policlinico Monteluca, Università di Perugia, MF Martelli (89, 47/42)
Ospedale di Pesaro, G Lucarelli (76, 73/3)
Ospedale Civile, Pescara, P di Bartolomeo (54, 31/23)
Istituto di Clinica Pediatrica, Pisa, P Macchia (15, 4/11)
Ospedale Civile, Ravenna, G Rosti (54, 0/54)
Azienda Osped 'Riuniti e Morelli', Reggio di Calabria, P Iacopino (29, 8/21)
Università S Eugenio, Roma, S Amadori, L Cudillo (30, 3/27)
Università di Roma, W Arcese, F Mandelli, G Meloni (90, 35/55)
Università Cattolica, Roma, S Cuore, S Sica, G Leone (*missing*)
Ospedale Bambino Geu, Rome, G Deb (7, 0/7)
Ospedale S Camillo, Roma, A De Laurenzi (27, 10/17)
Hospital Casa Sollievo Sofferenza, San Giovanni Rotondo, MM Greco (10, 0/10)
Ospedale S Giovanni, Torino, M Falda (55, 19/36)
Università di Torino (Adults), M Aglietta (*missing*)
Università di Torino (Ped), Torino, E Madon, R Miniero (22, 12/10)
Policlinico Universitario, Udine, M Baccarani (49, 12/37)
Policlinico di Borgo Roma, Verona, G Perona (32, 7/25)
ULSS N.8 'Vicenza 2', Vicenza, R Raimondi (36, 3/33)

Latvia no report

Liechtenstein no report

Lithuania no report

Luxemburg (1 team; 22, 1/21)
Centre Hospitalier, M Dicato (22, 1/21)

Macedonia no report

Malta no report

Moldova no report

Monaco no report

Netherlands (10 teams; 346, 162/184)
Free University Hospital, Amsterdam, G Mossenkoppele (57, 0/57) (*not included*)
The Netherlands Cancer Inst, Amsterdam, S Rodenhuis (37, 0/37)
Emma Kinderziekenhuis, AcMedCe, Amsterdam, H v den Berg, H Behrendt (13, 0/13)
University Medical Centre, Leiden (Adults), WE Fibbe (45, 17/28)

University Medical Centre, Leiden (Pediatrics), JMJJ Vossen (29, 29/0)
Academic Hospital, Maastricht, HC Schouten (29, 10/19)
University Hospital, Nijmegen (Adults, Peds, Oncology), A Schattenberg, T de Witte, J Groot (64, 41/23)
Dr Daniel den Hoed Cancer Center, Rotterdam, JJ Cornelissen (55, 35/20)
University Hospital, Rotterdam, P Sonneveld (8, 0/8)
Wilhelmina Kinderziekenhuis, Utrecht, ER de Graeff-Meeder (4, 2/2)
University Hospital, Utrecht, LF Verdonck (62, 28/34)

Norway (2 teams; 91, 33/58)
Rikshospitalet, Oslo, D Albrechtsen (49, 33/16)
Det norske Radiumhospital, Oslo, S Kvaloy (42, 0/42)

Poland (8 teams; 142, 64/78)
Medical Academy, Gdansk, A Hellmann (9, 6/3)
Silesian Medical Academy, Katowice, J Holowiecki (45, 14/31)
Medical Academy, Poznan, J Hansz (29, 16/13)
Institute of Pediatrics, Poznan, J Wachowiak (10, 10/0)
Central Clinical Hospital, Warsaw, K Sulek (3, 2/1)
Curie Institute of Warsaw, J Walewski (0/0)
University of Medicine (Ped), Wroclaw, J Boguslawska-Jaworska (10, 1/9)
K Diuske Hospital, Wroclaw, A Lange (36, 15/21)

Portugal (3 teams; 138, 52/86)
Instituto Portugues de Oncologia, Lisbon, M Abecasis (67, 24/43)
Hospital de Santa Maria, Lisbon, F de Lacerda (35, 13/22)
Instituto Portugues de Oncologia, Porto, P Pimentel (36, 15/21)

Romania no report

Russia (5 teams; 47, 10/37)
Institute of Biophysics, Moscow, AE Baranov (2, 1/1)
Cancer Research Center, Moscow, Y Chervonobab (6, 0/6)
Research Hem Center of RAS, Moscow, VG Savtchenko (8, 5/3)
Research Institute of Hematology, St Petersburg, KM Abdulkadirov (7, 1/6)
All-Russia Centre of Lab Biodozymetry, St Petersburg, R Fedortseva (*missing*)
City BMT, St Petersburg, BV Afanasiev, L Zubarovskaya (24, 3/21)

San Marino no report

Saudi Arabia (1 team; 47, 39/8)
Riyadh Armed Forces Hospital, M Aldouri (10, 10/0) (*not included*)
The King Faisal Hospital, Riyadh, P Ernst (47, 39/8)

Slovakia (3 teams; 59, 15/44)
2nd Children's Clinic, University Hospital, Bratislava, J Lukac (1, 1/0)
University Hospital, Bratislava, M Mistrik (19, 13/6)
National Cancer Institute, Bratislava, P Fuchsberger (39, 1/38)

Slovenia (1 team; 5, 4/1)
University Medical Centre, Ljubljana, J Pretnar (5, 4/1)

Spain (48 teams; 1578, 316/1262)

Santa Creu (Pediatrics), Barcelona, I Badell Serra (15, 2/13)
Santa Creu (Adults), Barcelona, A Domingo Albos (82, 16/66)
Hospital Duran i Reynals, Barcelona, A Granena (44, 12/32)
Hospital General 'Vall d'Hebron', Barcelona, A Julia Font (39, 4/35)
Hospital M Infantil, Barcelona, J Ortega (42, 25/17)
Hospital Clinico i Provincial, Barcelona, C Rozman, E Carreras (80, 30/50)
Clinica Corachan, Barcelona, P Vivancos (4, 0/4)
Instituto Dexeus, Barcelona (*missing*)
Hospital del SAS de Jerez, Cadiz, A Leon (45, 0/45)
Hospital Insular Las Palmas de Gran Canaria, F Fernandez-Fuentes, J Gonzalez-San Miguel (1, 0/1) (*not included*)
Hospital Universitario de Canarias, L Hernandez Nieto, MT Hernandez Garcia (2, 0/2)
Hospital Reina Sofia, Cordoba, A Torres Gomez (57, 30/27)
Hospital Virgen de la Nieves, Granada, JM de Pablos (26, 0/26)
Hospital Materno Infantil Juan Canalejo, La Coruna, FJ Batlle, C Ramirez, P Torres, R Varela (10, 0/10)
Hospital Nostra Senora del Pino, Las Palmas, JJ Malcorra, R Mataix, C Campo (25, 7/18)
Hospital Arnan de Villanova, Lérida, J Macia (3, 0/3)
Clinica La Luz, Madrid, H Cortés-Funes, J Hornedo (19, 0/19)
Hospital Universitario San Carlos, Madrid, J Diaz Mediavilla (16, 0/16)
Clinica Puerta de Hierro, Madrid, MN Fernandez (30, 12/18)
Clinica Ruber, Madrid, JM Fernandez-Ranada, Escudero (38, 0/38)
Hospital de la Princesa, Madrid, JM Fernandez Ranada (87, 33/54)
Hospital General La Paz, Madrid, F Hernandez Navarro (42, 9/33)
Hospital Doce de Octubre (Adults, Peds, Oncology), Madrid, J Lahuerta, J Lopez Perez, J Hornedo, H Cortés Funes (98, 2/96)
Hospital Nino Jesus, Madrid, LM Madero (31, 7/24)
Hospital Univ San Carlos, Madrid, M Martin, E Diaz-Rubio, A Casado, JA Lopez-Martin (25, 0/25)
Hospital La Paz (Peds), Madrid, A Martinez (14, 4/10)
Hospital Ramon y Cajal (Pediatrics), Madrid, A Munoz Villa, E Otheo, MS Maldonado (25, 10/15)
Hospital Ramon y Cajal (Adults), Madrid, J Odriozola, J Pérez de Oteyza, J Lopez, J Garcia Larana (41, 8/33)
Hospital Gregorio Maranon, Madrid, T Pintado (0,0)
Fundacion Jimenez Diaz, Madrid, J Vincente Fernandez (16, 0/16)
Hospital Regional de Malaga, J Maldonado (42, 10/32)
Hospital Virgen de la Arrixaca, Murcia, R Candell Parra (2, 0/2)
Hospital General de Murcia, JM Moraleda, H Fernando (29, 1/28)
Hospital Covadonza, Oviedo, D Carrera Fernandez (13, 3/10)

Hospital Son Dureta, Palma de Mallorca, J Besalduch, HS Dureta (26, 1/25)
Policlinica Miramar, Palma de Mallorca, J Besalduch, A Sampol (6, 0/6)
Hospital Provincial de Navarra, Pamplona, J Gastearena (16, 0/16)
Clinica Universitario de Navarra, Pamplona, J Rifon (17, 1/16)
Hospital Montecelo, Pontevedra, M Constela (18, 0/18)
Complejo Hospital, Salamanca, D Caballero (63, 3/60)
Hospital Nostra Senora de Aranzazu, San Sebastian, J Marin (64, 4/60)
Hospital Universitario M de Valdecilla, Santander, A Iriondo, E Conde, E Bureo (69, 29/40)
Hospital Xeral de Galicia, Santiago de Compostela, JL Bello (16, 6/10)
Hospital Universitario Virgen del Rocio, Sevilla, JM Rodriguez Fernandez (41, 14/27)
Hospital Universitario V Macarena, Sevilla, L Errazquin (0,0)
Hospital Universitario La Fe (Ped), Valencia, V Castel (18, 3/15)
Hospital Clinico Universitario, Valencia, J Garcia-Conde (78, 10/68)
Instituto Valenciano de Oncologia, Valencia, V Guillen, J Palau (27, 0/27)
Hospital Universitario La Fe, Valencia, MA Sanz, GF Sanz (62, 20/42)
Clinico Universitario Lozano Blesa, Zaragoza, A Tres, Palomera (15, 0/15)

Sweden (8 teams; 297, 93/204)

Medical Clinic, Goteborg, J Carneskog (48, 11/37)
East Hospital, Goteborg, A Fasth, S Rodjer (25, 9/16)
Huddinge Hospital, P Ljungman (94, 57/37)
University Hospital, Linköping, G Juliusson (22, 0/22)
University Hospital, Lund, AN Bekassy (50, 16/34)
Medical Center Hospital, Örebro, U Tidefelt (14, 0/14)
Karolinska Hospital, Stockholm, M Björkholm (23, 0/23)
Norrland University Hospital, Umea, E Löfvenberg (21, 0/21)
University Hospital, Uppsala, G Oberg (*missing*)

Switzerland (7 teams; 208, 54/154)

Kantonsspital Basel, B Speck, A Gratwohl (36, 23/13)
Ospedale San Giovanni, Bellinzona, F Cavalli, M Ghielmini (13, 0/13)
Inselspital Berne, A Tobler, K Leibundgut (32, 0/32)
Hôpital Cantonal Universitaire, Geneva, B Chapuis, M Wyss (27, 15/12)
CHUV, Lausanne, D Schapira, T Kovacovics, N Nenadov-Beck (39, 0/39)
Kantonsspital, St Gallen, U Hess (13, 0/13)
University Hospital, Zurich, J Gmür, R Stahel, R Seger (48, 16/32)

Turkey (7 teams; 92, 68/24)

Ibn-1 Sina Hospital, Ankara, H Koc (30, 20/10)
Hacettepe University, Ankara, K Oezerkan (5, 5/0)
Balcali Hospital, A Tanyeli (6, 4/2)
Marmara University, Altunizade/Istanbul, T Akoglu (10, 7/3)

Cerrahpasa Medical School, Istanbul, B Ferhanoglu, T Soy-
sal, Z Baslar (9, 9/0)
Tip Fakultesi, Istanbul, G Gedikoglu (21, 13/8)
Medical Faculty, Istanbul, Y Tangün (11, 10/1)

Ukraine no report

United Kingdom (47 teams; 1677, 541/1136)
Gwynedd Hospital, Bangor, H Parry (6, 0/6)
Royal United Hospital, Bath, JG Smith (5, 0/5)
Royal Victoria Hospital, Belfast, F Jones (15, 5/10)
City Hospital, Belfast, TCM Morris (16, 0/16)
Ladywood Middleway, Birmingham, PJ Darbyshire (33,
27/6)
Queen Elizabeth Hospital, Birmingham, JA Holmes (38,
7/31)
Birmingham Heartlands Hospital, DW Milligan (30, 7/23)
Royal Bournemouth Hospital, Bournemouth, H Myint
(10, 0/10)
Royal Hospital for Sick Children, Bristol, JM Cornish
(95, 78/17)
Southmead Hospital, Bristol, J Hows, MG Rainey (10,
0/10)
Addenbrooke's Hospital, Cambridge, RE Marcus (59,
14/45)
University of Wales, Cardiff, CH Poynton (72, 19/53)
Internal Medical Centre, Clydebank, D Spence (0,0)
Walsgrave Hospital, Coventry, R Harris (5, 0/5)
Royal Infirmary, Edinburgh, AC Parker (21, 8/13)
Royal Infirmary, Glasgow, IM Franklin (58, 16/42)
Northwick Park Hospital, Harrow, CDL Reid (9, 2/7)
General Infirmary at Leeds, JA Child (27, 2/25)
St James's University Hospital, Leeds, BA McVerry, D
Barnard (41, 20/21)
Royal Infirmary, Leicester, RM Hutchinson (34, 13/21)
Royal Liverpool University Hospital, RE Clark (37, 8/29)
Hammersmith Hospital, London, JM Goldman (66, 47/19)
University College Hospital, London, AH Goldstone
(130, 13/117)
London Oncology Marrow Transplantation Group, PJ Gra-
vett (11, 2/9)
St George's Hospital, London, J Marsh, S Ball, EC Gordon-
Smith (12, 7/5)
The Royal London Hospital, Whitechapel, London, AC
Newland (42, 13/29)

King's College, London, A Pagliuca, GJ Mufti (20, 12/8)
Royal Marsden Hospital, London, R Powles, J Mehta
(172, 54/118)
Royal Free Hospital, London, HG Prentice (29, 20/9)
St Bartholomew's Hospital, London, A Rohatiner (77,
4/73)
Charing Cross Hospital, London, D Samson (42, 8/34)
Guy's Hospital, London, S Schey (30, 7/23)
Inst of Child Health, London, P Veys, G Morgan, IM Hann
(40, 24/16)
Christie Hospital Manchester, G Morgenstern (81, 4/77)
Royal Children's Hospital, Manchester, AM Will (24, 18/6)
The Royal Infirmary, Manchester, YA Yin (26, 13/13)
Royal Victoria Infirmary, Newcastle upon Tyne, SJ Proctor,
P Taylor, A Cant, ADJ Pearson (56, 16/40)
Nottingham City Hospital, N Russell (55, 22/33)
John Radcliffe Hospital, Headington/Oxford, TJ Little-
wood, C Bunch, C Mitchell (32, 12/20)
Derriford Hospital, Plymouth, MD Hamon (35, 5/30)
Dorset Cancer Centre, Poole, A Bell (26, 5/21)
Children's Hospital, Sheffield, JS Lilleyman, AJ Vora (6,
5/1)
Taunton and Somerset Hospital, Somerset, SA Johnson, S
Rule (6, 0/6)
Southampton General Hospital (Adults), J Sweetenham
(23, 0/23)
Southampton General Hospital (Pediatrics), J Kohler (5,
3/2)
Royal South Hants Hospital, Southampton, A Smith (7,
1/6)
Pinderfield's General Hospital, Wakefield, C Galvin (3,
0/3)
Yugoslavia (Serbia and Montenegro) (3 teams; 35, 28/7)
Clinical Centre of Serbia, Belgrade, M Colovic (5, 2/3)
Military Medical Academy, Belgrade, M Malesevic (26,
22/4)
Institute of Internal Diseases, Novi Sad, D Pejin (4, 4/0)
Missing = no data received.
Not included = data received after submission of manu-
script. Numbers not included in tables and figures.
Late correction = Numbers not changed in tables and fig-
ures. The total corrected number of transplants for 1995
is therefore 12 224 transplants (3893 allo/8331 auto) and
348 teams.