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Special report

Hematopoietic stem cell transplantation activity in Europe 1999

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Summary:

This survey on transplantation of hematopoietic stem cells from blood or bone marrow in Europe, the 10th in a series, reports the numbers of transplants performed in 1999 and concentrates on changes in indications and donor types. Members of the European Group for Blood and Marrow Transplantation and associated teams are invited every year to report their transplant numbers by indication, donor type and stem cell source. In 1999, a total 21 430 transplants were performed by 580 teams in 35 European countries. Of these transplants 18 720 were first transplants, 5879 (31%) allogeneic, 12 841 (69%) autologous; an additional 562 allogeneic and 2148 autologous transplants were re- or multiple transplants. Ninety-five percent of the autologous transplants and 45% of the allogeneic transplants were peripheral blood stem cell transplants. A total of 103, respectively 1.8% of the allogeneic transplants, were cord blood cell transplants. Main indications in 1999 were leukemias with 6289 transplants (34%), 70% thereof allogeneic transplants; lymphomas with 8219 transplants (44%), 92% thereof autologous transplants; solid tumors with 3302 transplants (18%), 99% thereof autologous transplants; nonmalignant disorders with 715 transplants (4%), 85% thereof allogeneic transplants. Absolute numbers of allogeneic transplants continued to increase as in previous years by 10%, in contrast, there was for the first time in 10 years a decrease in autologous transplants, mainly for solid tumors. Reasons therefore are discussed. These data reflect the most recent changes in utilisation and document current status of blood and marrow transplantation in Europe. *Bone Marrow Transplantation* (2001) **27,** 899–916.
Keywords: hematopoietic stem cell; bone marrow; peripheral blood stem cell; transplantation; transplant activity; Europe

Transplantation of hematopoietic stem cells (hematopoietic stem cell transplantation; HSCT) is today established therapy for a variety of congenital or acquired severe disorders of the hematopoietic system as well as for chemo- or radiosensitive malignancies. It includes autologous and allogeneic transplants of hematopoietic stem cells from bone marrow, peripheral blood or cord blood. Donors for allogeneic transplants can be HLA-identical siblings, other family members or typed unrelated volunteer donors. All have their respective place, their advantages or disadvantages.[1,2]

Over the last decade, HSCT has experienced an enormous increase in activity. Standardisation of the procedure has led to an expansion to most university hospitals and larger clinics in Europe. Convincing results and reduction in transplant-related mortality have opened up new indications and increased patient age. This is best illustrated by the annual activity surveys of the European Group for Blood and Marrow Transplantation EBMT which was introduced in 1990.[3–11] A total 4234 transplants, 2137 allogeneic and 2097 autologous, were reported at that time, all bone marrow derived.[3] Major changes have taken place within this decade. Numbers have continuously increased, stem cell source has been expanded[12,13] and indications have been added. During the same time, HSCT has been assessed compared to other therapies and several prospective controlled studies have been introduced.[14–17] This rapid development of HSCT has not remained unchallenged. Major concerns have been issued concerning the value of autologous HSCT in solid tumors, especially in breast cancer patients.[18–20] The issue remains open at this time.[21] Still, for the first time since the introduction of the survey, annual numbers of autologous HSCT have decreased in absolute terms. In contrast, more patients were treated than ever on prospective controlled studies. As such, the annual survey provides a tool to monitor changes in activity for individual indications and allows us to observe trends in participating European countries.

Patients and methods

Data collection

The current activity survey of the EBMT is based on the system introduced in 1990.[3] In January 2000, all EBMT members were requested to report by questionnaire the numbers of newly treated patients by indication, stem cell

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source and donor type (Table 1) for the year 1999. The same questionnaire was used as in 1998. Identical information was sought from non-members who were known to the investigators to be performing transplants. Such information was given to the activity survey office by national organisations, neighboring teams or hospital administrators. Teams not responding by March 2000, were contacted again, if necessary repeatedly.

Participating teams

All 528 teams contributing to the EBMT activity survey 1998[11] were asked to participate again in the 1999 survey. An additional number of 82 new teams were invited for participation. Hence, a total of 610 teams were contacted (this includes 470 EBMT member teams and 140 non-member teams) in 35 European countries, including by EBMT tradition Iran and Israel. They were asked to report all consecutive allogeneic and autologous transplants as defined below. The contacted teams are listed in the appendix in alphabetical order of country, town, and center and reporting physician. According to personal communications, in 1999 no blood or marrow transplants were performed in those remaining European countries: Albania, Andorra, Armenia, Azerbaijan, Bosnia-Herzegovina, Georgia, Latvia, Liechtenstein, Malta, Macedonia, Moldavia, Monaco, Romania, San Marino and the Vatican.

Definition of transplant numbers

The same strategy as previously reported was followed. In brief, the survey concentrated on numbers of patients receiving their first transplant during the year 1999. Information on disease, donor type and stem cell source was only collected for first transplants. Therefore, each patient was counted only once, independent of the number of transplant procedures, thus preventing multiple reporting. Included were patients who were previously treated at another institution but who have received a transplant at the reporting institution for the first time. Additional procedures, such as re- or multiple transplants were collected in total, not specified by disease, to receive an estimate of the absolute number of HSCT procedures performed during the year 1999. Transplants were defined as the infusion of hematopoietic stem cells following a conditioning regimen with the intention to replace the existing hemopoiesis by the injected stem cells. Donor lymphocyte infusions[22] were not considered as transplants in this setting.

Data validation

Reported data were entered in a computer file. Before final analysis, a printout was sent to each team for validation and verification. In countries with a national transplantation agency or registry, data were compared with the respective national co-ordinators. Discrepancies between reports to the national agency and EBMT were corrected by contacting the teams in question for rectification. Data quality of participating teams was also checked by regular site visits to selected centers on a random basis.

Data in text, tables and figures relate to the state of answers as of 12 December 2000. Information on teams with replies beyond that date are given in the appendix only.

Statistical analysis

Mean, median, standard deviation of numerical variables were calculated on an Excel spreadsheet.

Coefficient of variation: Coefficients of variation in transplant activity between participating countries were calculated as previously described.[23] In short, transplant rates were calculated for each country with close to or more than 100 transplants in 1999 and for each indication with at least 100 transplants in 1999. This includes Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Israel, Italy, The Netherlands, Norway, Poland, Portugal, Russia, Slovakia, Spain, Sweden, Switzerland, Turkey and the UK as countries and the disease categories in Table 2, eg for autologous HSCT AML, ALL, CML, MDS, CLL, myeloma, Hodgkin's disease, non-Hodgkin's lymphoma, neuroblastoma, germinal cancer, breast cancer, soft tissue sarcoma, Ewing's sarcoma and ovarian cancer; for allogeneic HSCT AML, ALL, CML, MDS, myeloma, non-Hodgkin's lymphoma, aplastic anemia, thalassemia and inborn errors. Transplant rates were defined as number of transplants per 10 million inhabitants for each country and each indication as listed above. These rates give rise to a mean value, a standard deviation and a coefficient of variation (CV). CV is then defined as standard deviation (s.d.) divided by the mean of the transplant rate and multiplied by 100 (CV in % = (s.d./mean) $\times$ 100)). A low coefficient of variation represents homogeneity, whereas a high coefficient of variation represents heterogeneity between European countries regarding the indication for HSCT for this particular disease.

Results

Participating teams

Five hundred and eighty of the 610 contacted teams (95% returns) responded to the survey in 1999 (see appendix for details). This includes 458 of 470 active EBMT members, corresponding to a return of 97% for EBMT teams. Of the responding teams, 122 were non-EBMT members. Thirty teams known by the investigators to have been performing HSCT in 1999 were also contacted, but chose not to reply or failed to do so for unknown reasons in spite of several efforts to reach them. Still, 52 more teams than in 1998[11] did participate in this survey. In 1990, when the survey was introduced, there were 143 teams. Of the 580 teams reporting HSCT in 1999, 292 (50%) do both allogeneic and autologous transplants; 251 (43%) teams restrict their activity to autologous, 10 (2%) to allogeneic transplants only. Twenty-seven (5%) reported not to have performed any transplants in 1999.

Table 1 Numbers of patients treated in Europe in 1999 with a 1st hematopoietic stem cell transplant acccording to disease indication, donor type and stem cell source

Year = 1999 Teams = 580	*Allogeneic Family*						*Unrelated*		*Autologous*			*Total*		
	HLA-id		*non-id*		*twin*									
	BM	*PBPC*	*BM*	*PBPC*	*BM*	*PBPC*	*BM*	*PBPC*	*BM only*	*PBPC only*	*BM + PBPC*	*Allo*	*Auto*	*Total*
Leukemias	1325	1300	60	244	12	20	1072	400	342	1448	66	4433	1856	6289
Acute myeloid leukemia														
First complete remission	328	327	6	18	3	4	74	27	171	565	23	787	759	1546
Not first complete remission	111	215	7	80	2	3	175	97	49	139	21	690	209	899
Acute lymphatic leukemia														
First complete remission	168	134	10	24	1	1	87	44	65	158	8	469	231	700
Not first complete remission	168	110	13	50	2	2	201	78	19	85	3	624	107	731
Chronic myeloid leukemia														
Chronic phase	373	269	13	31	2	5	327	78	8	209	2	1098	219	1317
Not first chronic phase	59	79	6	27	2	1	89	35	7	64		298	71	369
Myelodysplastic syndrome	104	119	5	10		4	111	36	6	40	1	389	47	436
Chronic lymphatic leukemia	14	47		4			8	5	17	188	8	78	213	291
Lymphoproliferative disorders	172	381	2	22	5	13	63	32	226	7197	106	690	7529	8219
Myeloma	60	146		4	1	2	18	11	26	2901	15	242	2942	3184
Hodgkin's lymphoma	15	31		4	1	4	6	2	75	1043	39	63	1157	1220
Non-Hodgkin's lymphoma	97	204	2	14	3	7	39	19	125	3253	52	385	3430	3815
Solid tumors	7	33	0	1	1	0	1	0	69	3161	29	43	3259	3302
Neuroblastoma									31	214	6	0	251	251
Glioma									3	59		0	62	62
Soft tissue sarcoma		1							4	124	3	1	131	132
Germinal tumors		1							5	336	7	1	348	349
Breast cancer stage 2		2							1	514		2	515	517
Breast cancer stage 3									1	512	1	0	514	514
Breast cancer inflammatory										139	2	0	141	141
Breast cancer metastatic	2	11								512		13	512	525
Ewing		1			1				7	212	6	2	225	227
Lung cancer		1								87		1	87	88
Ovarian cancer	1									170	2	1	172	173
Other solid tumors	4	16		1			1		17	282	2	22	301	323
Nonmalignant disorders	292	82	34	60	3	2	109	28	16	88	1	610	105	715
Severe aplastic anemia + Fanconi	126	38	4	11	2	2	45	17	1		1	245	2	247
Thalassemia	83	19		1	1		3					107	0	107
SCID	28	8	23	18			14	3	4	1		94	5	99
Inborn errors	54	14	7	30			46	8		1		159	1	160
Auto immune disease	1	3					1		11	86		5	97	102
Others	41	27	2	4		1	17	11	3	89		103	92	195
Total	1837	1823	98	331	21	36	1262	471	656	11983	202	5879	12841	18720

Table 2 Coefficient of variation in transplant rates 1999 (see text) and changes in transplant activity between 1998 and 1999

Indication	*CV 1999*	*1998 No. of patients*	*1999 No. of patients*	*Increase/decrease*	
				Absolute	*%*
Autologous transplants					
AML	72	966	968	2	0
ALL	86	376	338	−38	−10
CML	102	312	290	−22	−7
MDS	—	40	47	7	18
CLL	112	208	213	5	2
Myeloma	61	2480	2942	462	19
Hodgkin's disease	51	1105	1157	52	5
Non-Hodgkin's lymphoma	57	3437	3430	−7	0
Neuroblastoma	68	250	251	1	0
Germinal cancer	90	331	348	17	5
Breast cancer	114	2374	1682	−692	−29
Soft tissue	136	149	131	−18	−12
Ewing	90	184	225	41	22
Ovarian cancer	117	185	172	−13	−7
Total	—	13092	12841	−251	−2
Allogeneic transplants					
AML	67	1367	1477	110	8
ALL	62	1064	1093	29	3
CML	48	1295	1396	101	8
MDS	71	334	389	55	16
Myeloma	111	177	242	65	37
Non-Hodgkin's lymphoma	92	265	385	120	45
SAA	72	247	245	−2	−1
Thalassaemia	177	114	107	−7	−6
Inborn errors	115	144	159	15	10
Total	—	5308	5879	571	11

HSCT in 1999

Transplant figures 1999: A total 18 720 first transplants, 5879 (31%) allogeneic and 12 841 (69%) autologous were carried out in 1999 (Table 1). This represents an increase of 320 transplants compared to 1998, when there were 18 400 first transplants (5308 allogeneic, 13 092 autologous). Numbers of allogeneic HSCT continued to increase at the same rate of 10% as in previous years from 5308 to 5879 transplants (Figure 1). In contrast, there was for the first time since the introduction of the survey, a decrease in autologous HSCT from 13 092 in 1998 to 12 841 in 1999. This is mainly due to a decrease in solid tumor HSCT from 3996 to 3259.

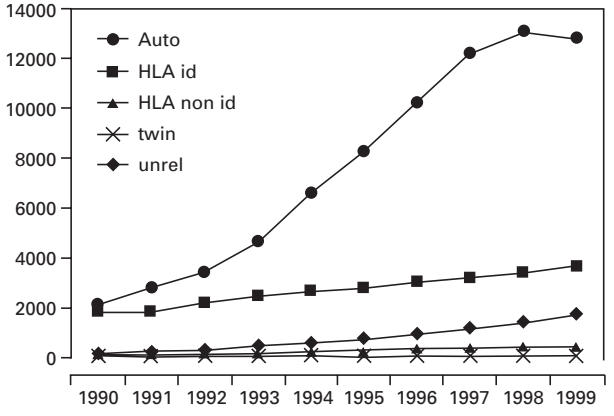

Figure 1 Number of patients receiving a first HSCT in participating institutions from 1990 to 1999 in Europe according to donor type. Autologous HSCT (auto), HLA- identical sibling HSCT (HLA-id), non-identical family member HSCT (HLA non id), twin HSCT (twin) and unrelated HSCT (unrel).

There was an additional number of 2710 procedures, 905 retransplants (477 allogeneic/428 autologous) and 1805 double or triple transplants (85 allogeneic/1720 autologous) performed at the same 580 institutions. Thus, there was a total to 21 430 transplants, 6441 allogeneic (30%) and 14 989 autologous (70%) performed in 1999. More double or triple procedures were performed for autologous than for allogeneic transplants. The restriction to numbers of new patients treated in the EBMT survey accounts for some of the discrepancies between reports from centers and national agencies, when numbers of transplant procedures in total are reported.

Indications for first transplants in 1999: Specific information on disease, subtype of disease or stage as indications for HSCT is listed in detail by donor type and stem cell source in Table 1. In summary, main indications in 1999 were lymphoproliferative disorders with 8219 patients (44%), 690 patients with allogeneic HSCT, 7529 with autologous HSCT; leukemias with 6289 patients (34%), 4433 patients with allogeneic, 1856 with autologous HSCT; solid tumors with 3302 patients (18%), 43 with allogeneic HSCT, 3259 with autologous HSCT and nonmalignant disorders with 715 patients (4%), 610 with allogeneic HSCT, 105 with autologous HSCT. The latter, autologous HSCT for nonmalignant disorders include predominantly patients

with autoimmune disorders. 195 patients, 103 with allogeneic HSCT and 92 with autologous HSCT were listed as 'other indications'.

Donor type in 1999: Of the 18 720 first transplants in 1999, 31% were allogeneic and 69% were autologous transplants. The distribution of autologous and allogeneic transplants differed for the main indications. For the leukemias, 70% of the transplants were allogeneic and 30% autologous; for the lymphoproliferative disorders 8% were allogeneic and 92% autologous; for the solid tumors 1% were allogeneic and 99% autologous, and for the nonmalignant disorders 85% were allogeneic and 15% autologous. Within the main indications, there were further differences depending on subtype stage of the diseases as listed in Table 1. For example, there were more allogeneic than autologous transplants for acute lymphoid leukemias. There were more transplants in first complete remission for acute myeloid leukemia; for acute lymphoid leukemias, there were more allogeneic transplants at later stages of the disease. For the 5879 allogeneic first transplants, donors were an HLA-identical sibling for 3660 (62%) of the recipients, other family members for 429 (7%) of the recipients, a syngeneic twin for 57 (1%) of the recipients and an unrelated volunteer donor for 1733 (30%) of the recipients.

Stem cell source in 1999: Of the 12 841 autologous first transplants, 656 (5%) were bone marrow derived, 11 983 (93%) from peripheral blood stem cells and 202 (2%) from combined bone marrow and peripheral blood stem cell transplants (Table 1). The last two groups are summarised in Tables and Figures as peripheral blood stem cell transplants. Of the 5879 allogeneic first transplants, 55% were bone marrow and 45% were peripheral blood stem cell transplants. No information was asked for concerning the specific subgroup of combined bone marrow and peripheral blood in the allogeneic setting.

The proportion of peripheral blood as stem cell source varies depending on donor type. The proportion of peripheral blood as stem cell source was 95% for autologous transplants, 50% for HLA-identical sibling donor transplants, 77% for HSCT from other family members, 63% for twin donors and 27% for unrelated donors (Figure 2). For 103 patients, allogeneic cord blood was the stem cell source in 1999 (2% of all allogeneic transplants).

Variation of transplant rates (coefficient of variation) by indication in 1999: The CVs for 1999 are listed in Table 2. Low CVs, as indicator for consensus and arbitrarily set by 75% this year, were found in allogeneic HSCT for acute myeloid leukemia, acute lymphoid leukemia, chronic myeloid leukemia, myelodysplastic syndrome and severe aplastic anemia; in autologous transplants for Hodgkin's disease, non-Hodgkin's lymphoma, myeloma, acute myeloid leukemia and neuroblastoma.

Changes compared to 1998

Transplant figures: Total number of first transplants increased by 320 HSCT from 18 400 in 1998 to 18 720 in 1999. There was a marked difference between allogeneic and autologous HSCT. Allogeneic HSCT continued to increase as in previous years by 571 from 5308 to 5879; autologous HSCT decreased from 13 092 to 12 841. In addition, allogeneic retransplants increased from 311 to 477, allogeneic double transplants from 59 to 85. The proportion of retransplants, as well as of double and triple transplants, remained the same for autologous HSCT as in 1998.

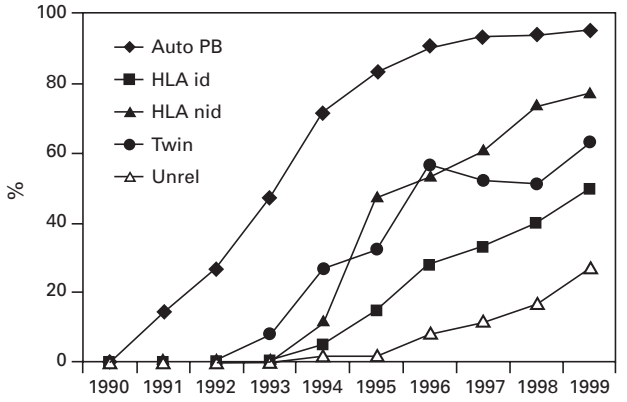

Figure 2 Changes in stem cell source from 1990 to 1999 according to donor type. Proportions of peripheral blood as stem cell source for autologous HSCT (auto PB), HLA-identical sibling HSCT (HLA id), nonidentical family member HSCT (HLA nid), twin HSCT (twin) and unrelated HSCT (unrel).

Indications: Numbers of patients treated with allogeneic HSCT increased for most main indications, but not for all to the same extent (Table 2; Figure 3a). Fewer transplants than in 1998 were performed in 1999 only for aplastic anemia and thalassemia. For autologous HSCT (Table 2; Figure 3b) an increase was observed in acute myeloid leukemia, myelodysplastic syndromes, chronic lymphoid leukemia, myeloma, Hodgkin's, neuroblastoma, germinal cancer and Ewing's sarcoma. A decrease was observed mainly for breast cancer with nearly 700 transplants less than in 1998, for the other solid tumors, the leukemias and the non-Hodgkin's lymphomas. It is interesting to note that disease categories with fewer transplants in 1999 had in principle a high CV, disease categories with increasing numbers a low CV. Exceptions can be explained. There is probably a saturation effect for diseases as aplastic anemia (allogeneic HSCT) or non-Hodgkin's lymphoma (autologous HSCT), as example for diseases with low CV and stable transplant rates. There is an emerging trend for allogeneic HSCT in myeloma and non-Hodgkin's lymphoma, explaining the large CV and the marked increase in transplants.

Donor type, allogeneic transplants: Changes continued as previously observed in donor type, as illustrated in Figure 4. The proportion of unrelated transplants has increased from less than 10% in 1990 to 29% in 1999. The proportion of nonidentical family members as donors remains stable between 5 and 7%. Similarly the proportion of twin donors has remained unchanged, relating to the rarity and clear indication for a transplant whenever a syngeneic twin donor is available.

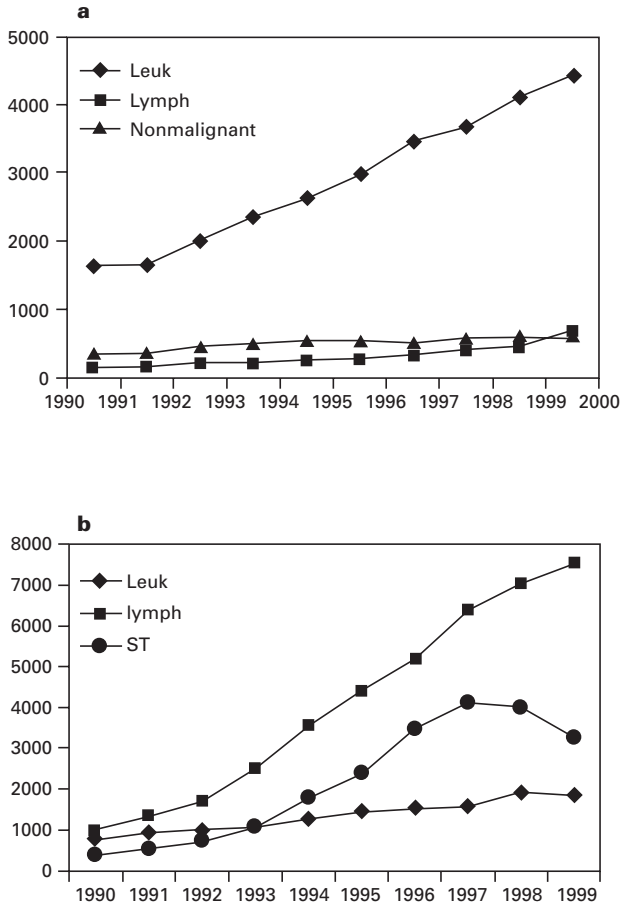

Figure 3 Absolute numbers of HSCT from 1990 to 1999 according to main indication as listed in Table 1. (**a**) Allogeneic transplants; (**b**) Autologous transplants: leukemias (leuk), lymphoproliferative disorders (lymph), solid tumors (ST) and nonmalignant disorders (nonmalignant).

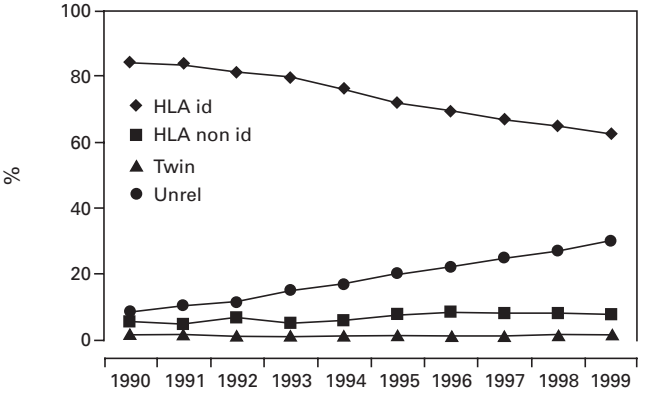

Figure 4 Changes in proportion of donor type for allogeneic HSCT from 1990 to 1999. HLA-identical sibling HSCT (HLA-id), non-identical family member HSCT (HLA non id), twin HSCT (twin) and unrelated HSCT (unrel).

Stem cell source: The change in stem cell source during the last decade is illustrated in Figure 2. No information was collected on donor source in the first survey in 1990. The number of autologous peripheral blood transplants was considered insignificant; no allogeneic peripheral blood stem cell transplants were carried out. Collection of information on donor source was introduced in 1991 when 86% of the autologous transplants were bone marrow transplants. In 1999, 5% of the autologous transplants remained bone marrow derived, 95% were peripheral blood or combined bone marrow and peripheral blood stem cell transplants. Peripheral blood was introduced as stem cell source for allogeneic transplants in 1993.[12] Since then, this proportion has steadily increased. This increase is different depending on donor type. The proportion of peripheral blood transplants is highest for nonidentical family donors with 77%. This reflects the fact, that haploidentical transplants became possible only with the advent of peripheral blood stem cells as stem cell source. The proportion of peripheral blood transplants is 63% for twin donors, 50% for HLA-identical sibling donors and 27% for unrelated donors.

Discussion

This report gives information on indications, donor type and stem cell source of the HSCT performed in 1999 in Europe. It is the 10th report in a series introduced in 1990 by EBMT.[3–11] Although it follows, to some extent, previous reports on transplant numbers in Europe, it illustrates a marked change in several aspects. There are more difficulties in collecting data, there is a change in indications, a continuing rise in allogeneic transplants and for the first time, a decrease of activity in autologous transplants.

The latter comes as no surprise. Autologous HSCT have seen an enormous expansion within the last decade. This proliferation of technology was based on prospective randomized studies for some indications such as lymphoma and myeloma.[14,16] It was triggered by highly optimistic pilot studies for other indications, eg breast cancer.[25,26] Economic implications for health care systems and the quest for evidence-based medicine led to delay in the long due prospective studies in breast cancer. Early negative results of these studies and the revelation of potential misconduct in one of the earlier studies provoked an open controversy surrounding the issue.[18–20] The transplant community has reacted before the open public discussion, as reflected by the decrease in transplants for breast cancer in 1999.[21] As stated earlier, it is essential that the ongoing prospective studies can be completed. Results of these studies with adequate follow-up need to be awaited before definitive conclusions can be made. Still, it is highly likely that rapid expansions of HSCT for any new indication will not happen again without proper prior evidence-based studies.

There are some explanations as to the decrease of autologous HSCT for the acute lymphoid leukemias and chronic myeloid leukemias. Expectations probably have not been met by the results and STI571 offers an alternative for patients with chronic myeloid leukemia. It remains to be seen whether these changes reflect chance events or changes in policies. For myeloma, in contrast, the trend for more HSCT, both allogeneic and autologous, continues as in previous years. It mirrors the concept that HSCT is today

considered an integral part of initial therapy for newly diagnosed high-risk myeloma.[24]

Allogeneic HSCT continued to increase in numbers. Unrelated and nonidentical family donors increase the donor pool.[27] Low intensity conditioning approaches expand allogeneic HSCT to a patient population considered until now to be at too high a risk.[28] Increase in transplants was not observed to the same extent for all indications. There were minimally fewer transplants for aplastic anemia and thalassemia. This probably reflects that the total numbers of patients with these diseases remains stable. Chronic myeloid leukemia in first chronic phase remains the most frequent single indication for an allogeneic transplant. It remains to be seen how the introduction of the new tyrosine kinase inhibitor STI571 will impact on this indication.[29] In contrast, it can be predicted that numbers of allogeneic HSCT most likely will continue to increase for lymphoproliferative disorders. The better definition of high risk patients, the documentation of a graft-versus-lymphoma/myeloma effect, as well as the advent of low intensity conditioning regimens have propagated several new studies.

Since its introduction, the EBMT survey included all major transplant teams in Europe. No European transplant team, which had published data on hematopoietic stem cell transplants or had presented data at the annual meetings of the EBMT, was missing from the list. More than 86% of all contacted teams and more than 90% of EBMT member teams sent a reply. This year, some teams who were reporting previously or who were known to have performed transplants decided not to report or failed to answer the survey for unknown reasons despite several attempts to reach them. There are several explanations. It is simply more difficult to collect and quality control data within a short period of time from 600 teams than from 100 to 200 teams. Increase in transplant numbers at individual institutions increases workload at the team level. This is not always met with an increase in staff. In addition, as communicated from some participants in person, there might be an increasing reluctance to report transplant activity in public. If this trend continued, novel approaches would be required. Still, based on information from the participating teams, contacts with national health authorities and by personal information from industry, it can be assumed that the survey most likely covers nearly 90% of all HSCT activity in Europe. Even with missing data, the report gives reliable information on the current status.

Information on outcome is collected separately, by local, national or international institutions, including EBMT. Therefore, no data on outcome are given with this report. In addition, collection of outcome data, generation of analyses and interpretation of results need more time and require a longer follow-up. Therefore, as it is, this report highlights current practice of hematopoietic stem cell transplantation in Europe in 1999. It documents changes and trends compared to the previous years and marks a break in the hitherto continuing rise of application during the past decade. Such information should provide the basis for interpretation of outcome data, to arrive at recommendations for counselling of individual patients, as well as for healthcare planning.

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Appendix 1999

List of transplant centers and numbers of patients with first transplants only performed in 1999 (numbers in brackets show total number of transplants followed by allografts/autografts)

Albania: no report

Andorra: no report

Armenia: no report

Austria (14 teams; 311, 98/213)
Graz, University Hospital, CIC 308, W Linkesch, (43, 11/32)
Graz, University Hospital, Onco, CIC 278, H Samonigg, M Schmid (9, 0/9)
Graz, Universitäts-Kinderklinik, CIC 593, Ch Urban (8, 5/3)
Innsbruck, Universitätsspital (hem, onco), CIC 271, G Gastl, D Nachbaur (34, 15/19)
Klagenfurt, General Hospital Klagenfurt CIC 716, D Geissler, M Heistinger (0, 0/8)
Linz, 1 Medizinische Abteilung, AO Krankenhaus, MA Fridrik (5, 0/5)
Linz, AOK der Elisabethinen, CIC 594, D Lutz (38, 7/31)
Salzburg, LKA Salzburg (Onco), CIC 356, Prof Hausmaninger (10, 0/10)
Vienna-Lainz, Krankenhaus der Stadt Wien-Lainz, 5 Med Onko, CIC 362, G Baumgartner, E Ulsperger, Dr Mayer (5, 0/5)
Vienna, St Anna Kinderspital, CIC 528, H Gadner, C Peters (23, 14/9)
Vienna, Donauspital, CIC 767, W Hinterberger (10, 0/10)
Vienna, Universitätsklinik für Innere Medizin I-AKH, CIC 227, HT Greinix, P Kalhs (87, 43/33)
Vienna, Wilhelminerspital, CIC 828, H. Ludwig (18, 3/15)
Vienna, Hanusch-Krankenhaus, CIC 743, R. Raisner, E. Pittermann (13, 0/13)

Azerbaijan: no report

Republic of Belarus (3 teams; 56, 16/40)
Minsk, Belorussian Center, CIC 591, O Aleinikova (23, 8/15)
Minsk, Hospital No 9, CIC 801, N Milanovitch (33, 8/25)
Minsk, Institute of Haematology, CIC 326, V Ivanov ()*

Belgium (25 teams; 497; 133/364)
Aalst, OLV Ziehenhuis, E Wouters ()*
Antwerpen, AZ Middelheim, CIC 783, R de Bock (7, 0/7)
Antwerpen, Stuivenberg ZH, CIC 339, P Zachée (21, 0/21)
Brugge, AZ St Jan, CIC 506, D Selleslag, A Van Hoof, (39, 16/23)
Brussels, Children's University Hospital, CIC 644, C Devalck, E Sariban (6, 0/6)
Brussels, Clinique Général Saint Jean, CIC 779, C Dubois, (2, 0/2)
Brussels, Hôpital Erasme, CIC 596, W Feremans (13, 0/13)
Brussels, Clinique universitaire St Luc (Adults), CIC 234, A Ferrant (44, 17/27)

Brussels, Institut Jules Bordet, CIC 215, D Bron (47, 17/30)
Brussels, University Hospital, CIC 630, B van Camp, A Schots (28, 15/13)
Brussels, Cliniques Universitaires St Luc, (onco), M Symann (4, 0/4)**
Brussels, Inst Edith Cavelle Marie Depage (onco), C Vanhaelen ()*
Brussels, Clinique Universitaire St Luc (peds), CIC 234, C Vermylen (11, 6/5)
Charleroi, Hopital Notre-Dame, M André (22, 2/20)
Edegem, University Antwerpen, CIC 648, W Schroyens (25, 4/21)
Gent, University Hospital, CIC 744, LA Noens (39, 20/19)
Haine St Paul, Hôpital de Jolimont, CIC 234, A Delannoy, C Ravoet (6, 0/6)
Hasselt, Virgajesse Ziekenhuis CIC 632, D Vanstraelen, Dr Janssen (25, 0/25)
Jumet, Hôpital Civil de Jumet, A Duvivier ()*
Leuven, University Hospital Gasthuisberg, CIC 209, MA Boogaerts, J Maertens, P Vandenberghe (68, 15/53)
Liège, University Hospital Sart-Tilman, CIC 726, Y Béguin (43, 19/24)
Liège, CHR-Citadelle, CIC 353, B De Prijck (10, 0/10)
Liège, Centre Hospitalier St Joseph (hem), L Longree ()*
Roeselare, H Hartziekenhuis, Van Aelst, J Tytgat, J Demol (17, 0/17)
Yvoir, Clinique universitaire de Mont-Godinne CIC 234, C Doyen (24, 2/22)

Bosnia-Herzegovina: no report

Bulgaria (1 team; 10, 0/10)
Sofia, Uni Hospital 'Queen Johanna', CIC 346, (peds hem-onco), D Bobev (10, 0/10)

Croatia (2 teams; 79, 22/57)
Zagreb, Hospital Merkur, B Jaksic (21, 1/20)
Zagreb, Clinical Hospital Center, CIC 302, B Labar, D Nemet, M Mrsic (58, 21/37)

Cyprus (1 team; 12, 0/12)
Nicosia Makarious Hospital III, N Papaminas (12, 0/12)

Czech Republic (10 teams; 417, 81/336)
Brno, Masaryk University Hospital, CIC 597, J Vorlicek (85, 13/72)
Hradec Kralovè, Charles University, CIC 729, S Filip, M Blaha (53, 6/47)
Olomouc, University Hospital, CIC 574, K Indràk (44, 0/44)
Pilsen, Faculty Hospital, CIC 718, V Koza (73, 22/51)
Prague, Thomayer Memorial Hospital, CIC 375, J Abrahamova, J Nepomucka, L Boublikova (11, 0/11)
Prague, University Hospital Motol (peds onco), P Kavan (27, 0/27)
Prague, Clinical Haematology, Charles University, CIC 318, T Kozak (35, 0/35)
Prague, University Hospital Motol (peds hem), J Stary (19, 18/1)
Prague, Charles University, CIC 745, M Trneny (43, 0/43)
Prague, Institute of Hematology and Blood Transfusion, CIC 656, A Vitek, P Kobylka (27, 22/5)

Denmark (3 teams; 188, 38/150
Aarhus, Amtssygehus, CIC 634, A Boesen (62, 0/62)
Copenhagen, Rigshospitalet, CIC 206, N Jacobsen (85, 38/47)
Copenhagen, Herlev Hospital, University, CIC 568, HE Johnson (41, 0/41)

Estonia (1 team; 14, 1/13)
Tartu, University Hospital, CIC 746, H Everaus (14, 1/13)

Finland (6 teams; 221, 87/134)
Helsinki, University Hospital, Dept Oncology, CIC 833, H Joensuu, T Wiklund (14, 0/14)
Helsinki, University Hospital, Third Dept of Medicine, CIC 515, T Ruutu (85, 55/30)
Helsinki, Children's Hospital, CIC 219, U Pihkala, S Vettenranta (26, 18/8)
Kuopio, Department of Medicine, University Hospital, E Jantunen, T Nousiainen (27, 0/27)
Tampere, University Hospital, CIC 635, M Lehtinen (27, 0/27)
Turku, University Central Hospital, CIC 225, K Remes (42, 14/28)

France (83 teams; 2870, 687/2183)
Amiens, CHU d'Amiens, B Desablens, ()*
Angers, Paul Papin, Dr Gamelin (3, 0/3) SFGM
Angers, Centre Hospitalier, CIC 650, N Ifrah 53, 10/43)
Argenteuil, Centre Hospitalier, M Urbajtel (27, 5/22)
Besançon, Hôpital Jean Minjoz and Hôpital St Jacques (adults and peds), CIC 233, P Hervé, J-Y Cahn, MN Cailleux, Dr Surowka (73, 24/49)
Bobigny, Hôpital Avicenne (hem), P Casassus ()*
Bordeaux, CHU Hôpital de Bordeaux Enfants, Y Perely ()*
Brest, Centre Hospitalier, C Berthou (49, 0/49)
Caen, Hôpital Cote de Nacre (peds hem onco), P Boutard (4, 0/4)
Caen, Centre Hospitalier Régional, CIC 251, O Reman (13, 0/13)
Caen, Centre Régional François Baclesse, AM Peny (21, 0/21)
Clermont Ferrand, Hotel Dieu (peds), F Démeocq (44, 4/40) SFGM
Clermont Ferrand, Centre Jean Perrin, CIC 273, J-O Bay, (65, 8/57)
Clichy, Hôpital Beaujon, J Brière (20, 0/20) SFGM
Colmar, Hôpital civil, B Audhuy (1, 0/1) SFGM
Corbeil Essonne, Hôpital Gilles de Corbeil, A Devidas (5, 0/5)
Créteil, Hôpital H Mondor, CIC 252, C Cordonnier, M Kuentz (56, 23/33)
Dijon, Hôpital d'Enfants, D Caillot (52, 0/52)
Grenoble, Centre Hospitalier (ads, allo peds), CIC 270, JJ Sotto, L Molina, F Nicolini (52, 18/34)
Grenoble, Centre Hospitalier (auto peds), D Plantaz, M Bost (4, 0/4)
Lille, Hôpital Claude Huriez, CIC 277, F Bauters, JP Jouet (134, 45/89)
Lille, Hôpital Jeanne de Flandre, Dr Nelken (3, 0/3)
Lille, Centre Oscar Lambret (onco), Dr Depadt, Dr Defachelles (17, 0/17)
Limoges, Centre Hospitalier Dupuytren (ads), CIC 977, D Bordessoule, P Turlure (41, 0/41) SFGM

Limoges, Centre Hospitalier Dupuytren (peds), Prof De Lumley (4, 2/2)
Lyon Sud (Pierre Benite), Centre Hospitalier, B Coiffier (95, 0/95)**
Lyon, Hôpital Edouard Herriot, CIC 671, D Fiere, E Archimbaud, A Belhabri, M Michallet (76, 37/39)
Lyon, Centre Léon Bérard, CIC 241, P Biron, T Philip (69, 0/69)
Lyon, Hôpital Debrousse, CIC 806, N Phillipe, G Souillet (24, 23/1)
Marseille, Inst Paoli-Calmettes, CIC 230, D Blaise (220, 34/186)
Marseille, Hôpital d'Enfants de la Timone (onco), CIC 301, C Coze (8, 0/8)
Marseille, Hôpital d'Enfants de la Timone, G Michel (18, 15/3)
Meaux, Centre Hospitalier de Meaux, C Soussain (8, 0/8)
Metz, Thionville Hôpital Notre-Dame de Bon-Secours (hem), V Dorvaux (21, 0/21)**
Montpellier, CHU de Montpelier Hôpital Arnaud de Villeneuve, F Bernard ()*
Montpellier, Centre Rég De Lutte contre de Cancer, M Fabbro, J-B Dubois (21, 0/21)
Montpellier, CHR Lapeyronie, JF Rossi (78, 10/68)
Mulhouse, Hôpital du Hasenrain, Ph Hénon, Dr Becker (9, 0/9) SFGM
Nantes, Hotel Dieu, CIC 253, JL Harousseau, N Milpied (116, 34/82)
Nice, Hôpital de Cimiez, CIC 523, JG Fuzibet, JP Cassuto, N Gratecos (24, 10/14)
Nice, Fondation Lenval (peds), Dr Soler, Dr De Ricaud (1 patient transplanted in Marseille 1, 1/0)
Nice, Centre Antoine Lacassagne, A Thyss (21, 0/21)
Paris, Hôpital Laennec, JM Andrieu, C Le Maignan (5, 0/5)
Paris, Hôpital d'Instruction des Armées Percy, Clamart, T de Revel, G Nedellec (24, 6/18)
Paris, Hôpital Cochin, J-P Levy, F Dreyfus (25, 0/25)
Paris, Hôpital Necker des enfants malades, CIC 210, A Fischer (44, 39/5)
Paris, Hôpital St Antoine, CIC 213, C Gorin, L Fouillard (35, 5/30)
Paris, Hôpital St Louis (auto), CIC 805, G Gisselbrecht (60, 0/60)
Paris, Hôpital St Louis (allo), CIC 207, E Gluckman (75, 74/1)
Paris, Hôpital St Louis (peds), CIC 748, A Baruchel, M-F Auclerc (7, 2/5)
Paris, Hôpital St Louis (auto immuno-Haem), CIC 969, J-C Brouet, B Royer, J-P Fermand (74, 0/74)
Paris, Hôpital St Louis (auto-leuk), CIC 960, H Dombret, L Degos, P Rousselot (8, 0/8)
Paris, Hôpital Pitié Salpétière (onco), CIC 262, D Khayat (2, 0/2)
Paris, Hôpital Pitié Salpétière, CIC 262, J-P Vernant, V Leblond (82, 22/60)
Paris, Hôpital d'enfants Armand-Trousseau, G Leverger, A Auvrignon (16, 0/16)
Paris, Hôpital Tenon, JP Lotz (22, 0/22)
Paris, Hôpital Robert Debré, P Rohrlich, E Vilmer (22, 20/2)
Paris, Hôpital Necker (ads), CIC 201, B Varet, C Bélanger, A Veil (53, 28/25)
Paris, Hôtel Dieu (hem), CIC 222, J-P Marie, B Rio (36, 11/25)
Paris, Hotel Dieu (onco), Prof Bernadou, L Chauvenet (1, 0/1)
Paris, Institut Curie (ads/onco/peds), CIC 702, P Pouillart, J Michon, JM Zucker (41, 0/41)
Pessac, Hôpital Haut-Lévèque, CIC 267, J Reiffers, Dr Fabères (108, 29/79)
Poitiers, Hôpital Jean Bernard, CIC 264, A Sadoun (45, 7/38) SFGM
Pontoise, Hospital Renè Dubois, CIC 961, Dr Morvan, Y Kernéis (7, 0/7)
Reims, Hopital Robert Debré, JC Etienne (12, 0/12) SFGM
Reims, Institute Jean Godinot (onco), Dr Eymard ()*
Rennes, Hôpital Pontchaillou, C Dauriac ()*
Rennes, CHRU, Clinique Médical Infantil, E Le Gall, V Gandemer (7, 2/5)
Rouen, Centre Henri Becquerel, H Tilly, P Lenain (67, 18/49)
Rouen, Hôpital Charles Nicolle, P Tron (17, 7/10)
St Cloud, Centre René Huguenin, M Janvier (5, 0/5)
St Etienne, Hôpital Etienne, D Guyotat, JL Stephan (29, 5/24) SFGM
Strasburg, Hôpital de Hautepierre, B Lioure (74, 16/58)
Strasburg, Hospices Civils, Service de Pédiatrie 5, P Lutz (9, 6/3)
Toulouse, Hôpital de Purpan (hem), CIC 624, M Attal (98, 31/67)
Toulouse, Hôpital de Purpan (peds), A Robert (10, 0/10) SFGM
Toulouse, Centre Claudius Régaud, H Roche, C Chevreau (11, 0/11)
Tours, Hôpital Bretonneau, CIC 272, P Colombat (78, 0/78)
Valenciennes, Hosp De Valenciennes, Dr M Simon ()*
Vandeuvre-les-Nancy, Hôpital d'Enfants, P Bordigoni (50, 33/17)
Vandeuvre-les-Nancy, CHU Nancy-Brabois (hem auto), P Lederlin, F Witz (49, 0/49)
Villejuis, Institut G. Roussy (ads and peds), CIC 503, O Hartmann; CIC 666, JL Pico (119, 23/96)
Villejuif, Hôpital Paul Brousse, B Delmas-Marsalet (9, 0/9)

Georgia: no report

Germany (100 teams; 3637, 1416/2221)
Aachen, Universitätsklinikum RWTH, Med Klinik IV, R Osieka (12, 0/12)
Augsburg, Zentralklinikum, Med Klinik II, G Schlimok (29, 2/27)
Bad Saarow, Humaine Klinikum, G Schultze (40, 2/38)
Berlin, Universitätsklinikum Charité Campus Mitte, II Med Klinik, CIC 807, R Arnold (62, 38/24)
Berlin, Univ Charité der Humboldt Universität Campus, Robert-Rössle Klinik (onco), CIC 518, B Dörken (21, 0/21)
Berlin, Charité Virchow Klinikum (peds), CIC 336, W Ebell (33, 28/5)
Berlin, Charité Virchow Klinikum (ads), CIC 293, W Siegert (76, 29/47)
Berlin, Universitäts-Klinik der FU Benjamin Franklin, CIC 590, W Knauf, E Thiel (32, 10/22)

Bielefeld, Bethel KKS Gilead, U Krümpelmann, FK Lindemann (4, 0/4)
Bielefeld, Franziska Hospital, Prof Weh (8, 0/8)
Bonn, Med Uni Klinik Bonn, T Sauerbruch, I Schmidt-Wolf, R Kleinschmidt (20, 0/20)
Bonn, Universitäts Kinderklinik, U Bode, C Hasan (9, 0/9)
Bremen, CIC 602, ZKK St Jürgen-stasse, C Meier, H Rasch (17, 0/17)
Bremen, DIAKO, DRST 28001, Dr Wolff, KH Pflüger (16, 0/16)
Chemnitz, KH Küchwald, F Fliedler (10, 0/10)
Cottbus, Carl-Thiem Klinikum, Med Klinik II, Ch Rudolf (25, 0/25)
Dortmund, St Johannes Hospital, H Plelken (3, 0/3)
Dresden, Universitätsklinikum Carl Gustav Carus, CIC 808, G Ehninger (150, 92/58)
Duisburg, St Johannes Hospital, CIC 519, M Westerhausen, J Anhuf (22, 0/22)
Duisburg, Klinikum Kalkweg (onco), H Gerhartz (1, 0/1)
Düsseldorf, Heinrich-Heine Universität; Zentrum für Kinderheilkunde, CIC 651, U Gobel, W Nürnberger (25, 18/7)
Düsseldorf, Heinrich-Heine Universität; Medizinische Klinik (haem, onco), CIC 390, C Aul, A Heyll, R Haas (104, 29/75)
Erlangen, Universitäts-Klinik für Kinder und Jugendliche, CIC 809, JD Beck, J Greil (6, 6/0)
Erlangen, Universität Erlangen-Nuremberg, Med Klinikum III, CIC 809, M Gramatzki, W Roesler (30, 9/21)
Eschweiler, St Antonius Hospital, Prof Fuchs (5, 0/5)
Essen, Evangelisches Krankenhaus Essen-Werden GmbH, CIC 784, W Heit (74, 0/74)
Essen, Universitäts-Klinik (hem), G Brittinger, U Dührsen, R Noppeney, J Novotny (11, 0/11)
Essen, West German Cancer Center, S Seeber, A Harstrick, P Bojko (78, 0/78)
Essen, Universitäts-Klinik (ads, peds), CIC 259, UW Schaefer, DW Beelen, V Runde, B Kremens, W Havers, O Basu (146, 130/16)
Frankfurt aM, JW Goethe-Universität (ads, peds), CIC 297, D Hoelzer, H Martin B Kornhuber, D Schwabe (55, 34/21)
Frankfurt, KH Nordwest, A Knuth, E Jäger (4, 0/4)
Freiburg i Br, Universitätsklinik (ads), Med Klinik I, CIC 810, J Finke, W Lange, S Fetscher (130, 69/61)
Freiburg i Br, UniversitätsKinderklinik, CIC 810, C Niemeyer, M Brandis, U Duffiser, B Bächle (20, 16/4)
Göttingen, Georg-August Universität, T Hiddemann, B Wörmann (41, 0/41)
Greifswald, Ernst-Moritz-Arndt Universität (ads + peds), CIC530, G Dölken (26, 8/18)
Gütersloh, Städtkrankenhaus, C Gropp (9, 0/9)
Hagen, Kath Krankenhaus, H Eimermacher, HW Lindemann (8, 0/8)
Halle, Martin Luther Universität, CIC 338 + CIC 654, H-J Schmoll, Dr Wolf, S Burdach (17, 0/17)
Hamburg, Allgemeines Krankenhaus, D Braumann, K Hümmel (13, 0/13)
Hamburg, Eppendorf-Krankenhaus (hem, onco), CIC 673, D Hossfeld (42, 0/42)
Hamburg, Eppendorf-Krankenhaus (KMT) CIC 614, AR Zander (83, 70/13)
Hamburg, KH St George, Dr Lamersdorf, R Kuse (4, 0/4)
Hameln, Kreiskrankenhaus Hameln, H Schmidt (10, 0/10)
Hannover, Medizinische Hochschule, CIC 295, A Ganser, B Hertenstein (66, 32/34)
Hannover, Medizinische Hochschule, Abt Kinderheilkunde, CIC 295, A Reiter, K Welte (26, 19/7)
Hannover, KH Siloah, H Kirchner (16, 0/16)
Heidelberg, Ruprecht-Karls Universitäts-Poliklinik, CIC 524, AD Ho (180, 29/151)
Homburg/Saar, Universität des Saarlandes, CIC 785, L Trümper, M Pfreudschuh (43, 18/25)
Idar-Oberstein, Klinik für Hëmato-/Onkologie, CIC 592, AA Fauser (79, 73/6)
Jena, Klinik fur Innere Medizin II, CIC 533, HG Sayer, K Hoeffken (55, 21/34)
Jena, Universitäts-Kinderklinik, CIC 750, F Zintl, D Fuchs (19, 16/3)
Kaiserslautern, Westpfalzklinikum, F-G Hagmann, H Link, C Wollermann (16, 0/16)
Karlsruhe, Städtisches Klinikum, J Fischer (9, 0/9)
Kassel, Städtische Kliniken, WD Hirschmann, K Schultes (7, 0/7)
Kiel, Christian-Albrechts-Universität (ads, peds), CIC 256, N Schmitz, J Schaub, M Suttorp (89, 22/67)
Köln, Kinderonkologie der Universitäts-Klinik, F Berthold (2, 0/2)
Köln, Universitäts-Klinik, CIC 534, V Diehl, D Söhngen, Ch Scheid (46, 1/45)
Krefeld, Klinikum Krefeld, Med Klinik III, M Planker, R Peceny (8, 0/8)
Leipzig, Universitäts-Klinik, D Niederwieser, W Helbig, R Krahl (107, 73/34)
Lemgo, Klinikum Lippe, HP Lohrmann (11, 0/11)
Lübeck, Städt KH Sud, M Thalheimer, H Bartels (8, 0/8)
Lübeck, Med Universität, T Wagner (19, 0/19)
Lübeck, Klinik für Kinder und Jugendmedizin, P Bucsky, Ch Schultz, K Kruse (2, 0/2)
Magdeburg, Otto-von-Guericke Universität, A Frank, H-G Höffkese (14, 0/14)
Mainz, Medizinische Klinik der Universität, CIC 786, C Huber, K Kolbe, H-G Derigs (97, 43/54)
Mannheim, III Med Klinik, R Hehlmann (7, 0/7)
Marburg, Med Universitätsklinik der Philipps Universität, CIC 645, A Neubauer, R Weide, U Kaiser (45, 15/30)
Minden/Westfallen, Med Klinik, H Bodenstein (19, 0/19)
Mönchengladbach, KH Maria Hilf II, G Trenu, D Kohl, H-E Reis (4, 0/4)
Munich, Städt Krankenhaus Schwabing (peds), L Stengel-Rutkowski (7, 5/2)
Munich, Klinikum Innenstadt, B Emmerich, C Straka (34, 0/34)
Munich, Klinikum Grosshadern (ads) CIC 513, H-J Kolb (157, 107/50)
Munich, Klinikum Grosshadern (peds), CIC 513, C Bender-Götze (9, 6/3)
Munich, Dr v Haunersches Kinderspital (hem and onco) RJ Haas, D Stachel, Dr Schmid (11, 10/1)
Munich, SKH München-Harlaching, R Hartenstein, N Brack (11, 0/11)
München, SKH München-Schwabing, Ch Nerl, N Fischer (21, 0/21)

München, Klinikum rechts der Isar, M Sandherr C Peschel (42, 0/42)
Münster, Westfälische Wilhelms-Universitäts Klinik, Innere Med. CIC 680, W Berdel, J Kienast, Th Büchner, H Ostermann (88, 21/67)
Münster, Westfälische Wilhelms-Universitäts kinderkKlinik (hem and onco), CIC 505, H Jürgens, M Paulussen, J Vormoor (15, 1/14)
Neuss, Lukaskrankenhaus, T Wieberding, P Czygan (4, 0/4)
Nürnberg, Klinikum, CIC 625, H Wandt, K Schäfer-Eckart (40, 12/28)
Offenburg, Klinikum Offenburg, Med Klinik III, B Weber, F Hirsch (0, 0/0)
Oldenburg, Städtische Kliniken, CIC 749, B Metzner (45, 0/45)
Osnabrück, Paracelsus Klinik, OM Koch, G Innig (2, 0/2)
Potsdam, Klinikum Potsdam, A Haas, R Pasold (9, 0/9)
Regensburg, Universitäts Klinikum, CIC 787, E Holler, R Andreesen, A Reichle (105, 38/67)
Rostock, Universitäts Klinikum, CIC 585, M Freund, J Casper (50, 18/32)
Stuttgart, Bürgerhospital, H Benöhr, W Grimminger, D Hahn, (15, 0/15)
Stutttgart, Olgahospital, Pädiatrisches Zentrum, CIC 701, U Gross, J Treuner, E Koscielniak (5, 0/5)
Stuttgart, Diakonissen Krankenhaus, E Heidemann (6, 0/6)
Stuttgart, Robert-Bosch-Krankenhaus, CIC 145, S Martin, W Aulitzky (30, 0/30)
Stuttgart, Katharinenhospital, U Rüther, H Fiechtner, J Schleicher, H-G Mergenthaler (10, 0/10)
Tübingen, Medizinische Universitäts-Klinik, CIC 223, L Kanz, W Brugger, C Faul (123, 59/64)
Tübingen, Medizinische Universitäts-Klinik, Abteilung Pädiatrie, CIC 535, D Niethammer, T Klingebiel (44, 35/9)
Ulm, Medizinische Universitäts-Klinik, CIC 204, D Bunjes (79, 44/35)
Ulm, Kinderklinik der Universität, CIC 204, W Friedrich (47, 45/2)
Wiesbaden, Deutsche Klinik für Diagnostik, CIC 311, R Schwerdtfeger (69, 63/6)
Wiesbaden, Dr Horst-Schmidt Klinikum, CIC 586, N Frickhofen (13, 0/13)
Wuppertal, Klinikum Wuppertal (St Antonius), A Raghavachar (2, 0/2)
Würzburg, Universitätsklinikum, Würzburg, M Wilhelm, K Wilms, M Braun (19, 0/19)

Greece (11 teams; 192, 81/111)
Alexandroupolis, Thrace University Medical School (Haem), G Bourikas (2, 0/2)
Athens, Hellenic Cancer Institute St Savas, CIC 751, A Efremedis, M Stamatellou, K Papanastassiou, M Pouli (40, 5/35)
Athens, 'Aghia Sophia' Children's Hospital, CIC 752, S Graphakos (27, 17/10)
Athens, Evanghelismos Hospital, CIC 622, D Karakasis, A Skandalis, N Harhalakis, E Nikiforakis (46, 32/14)
Athens, Diagnosis and Therapy Centre 'Hygeia', Maroussi, CIC 643, G Karianakis (12, 4/8)
Athens, Medical Center, CIC 603, A Pigadito, (2, 0/2)
Athens, University of Athens, CIC 604, I Dervenoulas (1, 0/1)
Athens, Laikon General Hospital, CIC 328, Y Rombos, N Stavroyianni, V Kalotychou (10, 0/10)
Crete, University Hospital of Heraklion (peds, hem-onco), CIC 352, M Kalmanti (0, 0/0)
Thessaloniki, The George Papanicolaou General Hospital, CIC 561, AS Fassas (45, 22/23)
Patras, University Medical School, NC Zoumbos, M Tiniakou (7, 1/6)

Hungary (4 teams; 103, 35/68)
Budapest, National Institute of Hematology, CIC 504, K Palocz, R Denes (21, 10/11)
Budapest, Szent Laszlo Hospital, CIC 739, T Masszi, P Reményl, G Kriván (68, 22/46)
Miskolc, Postgraduate Medical School (peds), CIC 599, N Kalman, K Kiss, G Marton (13, 3/10)
Pécs, University of Péfz, CIC 682, H Losonczy (1, 0/1)

Iceland (1 team; 0, 0/0)
Reykjavik, National University Hospital, CIC 605, S Reykdal (0, 0/0) starting in 2000

Iran (1 team; 54, 33/21)
Teheran, Shariati Hospital (Hem-Onco), CIC 633, A Ghavamzadeh (54, 33/21)

Ireland (3 teams; 58, 45/13)
Dublin, St James's Hospital, CIC 257, SR McCann (49, 38/11)
Dublin, St Vincent's Hospital, CIC 541, J Crown ()*
Dublin, Our Lady's Hospital of Sick Children, Crumlin, CIC 774, A O'Meara (9, 7/2)

Israel (5 teams; 363, 150/213)
Haifa, Rambam Medical Center, J Rowe (126, 40/86)
Jerusalem, Hadassah University Hospital, CIC 258, R Or, S Slavin (114, 80/34)
Petach-Tikva, Children's Medical Center, CIC 755, J Stein (33, 15/18)
Revohot, Kaplan Hospital, CIC 327, A Berribi (10, 0/10)
Tel Aviv, University, Chaim Sheba Medical Center (hem) CIC 754, I Ben-Bassat (80, 15/65)

Italy (95 teams; 2918, 810/2108)
Alessandria, SS Antonio e Biagio e C Arrigo, CIC 825, A Levis, A Allione, M Pnin, F Salvi (10, 0/10)
Ancona, Ospedale Toarette, CIC 788, P Leoni, A Olivieri (39, 2/37)
Ancona, Ospedale Toarette (onco), CIC 229, Prof Cellarini (0, 0/0)
Avellino, Giovanni di Guglielmo, CIC 789, E Volpe (16, 0/16)
Avezzano, Ospedale Civile di Avezzano, CIC 921, F Recchia (8, 0/8)
Bari, Policlinico, CIC 649, V Pavone, V Liso (7, 1/6)
Bergamo, Ospedale Riuniti, CIC 658, T Barbui (65, 16/49)
Bologna, St Orsola-Malpighi (haem), CIC 240, G Bandini, G Rosti, S Rizzi (131, 41/90)
Bologna, St Orsola-Malpighi, Oncologia Medica, CIC 657, A Martoni, C Zamagni (14, 0/14)
Bologna, Clinica pediatrica III, CIC 790, A Pession (21, 12/9)

Bolzano, Ospedale S Maurizio, CIC 299, P Coser (38, 2/36)
Brescia, Ospedali Civili, CIC 288, T Izzi (25, 2/23)
Brescia, Università, CIC 741, F Porta (14, 14/0)
Brindisi, Perrino Hospital, CIC 920, G Quarta, S Pinna (5, 0/5)
Cagliari, Ospedale Oncologica, CIC 791, G Broccia, P Dessalvi (45, 9/36)
Cagliari, II Clinica Pediatrica, CIC 820, F Argiolu, A Cao (13, 11/2)
Cagliari, Cattedra di Genetica, University of Cagliari CIC 811, L Contu, G La Nasa (3, 2/1)
Catania, Università, CIC 792, R Giustolisi, G Milone (30, 11/19)***
Cremona, Medicina II, CIC 226, S Morandi (12, 0/12)
Cuneo, Hospital S Croce E Carle (hem), CIC 606, A Gallamini (19, 2/17)
Cuneo, Hospital S Croce E Carle (onco), CIC 355, P Lacura (0, 0/0)
Ferrara, St Anna Hospital, CIC 330, F Lanza, G Castoldi (21, 0/21)
Firenze, Policlinico di Careggi, CIC 304, A Bosi (66, 30/36)
Firenze, Azienda Ospedale, 'A Meyer', CIC 600, L Faulkner (14, 0/14)
Forli, Morgagni-Pierantoni Hospital, CIC 298, GL Frassineti, D Amadori (19, 0/19)
Genova, Ospedale S Martino, CIC 217, A Bacigalupo, A Carella, G Santini (143, 73/70)
Genova, Istituto Giannina Gaslini, CIC 274, G Dini (43, 21/22)
Genova, Università, CIC 139, F Patrone (40, 0/40)
Genova, 1st Nat per la Ricercas Cancro, CIC 340, M Venturini (6, 0/6)
Latina, Ospedale S Maria Goretti, A De Blasio (7, 0/7)
Lodi, Ospedale Maggiore Lodi, G Nalli, V Fregoni, (9, 0/9)
Milano, Istituto Scientifico HS Raffaele, CIC 813, C Bordignon (25, 11/14)
Milano, Istituto Nazionale Tumori, CIC 616, A Gianni (49, 0/49)
Milano, Università, CIC 265, G Lambertenghi Deliliers (37, 18/19)
Milano, 1st Nat del Tumore, CIC 381, R Luksch (25, 0/25)
Milano, Ospedale di Niguarda, CIC 294, P Marenco, R Cairoli (35, 11/24)
Milano, Ospedale di Niguarda (hem/oncoST), CIC 294/2, S Siena, P Pedrazzoli, R Schiavo (15, 0/15)
Milano, Istituto Europeo di Oncologia, CIC 331, G Martinelli (113, 0/113)
Milano, Ospedale Fatebenefratelli e Oftalmico (onco), CIC 269, A Scanni, C Bianchi, D Pedretti (5, 0/5)
Milano, 1st Clinico Humanitas (hem-onco), CIC 354, A Santoro, L Castagna (55, 4/51)
Milano, S. Carlo Borromeo Hospital (onco), L Tedeschi (0, 0/0)
Modena, University of Modena, CIC 543, F Narni, A Donelli, R Sabbatini (34, 1/33)
Monza, Ospedale S Gerardo, CIC 279, C Uderzo (30, 20/10)
Monza, Inst Di Scienze Biomediche, CIC 544, P Pioltelli, E Pogliani (39, 11/28)
Napoli, Div. Di Oncologia, CIC 313, C Battista, G Pacilio, B Chiurazzi, G Iodice (18, 0/18)
Napoli, Università, CIC 766, B Rotoli, C Selleri, G De Rosa (31, 13/18)
Napoli, Hospital 'Pausilipon' (hem peds), CIC 341, V Poggi, M Ripaldi (3, 1/2)
Napoli, Cardarelli Hospital (hem), CIC 607, F Ferrara (21, 0/21)
Nuoro, Ospedale San Francesco, CIC 793, A Gabbas, A Palmas (12, 0/12)
Orbassano, Ospedale San Luigi Gonzaga, G Saglio (25, 0/25)
Padova, Centro Leucemie Infantili, CIC 285, C Messina, S Cesaro (26, 16/10)
Padova, Centro Oncologia Regionale, CIC 319, S Aversa, S Monfardini (12, 0/12)
Palermo Policlinico (hem), CIC 814, M Mariani (55, 10/45)
Palermo, Ospedale V Cervello, CIC 392, I Majolino, R Scimè, A Cavallaro (72, 23/49)
Palermo, Ospedale 'La Maddalena', M Musso, F Porretto, A Crescinanno (0, 0/0)
Parma, Ospedaliera Di Parma (onco), CIC 364, G Cocconi, V Franciosi, G Vasini (0, 0/0)
Parma, Università degli studi, CIC 245, V Rizzoli (24, 4/20)
Pavia, Policlinico S Matteo (hem), CIC 286, C Bernasconi (65, 30/35)
Pavia, Policlinico St Matteo peds), CIC 557, F Locatelli (54, 36/18)
Pavia, Policlinico St Matteo (onco), CIC 562, E Ascari, M Danova (27, 0/27)
Pavia, Fondazione Clinica del Lavoro, CIC 771, A Zambelli, G Robustelli della Cuna (32, 1/31)
Perugia, Silvestrini Hospital, A Amici (3, 1/2)
Perugia, Policlinico Monteluce, Università, CIC 794, MF Martelli, F Aversa (99, 60/39)
Perugia, Policlinico Monteluce, CIC 573, F Grignani (14, 0/14)
Pesaro, Ospedale, CIC 529, G Lucarelli (53, 40/13)
Pescara, Ospedale Civile, CIC 248, P di Bartolomeo (35, 33/2)
Pisa, University of Pisa (Ads hem, peds hem and onco), CIC 795, P Macchia, M Petrini, (34, 15/19)
Pisa, St Chirara Hospital (ads onco) CIC 320, PF Conte, C Bengala (21, 2/19)
Ravenna, Ospedale Civile, CIC 306, G Rosti (49, 0/49)
Reggio di Calabria, Azienda Ospedale 'Riuniti e Morelli', CIC 587, P Lacopino (84, 10/74)
Roma, Università S. Eugenio, CIC 756, S Amadori, L Cudillo (41, 15/26)
Roma, Università 'La Sapienza', CIC 232, W Arcese, F Mandelli, G Meloni (100, 46/54)
Roma, Università Cattolica, CIC 307, S Cuore, S Sica, G Leone (52, 15/37)
Roma, Ospedale Bambino Gesu, CIC 796, G Deb (17, 0/17)
Roma, Ospedale S. Camillo, CIC 287, A De Laurenzi (39, 7/32)
Roma, Ospedale Bambino Gesu, G De Rossi (12, 7/5)
San Giovanni Rotondo, Hospital Casa Sollievo Sofferenza (onco), CIC 314, G Lelli (14, 0/14)

San Giovanni Rotondo, Hospital Casa Sollievo Sofferenza (hem), CIC 526, MM Greco (27, 2/25)
San Giovanni Rotondo, Hospital Casa Sollievo Sofferenza (peds), CIC 350, P Paolucci (6, 0/6)
Siena, Ospedale Sclavo, CIC 321, F Lauria (27, 0/27)
Taranto, Ospedale Nord, CIC 332, P Mazza, G Palazzo, B Amurri (43, 6/37)
Taranto, Ospedale SS Annunziata, Dr Pezzella (0, 0/0)
Torino, S Giovanni Antica Swde Hospital, M Airoldi (0, 0/0)
Torino, Ospedale Mauriziano Umberto 1, CIC 377, M Aglietta, A Capaldi; G Garetto (18, 0/18)
Torino, University Hospital of Turin, San Giovanni Battista, CIC 231, M Falda, F Locatelli (59, 28/31)
Torino, Dept of Pediatrics, University, CIC 305, E Madon, F Fagioli (28, 8/20)
Trieste, Istituto per l'Infanzia, Clinical Pediatrica, M Andolina, A de Manzini (17, 5/12)
Udine, Policlinico Universitario, CIC 705, M Baccarani, R Fanin, A Geromin (69, 19/50)
Venezia, Ospedale Civile Riuniti de Venezia, CIC 502, T Chisesi, M Vespignani, M Chinello (21, 0/21)
Venice, Civic Hospital (onco), CIC 563, O Vinante, G Azzarello (18, 0/18)
Verbania Pallanza, Ospedale di Verbania, M Bersi (4, 0/4)
Verona Ospedale Civile Maggiore (onco), GL Cetto (4, 0/4)
Verona, Policlinico di Borgo Roma, CIC 623, G Perona (44, 17/27)
Vicenza, Ospedale S Bortolo (hem), CIC 797, R Raimondi, F Rodeghiero (47, 18/29)
Vicenza, Ospedale S Bortolo (onco), CIC 347, V Fosser, P Morandi, P Ruffini (0, 0/0)

Latvia: no report

Liechtenstein: no report

Lithuania: (1 team; 2, 2/0)
Vilnuis, University Hospital (hem), 1 Trociukas (2, 2/0)

Luxemburg (2 teams; 0/42)
Centre Hospitalier, M Dicato (35, 0/35)
Esch-Airette, Hopital de la Ville Esch/Alzette, CIC 545, F Le Moine (7, 0/7)

Macedonia: (1 team 0, 0/0)
Skopje, Medical Faculty (haem), B Georgievski (0, 0/0) starting in 2000

Malta: no report

Moldova: no report

Monaco: no report

Netherlands (14 teams; 601, 257/344)
Amsterdam, Free University Hospital (Haem), CIC 588, GM Ossenkoppele (55, 10/45)
Amsterdam, Free University Hospital (onco), CIC 380, E van der Wall (0, 0/0)
Amsterdam, Academic Medical Center (ads, peds), CIC 247, J van der Lelie, H van den Berg (peds) (29, 6/23)
Amsterdam, The Netherlands Cancer Institute, CIC 976, S Rodenhuis J Baars (25, 0/25)
Groningen, University Hospital (onco),m CIC 395, E de Vries (55, 10/45)
Groningen, University Hospital (hem), CIC 546, E Vellenga (41, 0/41)
The Hague, Leyenburg Hospital, CIC 547, PW Wijermans (7, 0/7)
Leiden, University Medical Centre (ads, peds), CIC 203, J Vossen, R Willemze, (100, 72/27)
Maastricht, University Hospital (haem, onco), CIC 565, HC Schouten, J Wagstaff (33, 15/18)
Nijmegen, University Hospital (ads, peds, onco), CIC 237, A Schattenberg, L Beex, P Hoogerbrugge (77, 44/33)
Rotterdam, Dr Daniel den Hoed Cancer Center, CIC 246, JJ Cornelissen (62, 36/26)
Utrecht, University Hospital (ads and peds), CIC 239, LF Verdonck, NM Wulffraat, D Biesma (93, 64/29)
Zwolle, Isala Klinieken/Sophia Ziekenhuis, CIC 548, M von Marwijk Kooy, (11, 0/11)
Enschede, The Medisch Spectrum Twente, CIC 360, Dr Schaafsma (13, 0/13)

Norway (5 teams; 117, 44/73)
Bergen, Haukelands Sjukhus, P Ernst (8, 0/8)
Oslo, Rikshospitalet, CIC 235, D Albrechtsen, L Brinch (62, 44/18)
Oslo, The Norwegian Radium Hospital, CIC 782, S Kvaloy (21, 0/21)
Oslo, Ullevals Sjukhus (haem), F Wisslöf, J-M Tangen (12, 0/12)
Trondheim, Regionsjukhuset, J Hammerstrom (14, 0/14)

Poland (13 teams; 410, 146/264)
Gdansk, Medical University, CIC 799, A Hellmann (44, 18/26)
Katowice, Silesian Medical Academy, CIC 677, J Holowiecki (124, 31/93)
Krakow, CMUJ, CIC 553, A Skotnicki, (33, 6/27)
Lublin, Ped Hem Onco, CIC 678, J Kowalczyk, (20, 1/19)
Lublin, University Medical School, CIC 695, A Dmoszykska, M Wach, A Walter-Croneck, W Legiec (16, 0/16)**
Poznan, Medical Academy, CIC 730, J Hansz (50, 27/23)
Poznan, Institute of Pediatrics, CIC 641, J Wachowiak (16, 16/0)
Warsaw, Central Clinical Hospital, Military Medical Academy, CIC 816, K Sulek (10, 4/6)
Warsaw, Maria Sklodowska-Curie, Centre of Oncology, CIC 800, J Walewski (23, 1/22)
Warsaw, Inst of Haematology and Blood Transfusion, CIC 693, B Marianska, L Konopka (10, 1/9)
Warsaw, Central Clinical Hospital, CIC 954, W Wiktor-Jedrzejczak, A Dzwigala, M Rokicka-Piotrowicz (10, 1/9)
Wroclaw, University of Medicine, Dept of Children, CIC 817, J Boguslawska-Jaworska (30, 14/16)
Wroclaw, K Diuske Hospital, CIC 538, A Lange (40, 26/14)

Portugal (7 teams; 181, 70/111)
Coimbra, University Hospital, N Costa (18, 0/18)**
Lisbon, Instituto Portugues de Oncologia, CIC 300, M Abecasis, F Leal Costa (59, 20/39)
Lisbon, Hospital de Santa Maria, CIC 636, J Alves do Carmo, F de Lacerda (38, 16/22)
Lisboa, Hospital dos Capuchos, JP Fernandes (20, 0/20)
Porto, Instituto Portugues de Oncologia, CIC 291, P Pimentel, F Campilho (54, 34/20)

Porto, Hospital S Joao (hem), CIC 329, F Principe (8, 0/8)
Porto, Faculty of Medicine of Porto, Hospital S Joao (Onco), CIC 572, JE Guimaraes (2, 0/2)

Romania: ()
Bucharest, Fundeni University Hospital, CIC 296, AD Moicean, D Colita, C Arion ()* new team

Russia (14 teams; 134, 23/11)
Ekaterinburg, City Hospital No. 7, LB Filatov (1, 0/1)
Ekaterinburg, Regional Hospital No. 1, TS Konstantinova, VA Shalaev (5, 0/5)
Moscow, Institute of Biophysics, AE Baranov (11, 3/8)
Moscow, Cancer Research Center, CIC 757, V Ptuschkin (13, 0/13)
Moscow, Cancer Research Center peds Hem/onco, G Mentrevich, (22/ 2/20)
Moscow, Russian Children's Hospital, CIC 694, A Maschan, E Skorobogato, E Pachanov (17, 13/4)**
Moscow, Research Hematology Center of RAS, VG Savtchenko (21, 10/11)
Novosibirsk, Institute of Clinical Immunology, CIC 376, I Lisukov (7, 0/7)
Samara, Regional Hospital, VA Rossiev (13, 5/8)
St Petersburg, Research Institute of Hematology, CIC 724, KM Abdulkadirov (9, 2/7)
St Petersburg, Military Medical Academy, CIC 520, A Novik (4, 0/4)
St Petersburg, Clinical Center for Advanced Medical Tech, CIC 370, E Podoltseva, V Soldatenkov, O Ryasnyanskaya (13, 1/12)
St Petersburg, State Pavlov Medical University, CIC 725, BV Afanassiev, L Zubarovskaya (13, 0/13)
Yaroslavl, City Hospital No 8, VA Lapin (2, 0/2)

San Marino: no report

Slovakia (4 teams; 112, 24/88)
Bansra Bystrica, Roosevelt Hospital, CIC 333, K Mocikova (22, 1/21)
Bratislava, 2nd Children's Clinic, University Hospital, J Lukac (9, 3/6)
Bratislava, University Hospital, CIC 610, M Mistrik (34, 19/15)
Bratislava, National Cancer Institute, CIC 560, J Lakota (47, 1/46)

Slovenia (1 team; 21, 11/10)
Ljublijana, University Medical Centre, CIC 640, J Pretnar (21, 11/10)

Spain (76 teams; 1957, 430/1527)
Alicante, Hospital General, C Rivas-Gonzales (10, 0/10)
Barcelona, Instituto de Oncologia Corachan, D Alfonso-Modolell (11, 0/11)
Barcelona, Santa Creu I Sant Pau (adults), CIC 260, J Sierra, S Brunet (73, 28/45)
Barcelona, Santa Creu I Sant Pau (peds), CIC 260, I Badell Serra, J Cubells-Riero (7, 2/5)
Barcelona, Santa Creu I Sant Pau (onco), CIC 260, Dr JJ Lopez, C Solà (0, 0/49)
Barcelona, Hospital Sant Joan de Deu, CIC 668, J Estella Aguado, (8, 0/8)
Barcelona, Hospital Duran i Reynals (Hem), Institut Catala d'Oncologia, CIC 759, A Granena, C Ferra, J Berlanga (46, 16/30)
Barcelona, Hospital General 'Vall d'Hebron', CIC 583, A Julia Font (49, 7/42)
Barcelona, Hospital Mutua de Terrasa (hem-onco), CIC 556, J Marti (8, 0/8)
Barcelona, Hospital Universitario Germans Trias i Pujol, CIC 613, J Ribera (0, 0/0) starting in 2000
Barcelona, Hospital M Infantil, CIC 527, J Ortega (49, 20/29)
Barcelona, Hospital Clinic, CIC 214, E Montserrat, E Carreras (91, 28/63)
Barcelona, Instituto Hematologico Torre Vilana, CIC 777, P Vivancos (7, 0/7)
Barcelona, Instituto Dexeus (hem), CIC 670, A Granena, J Sarra, J Garcia ()*
Cadiz, Hospital del SAS de Jérez, A Leon (53, 0/53)
Cadiz, Hospital Universitario 'Puerta del mar', CIC 679, J Gil, (20, 0/20)
Canary Isles, Hospital Insular Las Palmas, CIC 335, F Fernandez-Fuentes, J Gonzalez-San Miguel (8, 0/8)
Canary Isles, Hop, Materno-Infantil Las Palmas (haem, onco), J Lodos Rojas, A Molinés (1, 0/1)
Canary Isles, Hospital Universitario de Canarias, Santa Cruz de Teneriffe, L Hernandez Nieto, MT Hernandez Garcia (11, 0/11)
Canary Isles, Hospital Nostra Senora del Pino, Las Palmas, JJ Malcorra, R Mataix, C Campo ()*
Castellon de La Plana, Hospital general de castellon (haem), R Garcia-Boyero (8, 0/8)
Cordoba, Hospital de la Cruz Roja de Cordoba (haem), J-M Garcia-Castellano (2, 0/2)
Cordoba, Hospital Reina Sofia, CIC 238, A Torres Gomez (61, 30/31)
Cruces-Barakaldo, Hospital de Cruces, I Zuazua-Verde ()*
Galdakao, Hospital de Galdakao, Hem, J Ojanguren, K Atucha (12, 0/12)
Granada, Hospital Virgen de la Nieves, JM de Pablos (37, 9/28)
Jaen, Hospital Cuidad de Jaen (haem), ()*
La Coruna, Complexo Hospitalario Juan Canalejo, FJ Batlle, C Ramirez, P Torres, R Varela (29, 2/27)
Lérida, Hospital Arnan de Villanova, J Macia (9, 0/9)
Lugo, Hospital Xeral-Calde, M Gonzales-Lopez (6, 0/6)**
Madrid, Clinica La Luz, H Cortés-Funes, J Hornedo (10, 0/10)
Madrid, Clinica Moncloa (hem), JM Fernandez, Q Escudero (15, 0/15)
Madrid, Hospital Universitario de Getafe (hem), O Compan, C Monteserin, J Vels, N Somolinos, I Delgado (6, 0/6)
Madrid, Hospital Universitario San Carlos, CIC 733, J Diaz Mediavilla, L Llorente (16, 0/16)
Madrid, Hospital Univ San Carlos, CIC 733, M Martin, E Diaz-Rubio, A Casado, JA Lopez-Martin (21, 0/21)
Madrid, Hospital Ruber Internacional, J Diaz Mediavilla (2, 0/2)
Madrid, Unidad de TMO-ONC 4, Hospital Gregorio Maranon, CIC 819, JL Diez Martin (34, 7/27)
Madrid, Clinica Ruber, JM Fernandez-Ranada, Q Escudero (15, 0/15)

Madrid, Hospital de la Princesa, CIC 236, JM Fernández Rañada, A Figuera, A Alegre (67, 31/36)
Madrid, Clinica Puerta de Hierro, CIC 728, MN Fernandez (32, 17/15)
Madrid, Hospital General La Paz (ads), F Hernandez Navarro, E Ojeda (47, 10/37)
Madrid, Hospital Doce de Octubre, JJ Lahuerta (hem), H Cortés Funes (onco), J Lopez Perez (peds) (67, 7/60)
Madrid, Hospital Nino Jesus, LM Madero (29, 14/15)
Madrid, Hospital La Paz Infantil, CIC 734, A Martinez-Rubio, A Sastre, P Garcia-Miguel (18, 7/11)
Madrid, Hospital Ramon y Cajal (peds) A Munoz Villa, MS Maldonado (12, 6/6)
Madrid, Hospital Ramon y Cajal (ads), CIC 615, J Odriozola, J Pérez de Oteyza, J Lopez, J Garcia Larana (36, 12/24)
Madrid, Fundacion Jiminez Diaz, J Tomas, C Paniagua, F Lobo (15, 5/10)
Madrid, Hospital Militar Gomez Ulla, F Sancho-Cuesta, S Enrech-Frances (7, 0/7)
Malaga, Hospital Regional, CIC 576, J Maldonado (44, 23/21)
Murcia, Hospital Virgen de la Arrivxaca, CIC 323, R Candel Parra (23, 0/23)
Murcia, Hospital General, CIC 735, JM Moraleda, V Vicente-Garcia, I Heras (29, 10/19)
Orense, Hospital Cristal-Pinor (hem), J-L Sastre-Moral, M Vazquez (16, 0/16)
Oviedo, Hospital Covadonga, CIC 642, D Carrera Fernandez, C Rodriguez Pinto (23, 4/19)
Palma de Mallorca, Hospital Son Dureta, CIC 722, J Besalduch, HS Dureta (21, 3/18)
Palma de Mallorca, Policlinica Miramar, J Besalduch, A Sampol (8, 0/8)
Pamplona, Hospital Provincial de Navarra, CIC 577, E Pérez Equiza, MJ Uriz Pascual, J Gastearena (23, 0/23)
Pamplona, Clinica Universitario de Navarra, CIC 737, J Rifon (19, 4/15)
Pontevedra, Hospital Montecelo, CIC 549, M Constela (18, 0/18)
Salamanca, Complejo Hospital, CIC 727, D Caballero (86, 24/63)
San Sebastian, Hospital Nostra Senora de Aranzazu, CIC 598, J Marin, D Martinez (38, 6/32)
Santander, Hospital Universitario M de Valdecilla, CIC 242, A Iriondo, E Conde, E Bureo, A Zubizarreta-Pina (69, 22/47)
Sant Cugat des Vallés, Hospital General de Cataluna, M Sureda-Gonzales (10, 0/10)**
Santiago de Compostela, Hospital Xeral de Galicia, CIC 570, JL Bello (18, 5/13)
Sevilla, Hospital Universitario Virgen del Rocio, CIC 769, JM Rodriguez Fernandez (56, 21/35)
Sevilla, Clinica Del Sagrado Corazon, M Rodrigues ()*
Tarragona, Hospital de Tarragona Joan XXIII (hem), C Alonso y Macia, (3, 0/3)
Valencia, Hospital Universitario La Fe (peds), CIC 653, V Castel, A Verdeguer (18, 3/15)
Valencia, Hospital Clinico Universitario, CIC 282, J Garcia-Conde, C Solano (88, 13/75)
Valencia, Instituto Valenciano de Oncologia, V Guillen, J Palau (35, 0/35)
Valencia, Hospital Universitario La Fe, CIC 663, MA Sanz, GF Sanz (64, 27/37)
Valencia, Clinica Virgen del Consuelo (hem), MA Sanz ()*
Valencia, Hospital Doctor Peset (hem), P Ribas Garcia (16, 0/16)
Valladolid, Hospital Rio Hortega, J Garcia Frade (20, 0/20)
Vigo, Hospital Xeral-Cies, A Martinez-Dalmau (30, 4/26)
Zaragoza, Hospital Miguel Servet (hem and onco) M Girald, G Pérez-Lugmus, D Rubio-Félix, A Anton (37, 3/34)
Zaragoza, Clinico Universitario Lozano Blesa (Haem, onco), A Tres, P Palomera, M Gutierrez, J Mayordomo, (47, 0/47)

Sweden (10 teams; 422, 150/272)
Goteborg, Medical Clinic, CIC 715, M Brune (70, 17/53)
Goteborg, East Hospital, CIC 289, A Fasth, S Rodjer (12, 4/8)
Huddinge, Hospital, CIC 212, P Ljungman (85, 54/31)
Linköping, University Hospital, CIC 740, G Juliusson (47, 20/27)
Lund, University Hospital, CIC 283, AN Bekassy (56, 16/40)
Malmö, University Hospital, I Turesson (5, 0/5)
Örebro, Medical Center Hospital, CIC 738, U Tidefelt (11, 0/11)
Stockholm, Karolinska Hospital, CIC 626, M Björkholm (20, 0/20)
Umea, Norrland University Hospital, CIC 731, A Wahlin, P Hörnsten, J Lindh, L Eliasson (33, 8/25)
Uppsala, University Hospital, CIC 266, B Simonsson, K Carlson, H Hagberg (83, 31/52)

Switzerland (12 teams; 277, 80/197)
Aarau, Kantonsspital, CIC 316, M Wernli (15, 0/15)
Basel, Kantonsspital, CIC 202, A Gratwohl, T Kühne, R Herrmann (57, 35/22)
Bellinzona, Ospedale San Giovanni, CIC 829, F Cavalli, M Ghielmini (7, 0/7)
Berne, Inselspital, CIC 221, A Tobler, K Leibundgut (27, 0/27)
Geneva, Hôpital cantonal universitaire, CIC 261, B Chapuis, J Humbert (27, 23/4)
Geneva, Clinique La Tour, C Irlé (9, 0/9)
Lausanne, CHUV, CIC 810+ CIC 579, D Schapira, T Kovacsovics, N Nenadov-Beck (50, 0/50)
Neuchatel, Hopital des Cadolles, D Piguet (2, 0/2)
Pully, Clinic de la Source, W von Fliedner (1, 0/1)
St Gallen, Kantonsspital, CIC 324, U Hess (11, 0/11)
Zurich, University Hospital, CIC 208, J Gmür, R Stahel, L Jost, R Seger (64, 22/42)
Zurich, Klinik Im Park, J Gmür, U Breitenstein, A von Rohr (7, 0/7)

Turkey (21 teams; 328, 143/185)
Ankara, Numune Education and Research Hospital, CIC 691, T Demirer (32, 10/22)
Ankara, Ibn-1 Sina Hospital, CIC 617, H Koc (62, 42/20)
Ankara Hacettepe University, Inst of Oncology Hematopoietic Stem Cell Transplantation Unit CIC 292, E Kansu (2, 2/0)

Ankara, Childrens Hospital, Hacettepe University, A Tuncer, D Uckan (14, 14/0)
Ankara, University of Ankara (peds), CIC 620, E Unal (5, 5/0)
Ankara-Etlik, GATA BMT Center, CIC 372, A Yalcin, F Arpaci, A Özet, C Beyan, A Ural (53, 19/34)
Antalya, Akdeniz University Hospital, CIC 618, MA Yesilipek, V Hazar, O Yegin (9, 4/5)
Antalya, Akdeniz University Hospital, CIC 685, L Undar (7, 3/4)
Balcali, Hospital, CIC 821, A Tanyeli (3, 1/2)
Eskisehir, Osmangazi University, CIC 686, Z Güblas (2, 1/1)
Istanbul, Marmara University, Altunizade, CIC 714, S Ratip, T Akoglu (6, 4/2)
Istanbul, Maltepe Medical Faculty, CIC 210, K Ozerkan, A Tamkan (0, 0/0,) new team for 2000
Istanbul, Cerrahpasa Medical School, CIC 761, B Ferhanoglu, T Soysal, Z Baslar (13, 6/7)
Istanbul, Tip Fakultesi, CIC 762, G Gedikoglu (21, 17/4)
Istanbul, Medical Faculty, CIC 760, T Yangün (18, 9/9)
Istanbul, GATA Haydarpasa Egitim Hst, CIC 687, N Uskent (21, 0/21)
Istanbul, Institute of Oncology, CIC 689, H Onat (3, 0/3)
Izmir, Ege University Medical Faculty (ads), CIC 628, S Cagirgan (42, 3/39)
Izmir, Ege University Medical Faculty (peds), CIC 621, S Kansoy (5, 2/3)
Izmir, Dokuz Eylul University, CIC 688, U Yilmaz ()*
Kayseri, Erciyes University Hospital, CIC 627, A Unal, M Cetin, (10, 1/9)

Ukraine: no report

United Kingdom (55 teams; 2084, 760/1324)
Aberdeen, The Royal Infirmary, CIC 344, DJ Culligan (17, 1/16)
Bangor, Gwynedd Hospital, CIC 736, H Parry (11, 0/11)
Bath, Royal United Hospital, CIC 619, JG Smith (9, 0/9)
Belfast, Belvoir Park Hospital, P Abram (5, 0/5)
Belfast, Royal Victoria Hospital, CIC 268, F Jones, MF McMullin, P Burnside (20, 15/5)
Belfast City Hospital, CIC 753, TCM Morris, L Ranaghan (17, 0/17)
Birmingham, The Birmingham Childrens Hospital, CIC 781, PJ Darbyshire, MW Williams (25, 25/0)
Birmingham, Queen Elizabeth Hospital, CIC 387, P Mahendra, C Craddock (67, 26/41)
Birmingham, Heartlands Hospital, CIC 284, DW Milligan (52, 23/29)
Bournemouth, Royal Bournemouth Hospital, CIC 765, H Mying (21, 0/21)
Bristol, Royal Hospital for Sick Children, CIC 386, JM Cornish and Southmead Hospital, J Hows, MG Rainey (93, 66/27)
Cambridge, Addenbrooke's Hospital and Norwich Hospital, CIC 566 + 391, RE Marcus, M Deans (58, 17/41)
Cardiff, University of Wales, CIC 303, CH Poynton (41, 9/32)
Coventry, Walsgrave Hospital, R Harris (8, 0/8)**
Dundee, Ninewells Hospital, CIC 719, D Bowen (7, 0/7)
Edinburgh, Western General Hospital, (hem) CIC 228, PS Ganly, MJ Mackie, PRE Johnson (36, 14/22)
Edinburgh, Western General Hospital (onco) CIC 228, R Leonard (0, 0/0 new team for 2000)
Exeter, Royal Devon and Exeter Hospital, CIC 571, M Joyner (4, 0/4)
Glasgow, Royal Infirmary, CIC 244, A Parker, IG McQuaker (36, 12/24)
Glasgow, The Western Infirmary, CIC 325, T Fitzsimons (25, 0/25)
Glasgow, Royal Hospital for Sick Children, CIC 707, Dr Gibson (14, 10/4)
Leeds, St James's University Hospital and The General Infirmary, D Barnard, S Kinsey, JA Child, CIC 154 (100, 32/68)
Leicester, Royal Infirmary, CIC 713, AE Hunter (36, 13/23)
Liverpool, Royal Liverpool University Hospital, CIC 501, RE Clark (70, 12/58)
Liverpool, Alder Hay, (6, 5/1)
London, Hammersmith and Charing Cross Hospital, CIC 205 & CIC 510, JM Goldman, D Samson, E Kanfer (120, 59/61)
London, University College Hospital, CIC 224, AH Goldstone (158, 59/99)
London Oncology Marrow Transplantation Group, CIC 263, PJ Gravett (15, 1/14)
London, St George's Hospital, CIC 539, J Marsh, S Ball, EC Gordon-Smith (19, 7/12)
London, King's College, CIC 763, A Pagliuca, GJ Mufti (45, 22/23)
London, Royal Marsden Hospital, CIC 218, R Powles, J Mehta (161, 37/124)
London, Royal Free Hospital, CIC 216, HG Prentice, M Potter (63, 46/17)
London, St Bartholomew's, CIC 768 and the Royal London Hospital, CIC 269, A Rohatiner, AC Newland (61, 22/39)
London, Guy's Hospital, CIC 721, S Schey (38, 4/34)
London, Institute of Child Health, CIC 243, P Veys, IM Hann (45, 39/6)
Manchester, Christie Hospital, G Morgenstern (107, 15/92)
Manchester, Royal Children's Hospital, CIC 521, AM Will (33, 24/9)
Manchester, The Royal Infirmary, JA Yin (39, 20/19)
Manchester, Trafford General Hospital, PA Carrington (4, 0/4)
Manchester, Hope Hospital, PA Carrington (1, 0/1)
Newcastle upon Tyne, Royal Victoria Infirmary, CIC 276, GH Jackson, SJ Proctor, P Taylor, A Cant, R Skinner (72, 31/41)
Norwich, Norfolk and Norwich Hospital (hem), CIC 391, M Deane (transplants performed in 1999 at Norwich are reported through Addenbrookes)
Nottingham, City Hospital, CIC 717, N Russell (93, 52/41)
Oxford, John Radcliffe Hospital, Headington, CIC 255, TJ Littlewood, C Bunch, C Mitchell, C Hatton, G Hall, J Wainscoat (40, 13/27)
Plymouth, Derriford Hospital, CIC 823, MD Hamon (28, 5/23)
Poole, Dorset Cancer Centre, CIC 580, A Bell (16, 0/16)
Rotherham, General Hospital, CIC 647, H Barker (4, 0/4)
Sheffield, The Royal Hallamshire and Weston Park Hospi-

tals (ads, peds, onco) CIC 778, E Vandenberghe, A Vora, P Lorigan (57, 21/36)
Somerset, Taunton and Somerset Hospital, SA Johnson, S Rule (7, 0/7)
CRC Wessex, Southampton, CIC 704, A Smith, A Duncombe, J Sweetenham, J Kohler (58, 3/55)
Stoke-on-Trent, North Staffordshire Royal Infirmary, R Chasty (8, 0/8)
Sunderland, The Sunderland Royal, PJ Carey (1, 0/1)
Swansea, Singleton Hospital, Sketty, S Al Ismail (9, 0/9)
Swindon, Princess Margaret Hospital (Hem), CIC608, NE Blesing, A Gray, S Green, A Koster (4, 0/4)
Wakefield, Pinderfield's General Hospital, CIC 764, MC Galvin, D Wright (8, 0/8)

Yugoslavia (Serbia and Montenegro) (4 teams: 32, 6/26)
Belgrade, Clinical Centre of Serbia, CIC 373, M Colovic, A Bogdanovic (3, 0/3)
Belgrade, Mother and Child Health Institute, D Makic (2, 0/2)
Belgrade, Military Medical Academy, CIC 582, M Malesevic (26, 5/21)
Novi Sad, Institute of Internal Diseases, CIC 655, D Pejin (1, 0/1)

* no report
** late data, not included in Tables and Figures
*** late correction, appendix only, not included in Tables and Figures