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Special report

Increasing use of reduced intensity conditioning transplants: report of the 2001 EBMT activity survey

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Summary:

Since 1990, the EBMT has annually collected numbers of HSCT by disease indication, donor type and stem cell source. The 2001 survey concentrates on the use of reduced intensity conditioning (RIC) transplants and its dissemination in Europe. In 2001, there were 19576 HSCT for new patients, 6413 with allogeneic HSCT (33%), 13163 with autologous HSCT (67%) and 3256 additional re- or multiple transplants, 868 (667/201) allogeneic and 2658 (537/2121) autologous, collected from 596 centers in 35 European countries. The main indications in 2001 were leukemias (32%; 73% of them allogeneic); lymphomas (53%; 92% of them autologous); solid tumors (11%; 93% of them autologous) and non-malignant disorders (4%; 90% of them allogeneic). Compared to 2000, there was a drop in allogeneic HSCT of over 20% for chronic myeloid leukemia and an increase of 2% in autologous HSCT. A total of 1759 or 27% of allogeneic transplants were reported as RIC HSCT. These have risen in number in 3 years from <1% in 1998. There are wide variations from 0 to 71% RIC HSCT in European countries with no obvious explanation. These data document the current status of blood and marrow transplantation in Europe and indicate a marked change towards RIC HSCT in allogeneic transplantation.
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Treatment-related toxicity is considered as one of the major impediments to the broader application of hematopoietic stem cell transplantation (HSCT). Intensive pre-treatment chemo- and or radiotherapy is used to eliminate the basic disease in autologous and allogeneic HSCT. In addition, immunosuppression is required to prevent graft rejection and to create space in allogeneic HSCT. Successful application of this concept has led to the current state and HSCTs have become established therapy for many congenital or acquired severe disorders of the hematopoietic system as well as for chemo- or radiosensitive malignancies.[1–4] Because of its inherent morbidity and mortality, allogeneic HSCT has been limited for decades to patients with younger age and to those with severe life-threatening disease. Age limits as the sole basis for decisions, however, have been challenged.[5,6]

Recognition of graft-versus-leukemia effects as key factors for success in allogeneic HSCT for hematological malignancies has led to a novel concept: the introduction of reduced intensity conditioning (RIC) transplants with the sole aim of bringing about engraftment of the donor stem cells and of using its antileukemic property for disease eradication. Pioneered by several groups and supported by the effects seen after donor lymphocyte infusions, this new approach has gained rapid acceptance, and has opened the door to new patient categories: elderly patients and patients with severe concomitant other organ disease.[7–12] As illustrated in this report, RIC HSCT have increased to more than a quarter of all allogeneic HSCT in Europe in 3 years.

Patients and methods

Data collection and validation

Data collection is based on the EBMT activity surveys introduced in 1990.[13] All EBMT members and affiliated non-members are requested annually to report on a survey sheet the numbers of new patients by indication, stem cell source and donor type. In addition, the form collects additional generic information on the numbers of additional re- or multiple transplants, on the percentage of cord blood HSCT and, since 1999, on the percentage of RIC HSCT.

The EBMT survey which was adopted by the General Assembly as a mandatory self-reporting system forms an integral part of a prospective quality assurance programme (http.//www.EBMT.org). The latter includes revalidation of a computer print-out of entered data by reporting teams, cross-checking with national transplant registries and onsite visits.

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Participating teams

Five hundred and ninety-six teams in 35 European countries were participating in the 2001 report, 624 were contacted. This corresponds to a 96% return rate and includes 460 of the 466 EBMT member teams. No major transplant team in Europe is missing from this list.

Contacted teams are listed in the Appendix in alphabetical order according to country, city and EBMT center code. We received informal information that in 2001 no blood or marrow transplants were performed in the following European countries: Albania, Andorra, Armenia, Azerbaijaan, Bosnia-Herzegovina, Georgia, Iceland, Liechtenstein, Malta, Moldavia, Monaco, San Marino and the Vatican.

Definitions

Transplants are defined as the infusion of hematopoietic stem cells following a conditioning regimen with the intention of replacing the recipient's hematopoiesis by injected stem cells.[4]

First transplants refer to the first transplantation of hematopoietic cells and full information is collected only for first transplants. Therefore, each patient is counted only once, independent of the number of transplant procedures, thus preventing multiple reporting. This does not relate to 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 2001. Retransplants refer to a situation where recipients receive a second HSCT for relapse or rejection of the graft, multiple transplants refer to a planned programme of sequential HSCT. Because of its design, the survey cannot distinguish between retransplants and sequential transplants for preceding autologous or allogeneic HSCT. Criteria for RIC HSCT were not defined but left to the individual institution since no consensus has yet been achieved.

Donor lymphocyte infusions were not considered as transplants in this setting but general information on the number of new patients treated with DLI was collected from all institutions.

Transplant rates

Transplant rates were defined as number of HSCT per 10 million inhabitants. They were computed as previously defined for each year, disease indication, donor type and country.[14] For each disease indication transplant rates were assessed for all HSCT and separately for autologous, allogeneic and unrelated HSCT, for RIC allogeneic HSCT, for DLI and for cord blood HSCT. Population data were obtained from the US census office (http://www.census.gov).

Statistical analysis

Mean, median and standard deviations of numerical variables were calculated on an Excel spreadsheet. Groups were compared with chi-square tests.

Results

Participating teams

Five hundred and ninety-six (600 reports in the year 2000)[15] of the 624 contacted teams (96% returns) responded to the survey in 2001 (see Appendix for details). This includes 460 of 466 EBMT members corresponding to a return of 98% for EBMT teams. One hundred and seventeen of the responding teams were non-EBMT members. Twenty-eight teams known by the investigators to have been performing HSCT in 2001 were also contacted, but chose not to reply or failed to do so for unknown reasons, despite several efforts to reach them. Of the 596 teams reporting HSCT in 2001, 329 (55%) do both allogeneic and autologous transplants; 241 teams (40%) restrict their activity to autologous, five teams (1%) to allogeneic transplants only. Twenty-one teams (4%) reported having performed no transplants in 2001.

HSCT in 2001

First transplants 2001: A total of 19576 first transplants, 6413 (33%) allogeneic and 13163 (67%) autologous were carried out in 2001 (Table 1). This represents an increase of 204 transplants compared to 2000, when there were 19 366 first transplants (6456 allogeneic, 12910 autologous). The numbers of allogeneic HSCT decreased by 1% from 6456 in 2000 to 6413. The numbers of autologous HSCT increased from 12 190 to 13 163. Indications with a decrease compared to the year 2000 are marked in Table 1 with an asterisk.

Additional transplants 2001: There were an additional number of 3526 procedures, 1204 retransplants (667 allogeneic/537 autologous) and 2322 multiple transplants (201 allogeneic/2121 autologous) performed at the same 596 institutions. Thus, there was a total of 23102 transplants, 7281 allogeneic (32%) and 15821 autologous (68%) performed in 2001. There was a clear increase in additional HSCT over the last years and there were more multiple procedures performed for autologous than for allogeneic transplants. In contrast, there were more retransplants in allogeneic HSCT than in autologous HSCT (Figure 1). The survey, however, cannot distinguish between retransplants for previous failed autografts or failed allografts.

Indications for first transplants 2001: 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, as illustrated in Figure 2, the main indications in 2001 were lymphoproliferative disorders with 10309 patients (53%), 871 patients with allogeneic HSCT, 9438 with autologous HSCT; leukemias with 6151 patients (32%), 4509 patients with allogeneic, 1642 with autologous HSCT; solid tumors with 2072 patients (11%), 150 with allogeneic HSCT, 1922 with autologous HSCT and non-malignant disorders with 822 patients (4%), 737 with allogeneic HSCT, 85 with autologous HSCT. The latter, autologous HSCT for non-malignant disorders predominantly includes patients with autoimmune disorders. Two hundred and twenty-two patients, 146 with allogeneic HSCT and 76 with autologous HSCT were listed as 'other indications'.

Table 1 Number of patients treated in Europe during the year 2001 with a first hematopoetic stem cell transplant listed by indication, donor type and stem cell source. Asterisks refer to indications with fewer transplants in the year 2001 than in 2000

Year = 2001 *Teams = 596*	*Allogeneic*								*Autologous*			*Total*		
	Family						*Unrelated*		*BM only*	*PBPC only*	*BM + PRPC*	*Allo*	*Auto*	*Total*
	HLA-id		*non-id*		*twin*									
	BM	*PBPC*	*BM*	*PBPC*	*BM*	*PBPC*	*BM*	*PBPC*						
Leukemias														
Acute myeloid leukemia														
1st complete remission	255	406	7	22	1	6	103	88	115	693	36	888	844*	1732
Not 1st complete remission	88	276	11	80		1	150	211	41	143	4	817	188*	1005
Acute lymphatic leukemia														
1st complete remission	160	147	10	14	1	2	91	75	24	174	4	500	202*	702
Not 1st complete remission	139	140	9	44		1	188	144	15	94	4	655*	113	768
Chronic myeloid leukemia														
Chronic phase	223	269	6	21	2	3	135	93	1	27		752*	28*	780
Not 1st chronic phase	39	66	3	17	1	1	52	62	5	19		241*	24*	265
Myelodysplastic syndrome	77	194	11	16	1	4	101	105	4	34		509	38*	547
Chronic lymphatic leukemia	19	89		2		1	14	22	8	196	1	147	205*	352
Lymphoproliferative disorders														
Myeloma	43	160	1	10		6	22	34	12	4034	17	276*	4063	4339
Hodgkin's lymphoma	7	54		6		3	8	11	57	1212	32	89	1301	1390
Non-Hodgkin's lymphoma	76	310	1	16	1	8	39	55	78	3946	50	506	4074	4580
Solid tumors														
Neuroblastoma	1			1					25	260	5	2	290	292
Glioma									2	60		0*	62*	62
Soft tissue sarcoma		5							5	97	2	5	104*	190
Germinal tumors		2							2	290		2*	292*	294
Breast cancer stage 2										150		0	150*	150
Breast cancer stage 3										134		0	134*	134
Breast cancer inflammatory										58		0	58*	58
Breast cancer metastatic		22								136		22	136*	158
Ewing	1	2							8	216	3	3*	227	230
Lung cancer										40		0	40*	40
Ovarian cancer		8							1	90		8	91*	99
Other solid tumors	2	102		3				1	18	316	4	108	338	446
Non-malignant disorders														
Severe aplastic anemia + Fanconi	126	70	3	13	3	1	55	28				299	0	299
Thalassemia	101	46	6	8			16	1		1		178	1	179
SCID	17	8	24	21			13	9	6	2		92	8	100
Inborn errors	47	9	8	18	1		54	28		3		165	3	168
Auto immune disease		1		1				1	3	68	2	3	73	76
Others	48	39	3	10	1		27	18	4	71	1	146	76	222
Total	1469	2415	103	323	12	37	1068	986	434	12564	165	6413	13163	19576

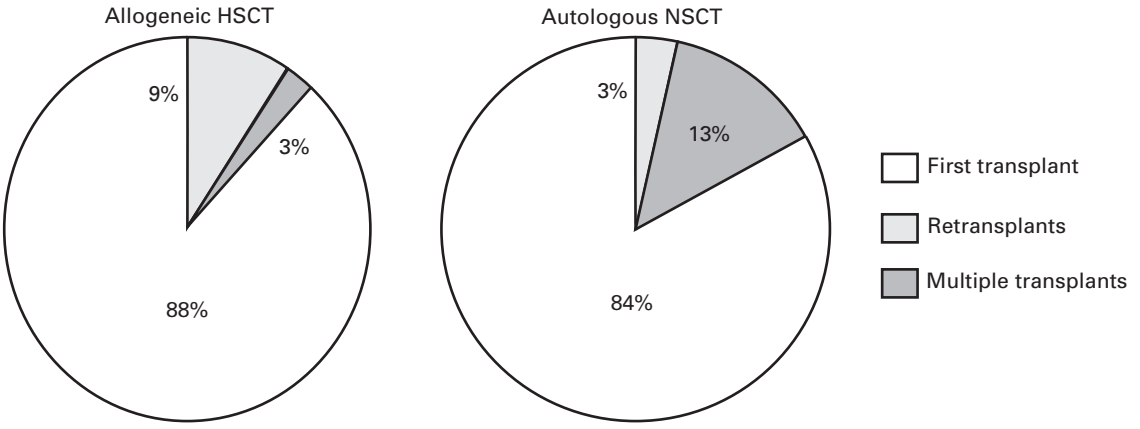

Figure 1 Proportion of first transplants, retransplants and multiple transplants depending on donor type in Europe 2001.

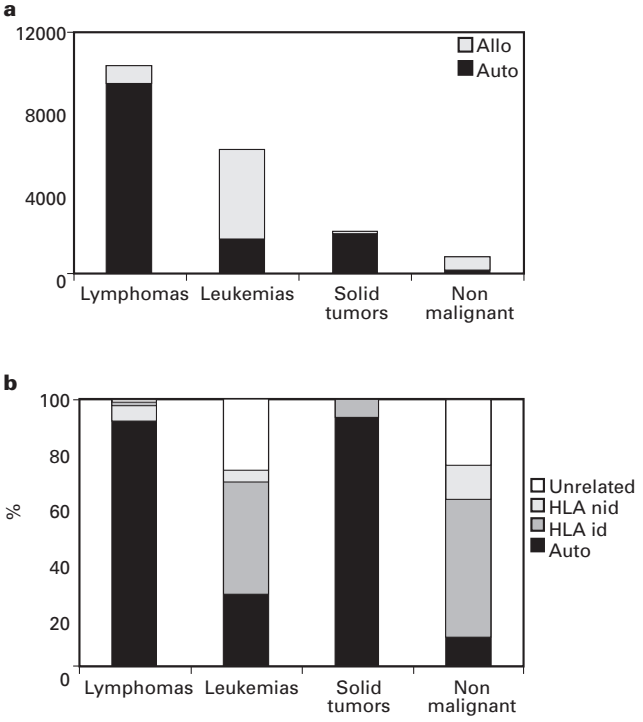

Figure 2 Main indications and donor type of HSCT in Europe 2001. (**a**) Absolute numbers of HSCT by donor type and main indication. (**b**) Relative proportion of donor type by main indication.

Donor type in 2001: Of the 19 576 first transplants in 2001, 33% were allogeneic and 67% were autologous transplants. The distribution of autologous and allogeneic transplants differed for the main indications. For the leukemias, 73% of the transplants were allogeneic and 27% autologous; for the lymphoproliferative disorders 8% were allogeneic and 92% autologous; for the solid tumors 7% were allogeneic and 93% autologous, and for the non-malignant disorders 90% were allogeneic and 10% autologous. Within the main indications, there were further differences depending on subtype and stage of disease, 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 6413 allogeneic first transplants, donors were an HLA-identical sibling for 3884 (61%) of the recipients, other family members for 426 (6.2%) of the recipients, a syngeneic twin for 49 (0.8%) of the recipients and an unrelated volunteer donor for 2054 (32%) of the recipients. There were marked differences between the main indications (Figure 2b). Alternative donors were primarily used for patients with leukemias or non-malignant disorders.

Stem cell source in 2001: Of the 13 163 autologous first transplants, 434 (3%) were bone marrow derived, 12 729 (97%) from peripheral blood stem cells or from combined bone marrow and peripheral blood stem cell transplants (Table 1). This reflects a further decline in the use of bone marrow for autologous HSCT. The last two groups are summarized in tables and figures as peripheral blood stem cell transplants. Of the 6413 allogeneic first transplants, 41% were bone marrow and 59% were peripheral blood stem cell transplants. 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 62% for HLA-identical sibling donor transplants, 76% for HSCT from other family members, 76% for twin donors and 48% for unrelated donors. This reflects a further increase in peripheral blood as stem cell source for HLA-identical sibling and for unrelated HSCT.

For 149 patients, allogeneic cord blood was the stem cell source in 2001, 2.3% of all allogeneic transplants. No information was collected on distribution by main indication

Changes in transplant activity

There were major changes in absolute transplant activity from the year 2000 to 2001 compared to previous years.[15] For the first time, there was a 1% decrease in allogeneic HSCT, due primarily to a decline in HSCT for CML from 1318 in 2000 to 993 in 2001; in contrast, after 3 years of decline, there was a 2% increase in autologous HSCT, mainly for lymphoproliferative disorders with an increase from 8619 in 2000 to 9438 HSCT in 2001.

Table 2 Team density, transplant rates and percentage of reduced intensity conditioning transplants among participating countries in Europe 2001

Country	*Pop (in mil.)*	*No. teams*	*Team density*	*Total HSCT*	*HSCT per 10 mil*	*Total Allo*	*Allo per 10 mil*	*Total RIC*	*% RIC*	*Total Auto*	*Auto per 10 mil*
Austria	8.2	15	18.3	310	378	118	144	58	49	192	234
Belgium	10.3	20	19.4	527	512	170	165	44	26	357	347
Bulgaria	7.6	1	1.3	12	16	1	1	0	0	11	14
Croatia	4.4	2	4.5	100	227	23	52	2	9	77	175
Cyprus											
Czech. Rep.	10.3	10	9.7	443	430	113	110	36	32	330	320
Denmark	5.4	3	5.6	138	244	60	111	9	15	78	144
Estonia	1.4	1	7.1	12	86	2	14	0	0	10	71
Finland	5.2	7	13.5	277	533	95	183	19	20	182	350
France	59.8	70	11.7	3143	526	696	116	205	29	2447	409
Germany	83.6	102	12.2	3499	419	1375	164	391	28	2124	254
Greece	10.6	11	10.4	184	174	77	73	7	9	107	101
Hungary	10.1	4	4.0	131	130	35	35	0	0	96	95
Iceland	0.3	1	33.3	0	0	0	0	0	0	0	0
Iran	66.6	2	0.3	166	25	135	20	12	9	31	5
Ireland	3.9	6	15.4	92	236	32	82	6	19	60	154
Israel	6	6	10.0	368	613	173	288	76	44	195	325
Italy	57.7	95	16.5	3169	549	964	167	244	23	2205	382
Lithuania	3.6	1	2.8	13	36	5	14	0	0	8	22
Luxembourg											
Macedonia	2.1	1	4.8	9	43	3	14	0	0	6	29
Netherlands	16.1	14	8.7	573	356	247	153	21	9	326	202
Norway	4.5	5	11.1	127	209	43	96	0	0	84	187
Poland	38.6	16	4.1	577	149	216	56	50	23	361	94
Portugal	10.1	6	5.9	223	221	90	89	39	43	133	132
Rep. of Belarus	10.3	2	1.9	63	61	14	14	0	0	49	48
Romania	22.3	2	0.9	3	1	0	0	0	0	3	1
Russia	145	12	0.8	166	11	59	4	15	25	107	7
Slovakia	5.4	4	7.4	107	198	31	57	5	16	76	141
Slovenia	1.9	1	5.3	27	142	7	37	5	71	20	105
Spain	40.1	72	18.0	1873	467	450	112	139	31	1423	355
Sweden	8.9	10	11.2	429	482	154	173	68	44	275	309
Switzerland	7.3	10	13.7	281	385	75	103	29	39	206	282
Turkey	67.3	25	3.7	373	55	170	25	14	9	203	30
Ukraine	48.4	2	0.4	37	8	2	0	1	50	35	7
UK	59.8	54	9.0	2104	352	772	129	261	34	1332	223
Yugoslavia (Serbia + Montenegro)	10.7	3	2.8	20	19	6	6	3	50	14	13

Transplant rates, use of RIC allogeneic HSCT and use of cord blood HSCT

Transplant rates differed between the participating European countries, as in previous years and as listed in Table 2 and illustrated in Figure 3. They ranged from 0 (several countries) to >600 total HSCT per 10 million inhabitants (Israel), from 0 (several countries to 288 allogeneic HSCT per 10 million inhabitants (Israel) and from 0 (several countries) to 409 autologous HSCT per 10 million inhabitants in France (Table 2).

Proportions of RIC allogeneic HSCT: Since 2000, information has been collected on the percentage of RIC allogeneic HSCT in participating teams. Within this short period of time, RIC increased to a total of 1759 in 2001 (Figure 4). The proportion of RIC HSCT varied from less than 10% (several countries) to >40% (several countries) (Figure 5). There is no correlation in percentage of RIC HSCT with team density, transplant rate or economic factors (data not shown).

Proportion of cord blood transplants: Not all countries performed cord blood HSCT and there were marked differences between the participating European countries, as illustrated in Figure 6. The proportion of cord blood as the stem cell source for allogeneic HSCT varied from 0 (several countries) to as high as 8% in Spain. There is no correlation in percentage of cord blood HSCT with team density, transplant rate or economic factors (data not shown).

Discussion

The present data reflect the status of HSCT in Europe for the year 2001. It is a snap shot in a continuously changing field and highlights two new phenomena. Within just 2 years the proportion of RIC allogeneic HSCT has exploded from less than 1% (informal data) before the year 2000 to nearly a quarter in 2001. Furthermore, there is a change in trend from previous years with a decline in allogeneic HSCT in absolute numbers and a renewed rise in autologous HSCT.[13–15] There are explanations for both observations. Several reports have focused on reduced toxicity with RIC HSCT,[7–12] on feasibility in the elderly and compromised patients and on use as an outpatient pro-

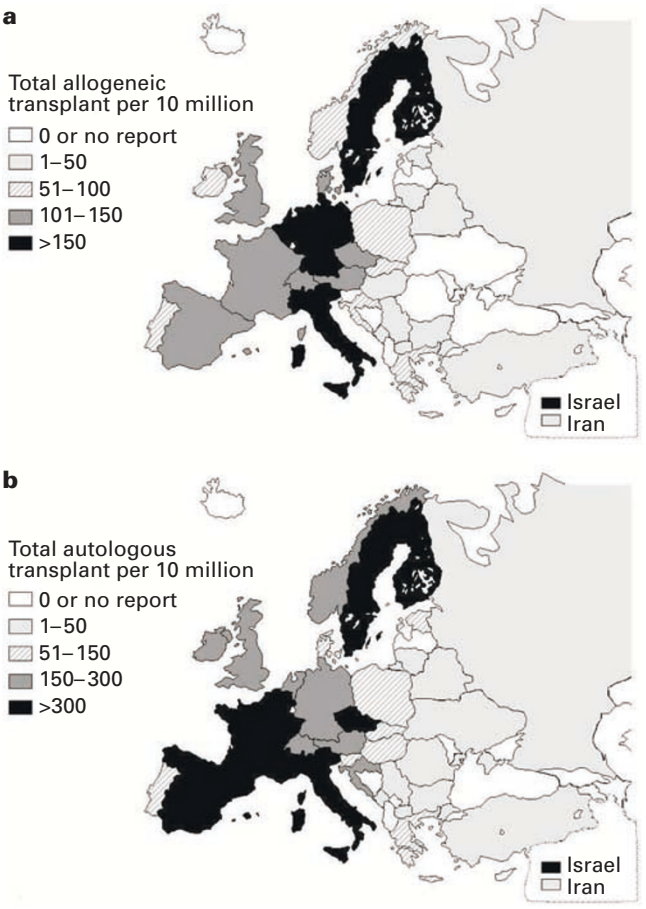

Figure 3 Transplant rates in participating European countries 2001. (a) Allogeneic HSCT per 10 million inhabitants. (b) Autologous HSCT per 10 million inhabitants.

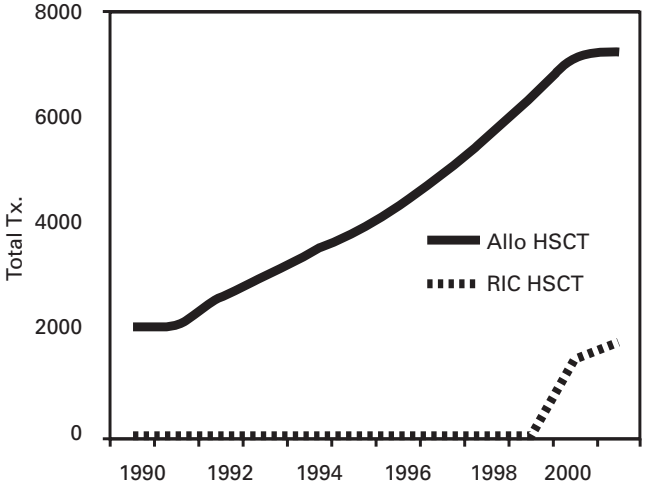

Figure 4 Absolute numbers of allogeneic HSCT and RIC HSCT in Europe from 1990 to 2001.

cedure.[16] Similarly, several reports have documented the value of imatinib mesylate in the treatment of chronic myeloid leukemia, its advantage over the previous standard therapy, interferon α, and its low toxicity profile compared to HSCT.[17–20] We still fail to provide an explanation for

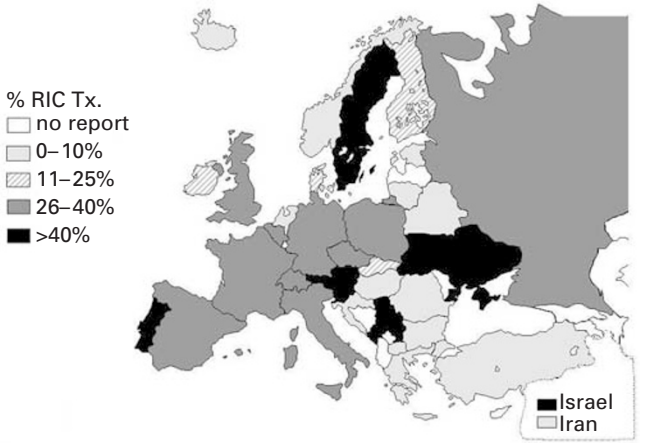

Figure 5 Proportion of reduced intensity conditioning transplants in Europe 2001

Figure 6 Proportion of cord blood transplants among the allogeneic HSCT in Europe 2001.

the vast differences in RIC use amongst European countries. There is no correlation with economic factors, such as gross national product or health care expenditure. Because there is no generally accepted definition on RIC HSCT, we left the definition up to the teams and teams were free to decide themselves. This could in part explain some of the differences.

However, both observations underline a novel phenomenon, that teams react to anticipation. No study so far has documented the superiority of RIC HSCT over standard HSCT in the long term. The pattern of acute GVHD remains and a higher relapse rate has to be expected. Similarly, no study on long-term effects of imatinib mesylate is available in chronic myeloid leukemia patients. This anticipatory changing of policies is understandable and it can be the right decision at the right time.[21] It can also have a deleterious effect, as has been seen in this field during the last decade with the sharp rise and decline in autologous HSCT for breast cancer.[22,23] Such anticipation is not necessarily bad. It is important, however, that physicians and patients are aware of such reactions. In this context, it is comforting to see that the further increase in autologous HSCT in non-Hodgkin's lymphoma, multiple myeloma,

neuroblastoma and some leukemias is based on clear prospective randomized studies.[24–27]

A decrease in allogeneic HSCT for chronic myeloid leukemia was already observed in the year 2000 survey report,[15,21] which attempted to make medium-term predictions on HSCT activity for individual disease indications. It fits in with the previous report. No comments are made this year concerning the other indications; re-analysis is not planned before the year 2003 analysis.

There is an increasing use of retransplants with allogeneic HSCT. Reasons are unknown but it might well be that an increasing number of RIC HSCT is used for previously failed autografts. Further studies are needed to clarify this point.

The year 2001 report points to some additional phenomena. Peripheral blood has become the exclusive source for autologous HSCT; very few bone marrow transplants are still performed in the autologous setting.[28] The same trend, at a slower pace, continues for allogeneic HSCT with HLA-identical sibling donors and unrelated donors. Ease of collection, donor preference, no need for an operating theatre or anesthesia are probably the main arguments for its use besides the documented efficacy.[29–31] The third source of stem cells, cord blood, is also on the rise at different speeds in the participating countries. No cord blood transplants at all were performed in several countries, but up to 8% of all allogeneic HSCT in Spain had cord blood as their stem cell source.[32,33] The presence or absence of a strong cord blood bank and physician's preference may account for these differences. No autologous cord blood HSCT were reported,[34] even though attempts at autologous cord blood banking have been initiated in several European countries, and some reports have been published.

As a tradition with the EBMT activity survey, no details are given on outcome. These data are collected elsewhere and are being analyzed separately. It concentrates only on a rapid description of the status quo. As such, this report reflects the status of HSCT in Europe as it stands, and provides a basis for decision-making to physicians, patients and health care administrators alike.

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Appendix 2001

List of transplant centers in 2001 (numbers show total number of patients with first transplants (total number of transplants) followed by the allografts/autografts)

Albania: no report

Andorra: no report

Armenia: no report

Austria (15 teams; 317 (422), 118/199)
Graz, University Hospital, Onco, CIC 278, H Samonigg, M Schmid (5 (11), 0/5)
Graz, University Hospital, CIC 308, W Linkesch (48 (62), 12/36)
Graz, Universitäts-Kinderklinik, CIC 593, Ch Urban (9 (11), 4/5)
Innsbruck, Universitätsspital (hem, onco), CIC 271, G Gastl, D Nachbaur (36 (41), 19/17)
Innsbruck, Universitätsspital (Internal Medicine), CIC 516, E Woell (3 (6), 0/3)
Klagenfurt, General Hospital Klagenfurt CIC 716, D Geissler, M Heistinger (4 (5), 0/4)
Linz, 1 Medizinische Abteilung, AO Krankenhaus, CIC 343, MA Fridrik (3 (3), 0/3)
Linz, AOK der Elisabethinen, CIC 594, D Lutz, O Krieger (35 (52) 7/28)
Salzburg, LKA Salzburg (Onco), CIC 356, Prof Hausmaninger (6 (9), 0/6)
Vienna, Universitätsklinik für Innere Medizin I - AKH, CIC 227, HT Greinix, P Kalhs (81 (98), 50/31)
Vienna-Lainz, Krankenhaus der Stadt Wien-Lainz, 5 Med Onko, CIC 362, G Baumgartner, E Ulsperger,
Dr Mayer (0 (0) 0/0)
Vienna, St Anna Kinderspital, CIC 528, H Gadner, C Peters (40 (50), 26/14)
Vienna, Hanusch-Krankenhaus, CIC 743, R. Reisner, E Pittermann, E Koller (16 (21), 0/16)
Vienna, Donauspital, CIC 767, W Hinterberger (8 (10), 0/8)
Vienna, Wilhelminerspital, CIC 828, H Ludwig (23 (43), 0/23)

Azerbaijan: no report

Republic of Belarus (3 teams; 63 (64), 14/49)
Minsk, Belorussian Center, CIC 591, O Aleinikova (32 (32), 10/22)
Minsk, Hospital No. 9, CIC 801, N Milanovitch (31 (32), 4/27)
Minsk, Institute of Haematology, V Ivanov*

Belgium (24 teams; 527 (614),170/357)
Aalst, OLV Ziehenhuis, E Wouters*
Antwerpen, Stuivenberg ZH, CIC 339, P Zachée (38 (44), 8/30)
Antwerpen-Edegem, University Antwerpen, CIC 648, W Schroyens (21 (26), 7/14)
Antwerpen, AZ Middelheim, CIC 783, R de Bock (5 (5), 0/5)
Brugge, AZ St Jan, CIC 506, D Selleslag, A Van Hoof, K Van Eygen (48 (52), 14/34)
Brussels, Institut Jules Bordet and the Children's University Hospital, CIC 215, D Bron, E Sariban, C Devalck (40 (55), 17/23)
Brussels, Clinique universitaire St Luc (Adults), CIC 234, A Ferrant (54 (54), 19/35)

Brussels, Clinique Universitaire St Luc (peds), CIC 234, C Vermylen (7 (8), 6/1)
Brussels, Hôpital Erasme, CIC 596, W Feremans, A Kentos, M Lambermont, A Deweiwere (24 (32), 0/24)
Brussels, University Hospital, CIC 630, B Van Camp, A Schots (33 (33), 14/19)
Brussels, Clinique Général Saint Jean, CIC 779, C Dubois, C Laurent, S Marichal (5 (6), 0/5)
Brussels, Cliniques Universitaires St Luc, (onco), M Symann*
Brussels, Inst Edith Cavelle Marie Depage (onco), C Vanhaelen*
Charleroi, Hopital Notre-Dame, M André (15 (18), 1/14)
Gent, University Hospital, CIC 744, LA Noens (32 (34), 18/14)
Haine St. Paul, Hôpital de Jolimont, CIC 234, A Delannoy, C Ravoet (14 (20), 0/14)
Hasselt, Virgajesse Ziekenhuis CIC 632, D Vanstraelen, Dr Janssen (28 (28), 0/28)
Jumet, Hôpital Civil de Jumet, A Duvivier*
Leuven, University Hospital Gasthuisberg, CIC 209, MA Boogaerts, P Vandenberghe, J Maertens (71 (83), 36/35)
Liège, CHR-Citadelle, CIC 353, B De Prijck (8 (9), 0/8)
Liège, University Hospital Sart-Tilman, CIC 726, Y Béguin (43 (56), 24/19)
Liège, Centre Hospitalier St Joseph (hem), L Longree*
Roeselare, H Hartziekenhuis, F Van Aelst, J Tytgat, J Demol, CIC 646 (14 (14), 2/12)
Yvoir, Clinique universitaire de Mont-Godinne CIC 234, C Doyen (27 (37), 4/23)

Bosnia-Herzegovina: no report

Bulgaria (1 team; 12 (17), 1/11)
Sofia, Uni Hospital 'Queen Johanna', CIC 346, (peds hem-onco), D Bobev (12 (17), 1/11)

Croatia (2 teams; 100 (108), 23/77)
Zagreb, Hospital Merkur, CIC 159, B Jaksic, H Minigo (25 (26), 4/21)
Zagreb, Clinical Hospital Center, CIC 302, B Labar, D Nemet, M Mrsic (75 (82), 19/56

Cyprus (1 team; 11 (11), 0/11)**
Nicosia Makarious Hospital lll, N Papaminas (11 (11), 0/11)**

Czech Republic (10 teams; 443 (563),113/330)
Brno, Masaryk University Hospital, CIC 597, J Vorlicek (86 (120), 20/66)
Hradec Kralové, Charles University, CIC 729, S Filip, M Blaha (67 (73), 11/56)
Olomouc, University Hospital, CIC 574, K Indràk (47 (52), 10/37)
Pilsen, Faculty Hospital, CIC 718, V Koza (59 (71), 12/47)
Prague, Clinical Haematology, Charles University, CIC 318, T Kozak (36 (47), 0/36)
Prague, Thomayer Memorial Hospital, CIC 375, J Abrahamova, J Nepomucka, L Boublikova (9 (9), 0/9)
Prague, University Hospital Motol (peds hem), CIC 656, J Stary, E Kabickova (23 (25), 23/0)
Prague, University Hospital Motol (peds onco), P Kavan, CIC 656 (20 (54), 0/20)
Prague, Institute of Hematology and Blood Transfusion, CIC 656, A Vitek, P Kobylka (47 (48), 37/10)
Prague, Charles University, CIC 745, M Trneny (49 (64), 0/49)

Denmark (3 teams; 138 (151), 60/78)
Aarhus, Amtssygehus, CIC 634, E Segel (6 (6), 0/6)
Copenhagen, Rigshospitalet, CIC 206, N Jacobsen (112 (119), 60/52)
Copenhagen, Herlev Hospital, University, CIC 568, HE Johnson (20 (26), 0/20)

Estonia (1 team; 12 (13), 2/10)
Tartu, University Hospital, CIC 746, H Everaus (12 (13), 2/10)

Finland (7 teams; 277 (310), 95/182)
Helsinki, Children's Hospital, CIC 219, U Pihkala, S Vettenranta (28 (37), 15/13)
Helsinki, University Hospital, Third Dept of Medicine, CIC 515, T Ruutu (116 (123), 67/49)
Helsinki, University Hospital, Dept Oncology, CIC 833, H Joensuu, T Wiklund (15 (17), 0/15)
Kuopio, Department of Medicine, University Hospital, E Jantunen, T Nousiainen, CIC 369 (29 (29), 0/29)
Oulu, University Central Hospital (haem/onco), CIC 690, P Koistinen, T Turpeenniemi-Hujanen (27 (32), 0/27)
Tampere, University Hospital, CIC 635, E Koivunen, R Silvennoinen (29 (37), 0/29)
Turku, University Central Hospital, CIC 225, K Remes (33 (35), 13/20)

France (80 teams; 3 195 (3 961), 719/2 476)**
Amiens, CHU d'Amiens, B Desablens*
Angers, Centre Hospitalier, CIC 650, N Ifrah, S François (56 (65), 15/41)
Angers, Paul Papin, Dr Gamelin (2 (4), 0/2)
Argenteuil, Centre hospitalier, M Urbajtel (24 (24), 6/18)
Besançon, Hôpital Jean Minjoz and Hôpital St. Jacques (adults and peds), CIC 233, P Hervé, J-Y Cahn, MN Cailleux, Dr Surowka (78 (92), 26/52)
Bobigny, Hôpital Avicenne (hem), P Casassus (0 (0), 0/0)**
Bordeaux, CHU Hôpital de Bordeaux Enfants, Y Perel*
Brest, Centre Hospitalier, C Berthou (51 (76), 0/51)
Caen, Centre Hospitalier Régional, CIC 251, O Reman (17 (18), 0/17)
Caen, Hôpital Cote de Nacre (peds hem onco), P Boutard (1 (1), 0/1)
Caen, Centre Régional François Baclesse, AM Peny (23 (32), 0/23)
Clermont Ferrand, Centre Jean Perrin and CHU Hotel Dieu, CIC 273+589, J-O Bay, F Démeocq, P Travade (145 (180), 27/118)
Clichy, Hôpital Beaujon, J Brière*
Colmar, Hôpital civil, B Audhuy (22 (23), 0/22)
Corbeil Essonne, Hôpital Gilles de Corbeil, A Devidas (3 (4), 0/3)
Créteil, Hôpital H Mondor, CIC 252, C Cordonnier, M Kuentz (54 (58), 25/29)

Dijon, Hôpital d'Enfants, D Caillot (50 (58), 0/50)
Dunkerque, Centre Hospitalier (hem), M Wetterwald (12 (15), 0/12)
Grenoble, Centre Hospitalier (ads, allo peds), CIC 270, JJ Sotto, F Garban, P Drillat (54 (74), 19/35)
Grenoble, Centre Hospitalier (auto peds), D Plantaz, M Bost (5 (5), 0/5)
Lille, Hôpital Claude Huriez, CIC 277, F Bauters, JP Jouet (80 (96), 29/51)
Lille, Hôpital Jeanne de Flandre, Dr Nelken (5 (6), 0/5)
Lille, Centre Oscar Lambret (onco), Dr Depadt, Dr Defachelles (15 (15), 0/15)
Lille, Centre Hospitalier Saint Vincent, N Cambier*
Limoges, Centre Hospitalier Dupuytren (ads.), CIC 977, D Bordessoule, P Turlure (40 (48), 0/40)
Lyon, Centre Léon Bérard, CIC 241, P Biron, T Philip (58 (74), 0/58)
Lyon, Hôpital Edouard Herriot, CIC 671, D Fiere, E Archimbaud, A Belhabri, M. Michallet (57 (61), 36/21)
Lyon Sud (Pierre Benite), Centre Hospitalier, B Coiffier (148 (166), 0/148)
Lyon, Hôpital Debrousse, N Philippe, C Galambrun, Y Bertrand (24 (26), 21/3)
Marseille, Inst. Paoli-Calmettes, CIC 230, D Blaise (222 (310), 23/199)
Marseille, Hôpital d'Enfants de la Timone (onco), CIC 301, C Coze, JL Bernard (11 (13), 0/11)
Meaux, Centre Hospitalier de Meaux, C Soussain (14 (14), 0/14)
Metz, Thionville Hôpital Notre-Dame de Bon-Secours (hem), V Dorvaux, B Christen (40 (53), 0/40)
Montpellier, CHU de Montpellier Hôpital Arnaud de Villeneuve, F Bernard (5 (5), 2/3)
Montpellier, Centre Rég. De Lutte contre de Cancer, M Fabbro, J-B Dubois (15 (15), 0/15)
Montpellier, CHR Lapeyronie, JF Rossi (84 (97), 7/77)
Mulhouse, Hôpital du Hasenrain, M Ojeda, Ph Hénon (14 (17), 0/14)
Nantes, Hotel Dieu, CIC 253, JL Harousseau, N Milpied (126 (187), 29/97)
Nice, Hôpital de Cimiez, CIC 523, JG Fuzibet, JP Cassuto, N Gratecos (52 (72), 16/36)
Nice, Fondation Lenval (peds), Dr Soler, Dr De Ricaud (1 (1), 0/1)
Nice, Centre Antoine Lacassagne, A Thyss (19 (29), 0/19)
Paris, Hôpital Necker (ads), CIC 160, B Varet, C Bélanger, A Veil (69 (73), 30/39)
Paris, Hôpital Necker des enfants malades, CIC 201, A Fischer (41 (47), 35/6)
Paris, Hôpital St Louis (allo, ads, peds), CIC 207+ CIC 748, E Gluckman, H Esperou, A Baruchel, M-F Auclerc (87 (93), 86/1)
Paris, Hôpital St Antoine, CIC 213, C Gorin, L Fouillard (40 (60), 7/33)
Paris, Hôpital D'enfants Armand-Trousseau, G Leverger, A Auvrignon, CIC 213 (11 (11), 0/11)
Paris, Hôtel Dieu (hem), CIC 222, J-P Marie, B Rio (68 (76), 17/51)
Paris, Hôpital Pitié Salpétière (hem), CIC 262, J-P Vernant, V Leblond (80 (82), 31/49)
Paris, Institut Curie (ads/onco/peds), CIC 702, P Pouillart, J Michon, JM Zucker*
Paris, Hôpital Tenon, JP Lotz, CIC 747 (31 (65), 0/31)
Paris, Hôpital St Louis (auto), CIC 805, G Gisselbrecht (52 (52), 0/52)
Paris, Hôpital St Louis (auto-leuk), CIC 960, H Dombret, L Degos, P Rousselot (8 (10), 0/8)
Paris, Hôpital St Louis (auto immuno-Haem), CIC 969, J-C Brouet, B Royer, J- P Fermand (83 (90), 0/83)
Paris, Hôpital Robert Debré, P Rohrlich, E Vilmer (27 (29), 25/2)
Paris, Hôpital Européen GP, JM Andrieu, C Le Maignan (10 (14), 0/10)
Paris, Hotel Dieu (onco), Prof Bernadou, L Chauvenet (4 (4), 0/4)
Paris, Hôpital d'Instruction des Armées Percy, Clamart, T de Revel, G Nedellec*
Paris, Hôpital Cochin, J- P Levy, F Dreyfus (31 (38), 0/31)
Pessac, Hôpital Haut-Lévèque, CIC 267, J Reiffers, Dr Fabères (96 (132), 31/65)
Poitiers, Hôpital Jean Bernard, CIC 264, F Guilhot (63 (82), 23/40)**
Pontoise, Hospital Renè Dubois, CIC 961, F Morvan, Y Kernéis (22 (39), 0/22)
Reims, Hopital Robert Debré, CIC 959, B Pignon, C Himberlin (17 (24), 0/17)
Rennes, Hôpital Pontchaillou, C Dauriac, T Lamy (85 (92), 24/61)
Rennes, CHRU, Clinique Médical Infantil, E Le Gall, V Gandemer (8 (11), 3/5)
Rouen, Centre Henri Becquerel, H Tilly, P Lenain (59 (66), 16/43)
Rouen, Hôpital Charles Nicolle, P Tron*
St. Cloud, Centre René Huguenin, M Janvier (7 (8), 0/7)
St. Etienne, Hôpital Etienne, D Guyotat, JL Stephan*
Strasburg, Hôpital de Hautepierre, B Lioure (80 (93), 17/63)
Strasburg, Hospices Civils, Service de Pédiatrie 5, P Lutz (17 (26), 9/8)
Toulouse, Hôpital de Purpan (hem), CIC 624, M Attal, J-C Nogaro (120 (132), 26/94)
Toulouse, Hôpital de Purpan (peds), H Rubie (6 (6), 0/6)
Toulouse, Centre Claudius Régaud, H Roche, C Chevreau (14 (25), 0/14)
Tours, Hôpital Bretonneau, CIC 272, P Colombat (80 (90), 0/80)
Valenciennes, Hosp De Valenciennes, M Simon*
Vandeuvre-les-Nancy, Hôpital d'Enfants, P Bordigoni (39 (50), 28/11)
Vandeuvre-les-Nancy, CHU Nancy-Brabois (hem auto), P Lederlin, F Witz (45 (72), 0/45)
Villejuif, Institut G Roussy (peds), CIC 503, O Hartmann, D Valteau-Couanet (45 (86), 0/45)
Villejuif, Institut G Roussy (ads), CIC 666, J-H Bourhis, C Boccaccio, J-M Vantelon (118 (143), 30/88)
Villejuif, Hôpital Paul Brousse, B Delmas-Marsalet (5 (6), 0/5)

Georgia: no report

Germany (102 teams; 3 499 (4 378), 1 375/2 124)**

Aachen, Universitätsklinikum RWTH, Med Klinik lV,CIC 348, R Osieka, U Fabry (7 (12), 0/7)
Augsburg, Zentralklinikum, Med Klinik ll, G Schlimok, P Müller (29 (37), 4/25)
Bad Saarow, Humaine Klinikum, G Schultze, H Fuss (34 (38), 0/34)
Berlin, Universitätsklinikum Charité Virchow Klinikum, CIC 293 + CIC 807, W Siegert, D Huhn, R Arnold (98 (112), 59/39)
Berlin, Charité Virchow Klinikum (peds), CIC 336, W Ebell, G Gaedicke (28 (37), 27/1)
Berlin, Univ. Charité der Humboldt Universität Campus, Robert-Rössle Klinik (onco), CIC 518, B Dörken, G Maschmeyer (23 (37), 0/23)
Berlin, Universitäts-Klinik der FU Benjamin Franklin, CIC 590, W Knauf, E Thiel (38 (52), 7/31)
Berlin, KH Neukölln, AC Mayr, C Kerschgens (1 (1), 0/1)
Bielefeld, Krankenanstalten Gilead (hem, onco), U Kruempelmann, J Klempin (2 (2), 0/2)
Bielefeld, Franziska Hospital, HJ Weh, A Zumsprekel (5 (10), 0/5)
Bochum, Knappschaftskrankenhaus, U Graeven, W Schmiegel (20 (25), 0/20)
Bonn, Medizinische Klinik und Poliklinik 1, T Sauerbruch, I Schmidt-Wolf, A Glasmacher (34 (34), 0/34)
Bonn, Universitäts Kinderklinik, U Bode, C Hasan (6 (6), 0/6)
Bremen, Zentralkrankenhaus Mitte, CIC 602, CR Meier, H Rasche (17 (22), 0/17)
Bremen, DIAKO, DRST 28001, T Wolff, KH Pflüger (15 (17), 0/15)
Chemnitz, KH Küchwald, F Fliedler, R Nowak (24 (27), 0/24)
Cottbus, Carl-Thiem Klinikum, Med Klinik ll, H Steinhauer (14 (26), 0/14)
Dortmund, St Johannes Hospital, H Plelken, M Nahler (2 (3), 0/2)
Dresden, Universitätsklinikum Carl Gustav Carus, CIC 808, G Ehninger, M Bornhäuser (126 (169), 74/52)
Duisburg, St Johannes Hospital, CIC 519, C Aul, J Anhuf (22 (35), 0/22)
Düsseldorf, Heinrich-Heine Universität; Medizinische Klinik (haem, onco), CIC 390, R Haas, P Schneider (93 (110), 30/63)
Düsseldorf, Heinrich-Heine Universität; Zentrum für Kinderheilkunde, CIC 651, K Göbel, W Nürnberger, D Dilloo (22 (33), 9/13)
Erlangen, Universitäts-Klinik für Kinder und Jugendliche, CIC 809, W Rascher, W Holter, JD Beck, J Greil (10 (11), 3/7)
Erlangen, Universität Erlangen-Nuremberg, Med Klinikum lll, CIC 809, M Gramatzki, J-R Kalden (18 (24), 7/11)
Eschweiler, St. Antonius Hospital, R Fuchs (6 (7), 0/6)
Essen, Universitäts-Klinik (ads), CIC 259, UW Schaefer, DW Beelen, V Runde, W Havers, O Basu (122 (126), 115/7)
Essen, Universitäts-Klinik (peds), CIC 259, W Havers, B Kremens (21 (22), 17/4)
Essen, Evangelisches Krankenhaus Essen-Werden GmbH, CIC 784, W Heit, M Wattad (59 (64), 0/59)
Essen, Universitäts-Klinik (hem), G Brittinger, U Dührsen, R Noppeney (24 (29), 0/24)
Essen, West German Cancer Center, S Seeber, P Bojko (49 (99), 0/49)
Frankfurt UniversitätsKinderklinik (peds), CIC 138, T Klingebiel (19 (19), 14/5)
Frankfurt a M, JW Goethe-Universität (ads), CIC 297, D Hoelzer, H Martin, B Kornhuber, D Schwabe (51 (61), 17/34)
Frankfurt, KH Nordwest, A Knuth, E Jäger (0 (0), 0/0)
Freiburg i. Br, Universitätsklinik (ads), Med Klinik l, CIC 810, J Finke, W Lange, S Fetscher (94 (104), 59/35)
Freiburg i. Br, UniversitätsKinderklinik, CIC 810, C Niemeyer, U Kontny, B Strahm, U Duffner (22 (23), 21/1)
Giesen, UniversitätsKinderklinik, CIC 326, A Reiter (11 (12), 6/5)
Göttingen, Georg-August Universität, T Hagemann (44 (67), 3/41)
Greifswald, Ernst-Moritz-Arndt Universität (ads + peds), CIC 530, G Dölken, T Kiefer (34 (36), 12/22)
Gütersloh, Städtkrankenhaus, C Gropp (4 (7), 0/4)
Hagen, Kath Krankenkaus, CIC 536, H Eimermacher, W Kalitschke (10 (16), 0/10)
Halle, Martin Luther Universität, CIC 338 + CIC 654, H-J Schmoll, H Wolf, S Burdach (24 (56), 1/23)
Hamburg, KH St George, CIC 153, P Dreger, N Schmitz, B Seyfarth (9 (9), 0/9)
Hamburg, Allgemeines Krankenhaus Altona, CIC 366, Dr Braumann, C Hummel (25 (29), 0/25)
Hamburg, Eppendorf-Krankenhaus (KMT) CIC 614, AR Zander (95 (105), 80/15)
Hamburg, Eppendorf-Krankenhaus (hem, onco), CIC 673, D Hossfeld, K Kösters (28 (33), 0/28)
Hameln, Kreiskrankenhaus Hameln, H Schmidt, K Buhrmann (7 (7), 0/7)
Hamm, St Marien Hospital, H Dürk, B Schmid (7 (10), 0/7)
Hannover, Medizinische Hochschule, CIC 295, A Ganser, B Hertenstein (76 (88), 43/33)
Hannover, Medizinische Hochschule, Abt. Kinderheilkunde, CIC 295, K Welte, K Sykora (23 (23), 17/6)
Hannover, KH Siloah, CIC 342, H Kirchner, M Sosada (12 (12), 0/12)
Heidelberg, Ruprecht-Karls Universitäts-Poliklinik, CIC 524, AD Ho (165 (195), 38/127)
Homburg/Saar, Universität des Saarlandes, CIC 785, L Trümper, M Pfreundschuh (52 (66), 22/30)
Idar-Oberstein, Klinik für Hämato-/Onkologie, CIC 592, AA Fauser, M Kiehl, N Basara (55 (64), 45/10)
Jena, Klinik fur Innere Medizin ll, CIC 533, HG Sayer, K Hoeffken (35 (52), 16/19)
Jena, Universitäts-Kinderklinik, CIC 750, F Zintl, D Fuchs (27 (28), 16/11)
Kaiserslautern, Westpfalzklinikum, CIC 357, F-G Hagmann, H Link, C Wollermann (9 (14), 0/9)
Karlsruhe, Städtisches Klinikum, CIC 290, J Fischer, T Kubin (9 (15), 0/9)
Kassel, Städtische Kliniken, WD Hirschmann, K Schultes, E Steinhauer (3 (3), 0/3)
Kiel, Christian-Albrechts-Universität (ads, peds), CIC 256, N Schmitz, M Kneba, J Schaub, M Suttorp (91 (118), 28/63)

Köln, Universitäts-Klinik (ads,peds), CIC 534, V Diehl, D Söhngen, Ch Scheid, F Berthold, T Simon (65 (92), 16/49)
Krefeld, Klinikum Krefeld, Med Klinik lll, M Planker, R Peceny (5 (9), 0/5)
Leipzig, Universitäts-Klinik, CIC 389, D Niederwieser, W Helbig, R Krahl, W Pönisch (86 (92), 53/33)
Lemgo, Klinikum Lippe, HP Lohrmann (15 (15), 0/15)
Lübeck, Med.Universität (ads, peds), CIC 367, T Wagner, P Bucsky, Ch Schultz, K Kruse (16 (16), 0/16)
Lübeck, Städtisches KH Sud, M Thalheimer, H. Bartels (11 (16), 0/11)
Magdeburg, Otto-von-Guericke Universität, CIC 359, A Franke, M Koenigsmann (19 (25), 0/19)
Magdeburg, Städt. Klinikum Magdeburg, E Kettner, H Kröning (2 (2), 0/2)
Mainz, Medizinische Klinik der Universität, CIC 786, C Huber, K Kolbe, H-G Derigs (101 (110), 41/60)
Mannheim, III Med Klinik, R Hehlmann, J Hastka (11 (12), 0/11)
Marburg, Med Universitätsklinik der Philipps Universität, CIC 645, A Neubauer, J Beyer, R Vietzke (40 (53), 22/18)
Minden/Westfallen, Med Klinik, H Bodenstein, HJ Tischler (11 (12), 0/11)
Mönchengladbach, KH Maria Hilf ll, Dr Berkovic, D Kohl, H-E Reis (7 (7), 0/7)
Munich, Klinikum Grosshadern (ads) CIC 513, H-J Kolb, W Hiddemann (117 (164), 79/38)
Munich, Klinikum Grosshadern (peds), CIC 513, C Bender-Götze (9 (10), 7/2)
Munich, Dr. v Haunersches Kinderspital (hem and onco), CIC 513, RJ Haas, D Stachel, S Schulz (8 (11, 7/1)
Munich, SKH München-Harlaching, CIC 664, R Hartenstein, R Munker (10 (14), 0/10)
Munich, Städt Krankenhaus Schwabing (peds), P Emmerich, L Stengel-Rutkowski (7 (10), 5/2)
Munich, Klinikum Innenstadt, B Emmerich, C. Straka (31 (33), 0/31)
Munich, SKH München-Schwabing, Ch Nerl, N Fischer, C Waterhaus (10 (17), 0/10)
Munich, Klinikum rechts der Isar, CIC 558, M Sandherr, C Peschel, C v Schilling (43 (52), 0/43)
Münster, Westfälische Wilhelms-Universitäts kinderkKlinik (hem and onco), CIC 505, H Jürgens, M Paulussen, J Vormoor (25 (29), 14/11)
Münster, Westfälische Wilhelms-Universitäts Klinik, Innere Med CIC 680, W Berdel, J Kienast (97 (133), 36/61)
Neuss, Lukaskrankenhaus, T Wieberding, P Czygan, T Nieberding (0 (0), 0/0)
Nürnberg, Klinikum, CIC 625, W Gallmeier, H Wandt, K Schäfer-Eckart (60 (76), 15/45)
Oldenburg, Klinikum Oldenburg, CIC 749, B Metzner, H Illiger (52 (80), 0/52)
Potsdam, Klinikum Potsdam, A Haas, R Pasold (19 (24), 0/19)
Regensburg, Universitäts Klinikum, CIC 787, E Holler, R Andreesen, A Reichle (69 (105), 33/36)
Rostock, Universitäts Klinikum, CIC 585, M Mathias, M Freund, J Casper (49 (57), 27/22)**
Siegen, St Marien Krankenhaus, CIC 135, T Gaska (8 (12), 0/8)
Stuttgart, Robert-Bosch-Krankenhaus, CIC 145, S Martin, W Aulitzky (32 (38), 0/32)
Stuttgart, Olgahospital, Pädiatrisches Zentrum, CIC 701, U Gross, J Treuner, E Koscielniak (8 (12), 1/7)
Stuttgart, Bürgerhospital, H Benöhr, W Grimminger, D Hahn (16 (24), 0/16)
Stuttgart, Diakonissen Krankenhaus, E Heidemann, J Kaesberger (7 (13), 0/7)
Stuttgart, Katharinenhospital, J Schleicher, H-G Mergenthaler (7 (9), 0/7)
Tübingen, Medizinische Universitäts-Klinik, CIC 223, L Kanz, H Einsele, W Brugger, C Faul (124 (161), 54/70)
Tübingen, Medizinische Universitäts-Klinik, Abteilung Pädiatrie, CIC 535, J Greil, D Niethammer (36 (38), 31/5)
Ulm, Medizinische Universitäts-Klinik, CIC 204, H Döhner, D Bunjes (103 (130), 45/58)
Ulm, Kinderklinik der Universität, CIC 204, W Friedrich, K Debatin (31 (32), 29/2)
Wiesbaden, Deutsche Klinik für Diagnostik, CIC 311, R Schwerdtfeger, M Prumbaum (80 (85), 70/10)
Wiesbaden, Dr Horst-Schmidt Klinikum, CIC 586, N Frickhofen, B Jung (15 (19), 0/15)
Wuppertal, Klinikum Wuppertal GmbH, A Raghavachar (5 (6), 0/5)
Würzburg, Universitätsklinikum, Würzburg, M Wilhelm, K Wilms, M Braun (22 (24), 0/22)

Greece (11 teams; 184 (196), 77/107)
Alexandroupolis, Thrace University Medical School (Haem), CIC 681, G Bourikas, D Pantelidou (2 (2), 0/2)
Athens, Laikon General Hospital, CIC 328, Y Rombos, D Boutsis, V Kalotychou (12 (13), 0/12)
Athens, Medical Center, CIC 603, A Pigadito (4 (4), 0/4)
Athens, University of Athens, CIC 604, I Dervenoulas (7 (7), 1/6)
Athens, Evanghelismos Hospital, CIC 622, D Karakasis, A Skandalis, N Harhalakis, E Nikiforakis (44 (47), 25/19)
Athens, Diagnosis and Therapy Centre 'Hygeia', Maroussi, CIC 643, G Karianakis (10 (10), 3/7)
Athens, Hellenic Cancer Institute St Savas, CIC 751, A Efremedis, M Stamatellou, K Papanastassiou, M Pouli (25 (28), 5/20)
Athens, 'Aghia Sophia' Children's Hospital, CIC 752, S Graphakos (28 (29), 23/5)
Crete, University Hospital of Heraklion (peds, hem-onco), CIC 352, M Kalmanti (0 (0), 0/0) starting in 2002
Thessaloniki, The George Papanicolaou General Hospital, CIC 561, AS Fassas (45 (47), 18/27)
Patras, University Medical School, CIC 281, NC Zoumbos, M Tiniakou (7 (9), 2/5)

Hungary (4 teams; 132 (133), 36/96)**
Budapest, National Medical Centre, CIC 504, A Poros, A Barta, E Torbagyi (27 (27), 14/13)**
Budapest, Szent Laszlo Hospital, CIC 739, T Masszi, P Reményl, G Kriván (71 (72), 20/51)
Miskolc, Postgraduate Medical School (peds), CIC 599, N Kalman, K Kiss, G Marton (13 (13), 2/11
Pécs, Internal Medizine, University of Pécs, CIC 682, H Losonczy, M Dávid, Á Szomor (21 (21), 0/21)

Iceland (1 team; 0 (0), 0/0)

Reykjavik, National University Hospital, CIC 605, S Reykdal (0 (0), 0/0)

Iran (2 teams; 166 (166), 135/31)
Shiraz, Nemazee Hospital, M Ramzi (20 (20), 20/0)
Teheran, Shariati Hospital (Hem-Onco), CIC 633, A Ghavamzadeh (146 (146), 115/31)

Ireland (6 teams; 92 (109), 32/60)**
Cork, University Hospital, P Cotter (3 (3), 0/3)
Dublin, St James's Hospital, CIC 257, SR McCann (50 (57), 20/30)
Dublin, St Vincent's Hospital (onco), CIC 541, J Crown (16 (25), 0/16)
Dublin, Our Lady's Hospital of Sick Children, Crumlin, CIC 774, A O'Meara (18 (19), 12/6)
Dublin, Mater Hospital (hem), B Otridge (5 (5), 0/5)
Limerick, Regional Hospital, M Cahill (0 (0), 0/0), starting in 2002

Israel (7 teams; 368 (447), 173/195)
Haifa, Rambam Medical Center (ads, peds), CIC 345, J Rowe (113 (153), 37/76)
Jerusalem, Hadassah University Hospital (ads, peds), CIC 258, R Or, S Slavin (88 (100), 67/21)
Petach-Tikva, Children's Medical Center, CIC 755, J Stein (32 (35), 17/15)
Revohot, Kaplan Hospital, CIC 327, A Berribi (9 (9), 0/9)
Tel Aviv, Sourasky Medical Center, CIC 161, E Naparstek (22 (27), 6/16)
Tel Hashomer, Chaim Sheba Medical Center (hem ads, peds) CIC 754 + CIC 572, A Nagler, A Shimoni, A Toren, H Golan, B Bielorai (104 (123), 46/58)

Italy (95 teams; 3 173 (3 863), 953/2 220)**
Alessandria, SS Antonio e Biagio e C Arrigo, CIC 825, A Levis, A Allione, M Pini, F Salvi (25 (34), 6/19)
Ancona, Nuovo Ospedale Torrette, CIC 788, P Leoni, A Olivieri (47 (60), 10/37)
Avellino, AOS Giuseppe Moscati, CIC 789, E Volpe, N Cantore (21 (21), 4/17)
Avezzano, Ospedale Civile di Avezzano, CIC 921, F Recchia (5 (5), 0/5)
Aviano, CRO Aviano, CIC 162, M Michieli, M Rupolo, M Mazzucato, F Lollo (17 (17), 0/17)
Bari, Policlinico, CIC 649, V Pavone, V Liso (3 (3), 0/3)
Bergamo, Ospedale Riuniti, CIC 658, T Barbui, A Rambaldi (73 (92), 23/50)
Bologna, St Orsola-Malpighi (haem), CIC 240, G Bandini, F Bonifazi, M Baccarani (98 (124), 37/61)
Bologna, St Orsola-Malpighi, Oncologia Medica, CIC 657, A Martoni, C Zamagni (10 (15), 0/10)
Bologna, Poli S Orsola, Clinica pediatrica III, CIC 790, A Pession, G Paolucci (24 (35), 12/12)
Bolzano, Ospedale S Maurizio, CIC 299, M Casini, P Fabris, P Coser (29 (51), 5/24)
Brescia, Ospedali Civili, CIC 288, T Izzi, G Rossi, C Almici (44 (52), 1/43)
Brescia, Università, CIC 741, F Porta, A Ugazio (26 (30), 21/5)
Brindisi, Ospedaliera 'A Di Summa', Perrino Hospital, CIC 920, G Quarta, S Pinna (2 (2), 0/2)
Cagliari, Ospedale Oncologica 'AB', CIC 791, G Broccia, P Dessalvi (20 (24), 3/17)
Cagliari, Cattedra di Genetica, University of Cagliari CIC 811, L Contu, G La Nasa (16 (18), 13/3)
Cagliari, Ospedale per le Microcitemie (peds), CIC 812, F Argiolu, A Cao (10 (12), 9/1)
Catania, Ospedale Ferrarotto, CIC 792, R Giustolisi, G Milone (34 (34), 9/25)
Cremona, Ospedale Maggiore, Medicina II, CIC 226, S Morandi, C Bergonzi (20 (20), 1/19)
Cuneo, Hospital S. Croce E Carle (hem), CIC 606, A Gallamini, M Grasso (24 (28), 0/24)
Ferrara, St. Anna Hospital, CIC 330, F Lanza, G Castoldi (16 (18), 0/16)
Firenze, Policlinico di Careggi, CIC 304, A Bosi (56 (61), 28/28)
Firenze, Azienda Ospedale, 'A Meyer', CIC 600, L Faulkner, G Bernini (7 (9), 0/7)
Forli, Morgagni-Pierantoni Hospital, CIC 298, GL Frassineti, D Amadori (8 (15), 0/8)
Genova, Università, CIC 139, F Patrone, A Ballestrero (29 (48), 0/29)
Genova, Ospedale S Martino, CIC 217, A Bacigalupo, A Carella, G Santini (106 (123), 83/23)
Genova, Istituto Giannina Gaslini, CIC 274, G Dini (40 (53), 19/21)
Genova, 1st Nat per la Ricerca s Cancro, CIC 340, M Venturini, R Rosso (1 (1), 0/1)
Latina, Ospedale S Maria Goretti, CIC 379, A De. Blasio, E Zappone (14 (18), 0/14)
Lodi, Ospedale Maggiore Lodi, CIC 532, G Nalli, V Fregoni (0 (0), 0/0)
Milano, Ospedale di Niguarda (onco ST), CIC 184, S Siena, P Pedrazzoli, R Schiavo (37 (40), 5/32)
Milano, Università, CIC 265, G Lambertenghi Deliliers (40 (52), 18/22)
Milano, Ospedale Fatebenefratelli e Oftalmico (onco), CIC 269, A Scanni, C Bianchi, D Pedretti (4 (4), 0/4)
Milano, Ospedale di Niguarda (hem), CIC 294, P Marenco, R Cairoli (45 (59), 10/35)
Milano, Istituto Europeo di Oncologia, CIC 331, G Martinelli (80 (149), 0/80)
Milano, 1st Clinico Humanitas (hem-onco), CIC 354, A Santoro, L Castagna (101 (136), 12/89)
Milano, Ist Nazionale Tumori di Milano (onco, peds), CIC 381, R Luksch (24 (34), 0/24)
Milano, Istituto Nazionale Tumori, CIC 616, A Gianni (61 (103), 9/52)
Milano, S Carlo Borromeo Hospital (onco), CIC 683, L Tedeschi (4 (4), 0/4)
Milano, Istituto Scientifico HS Raffaele, CIC 813, M Bregni (59 (77), 26/33)
Modena, University of Modena, CIC 543, F Narni, G Torelli, R Sabbatini (36 (46), 4/32)
Monza, Ospedale S Gerardo, CIC 279, C Uderzo (23 (25), 18/5)
Monza, Ospedale S Gerardo de' Tintori, CIC 544, P Pioltelli, E Pogliani (33 (53), 8/25)

Napoli, Div Di Oncologia, CIC 313, C Battista, G Pacilio, B Chiurazzi, G Iodice (15 (15), 0/15)**
Napoli, Hospital 'Pausilipon' (hem peds), CIC 341, V Poggi, M Ripaldi (9 (9), 4/5)
Napoli, Cardarelli Hospital (hem), CIC 607, F Ferrara (40 (41), 0/40)
Napoli, Università, CIC 766, B Rotoli, C Selleri, G De Rosa (35 (40), 6/29)
Noale, Civic Hospital (onco), CIC 563, O Vinante, G Azzarello (18 (19), 6/12)
Nuoro, Ospedale San Francesco, CIC 793, A Gabbas, A Palmas (13 (20), 0/13)
Orbassano, Ospedale San Luigi Orbassano, CIC 378, G Saglio, A Guerrasio (20 (35), 0/20)
Padova, Centro Leucemie Infantili, CIC 285, C Messina, S Cesaro, L Zanesco (30 (41), 14/16)
Padova, Centro Oncologia Regionale, CIC 319, S Aversa, S Monfardini (11 (14), 0/11)
Palermo, Ospedale V Cervello, CIC 392, R Scimè, A Cavallaro (49 (52), 19/30)
Palermo, Ospedale 'La Maddalena', CIC 692, M Musso, F Porretto, A Crescinanno (56 (71), 11/45)
Palermo, Uni degli studi di Palermo (hem), CIC 814, G Mariani (20 (20), 1/19)
Parma, Università degli studi, CIC 245, V Rizzoli (20 (25), 4/16)
Parma, Ospedaliera Di Parma (onco), CIC 364, V Franciosi, S Cascinu, G Vasini (2 (4), 0/2)
Pavia, Policlinico S Matteo (hem), CIC 286, EP Alessandrino (75 (84), 33/42)
Pavia, Policlinico St Matteo peds), CIC 557, F Locatelli (79 (84), 64/15)
Pavia, Policlinico St Matteo (onco), CIC 562, E Ascari, M Danova (23 (31), 0/23)
Pavia, Fondazione Clinica del Lavoro, CIC 771, A Zambelli, G Robustelli della Cuna (17 (20), 6/11)
Perugia, Policlinico Monteluce, CIC 573, AM Liberati, F Grignani (10 (14), 0/10)
Perugia, Policlinico Monteluce, Università, CIC 794, MF Martelli, F Aversa, A Tabilio (80 (80), 45/35)
Perugia, Silvestrini Hospital, CIC 815, A Amici (0 (0), 0/0)
Pesaro, Ospedale San Salvatore, CIC 529, G Lucarelli, G Visani (26 (26), 26/0)
Pescara, Ospedale Civile, CIC 248, P di Bartolomeo (31 (33), 25/6)
Piacenza, Ospedale Civile (hem-onco), CIC 163, L Cavanna (13 (17), 0/13)
Pisa, St Chirara Hospital (ads onco) CIC 320, PF Conte, C Bengala (14 (14), 4/10)
Pisa, University of Pisa (Ads hem, peds hem + onco), CIC 795, P Macchia, M Petrini (46 (63), 13/33)
Ravenna, Ospedale Civile, CIC 306, G Rosti (53 (77), 0/53)
Reggio di Calabria, Azienda Ospedale 'Riuniti e Morelli', CIC 587, P Iacopino (73 (108), 21/52)
Reggio Emilia, Arcispedale S Maria Nuova (Hem), CIC 660, L Gugliotta (16 (25), 4/12)
Roma, Università 'La Sapienza', CIC 232, W Arcese, F Mandelli, G Meloni (126 (131), 42/84)
Roma, Ospedale S Camillo, CIC 287, I Majolino, A Locasciulli (42 (50), 11/31)
Roma, Università Cattolica, CIC 307, S Cuore, S Sica, G Leone (41 (45), 12/29)
Roma, Ospedale Bambino Gesu, CIC 315, G De Rossi (6 (6), 3/3)
Roma, Università S Eugenio, CIC 756, S Amadori, L Cudillo (41 (44), 21/20)
Roma, Ospedale Bambino Gesu, CIC 796, G Deb (12 (13), 0/12)
San Giovanni Rotondo, Hospital Casa Sollievo Sofferenza (onco), CIC 314, G Lelli (4 (4), 0/4)
San Giovanni Rotondo, Hospital Casa Sollievo Sofferenza (peds), CIC 350, P Paolucci (4 (4), 0/4)
San Giovanni Rotondo, Hospital Casa Sollievo Sofferenza (hem), CIC 526, AM Carella, MT Corsetti (69 (80), 23/46)**
Siena, Ospedale Sclavo, CIC 321, F Lauria (20 (22), 2/18)
Taranto, Ospedale Nord, CIC 332, P Mazza, G Palazzo, B Amurri (57 (58), 11/46)
Taranto, Ospedale SS Annunziata, CIC 384, Dr Pezzella (0 (0),0/0)
Torino, University Hospital of Turin, Magg San Giovanni Battista, CIC 231a, M Falda, F Locatelli, E Gallo (59 (70), 25/34) Torino, Dept. of Pediatrics, University, CIC 305, E Madon, F Fagioli (40 (40), 14/26)
Torino, S Giovanni Antica Sede Hospital, CIC 322, M Airoldi (0 (0), 0/0)
Torino, Ospedale Mauriziano Umberto 1, IRCC, CIC 377, M Aglietta, A Capaldi; F Carnevale (23 (25), 7/16)
Torino, Ospedale S Giovanni, CIC 696, M Boccadoro, M Massaia, C Tarella, B Benedetto, D Caracciolo, A Pileri (151 (151), 16/135)
Trieste, Istituto per I'Infanzia, Clinical Pediatrica, CIC 525, M Andolina, A de Manzini (12 (13), 10/2)
Udine, Policlinico Universitario, CIC 705, A Sperotto, R Fanin (78 (81), 28/50)
Venezia, Ospedale Civile Riuniti di Venezia, CIC 502, T Chisesi, M Vespignani, M Chinello (14 (18), 0/14)
Verbania Pallanza, Ospedale di Verbania, CIC 385, M Bersi (2 (4), 0/2)
Verona, Policlinico di Borgo Roma (hem, onco), CIC 623+CIC 514, G Perona, F Benedetti, G Cetto (56 (56), 14/42)
Vicenza, Ospedale S Bortolo (hem), CIC 797, R Raimondi, F Rodeghiero (50 (61), 14/36)

Latvia: no report

Liechtenstein: no report

Lithuania (1 team; 13 (13), 5/8)
Vilnuis, University Hospital (hem), I Trociukas (13 (13), 5/8)

Luxemburg (2 teams)*
Centre Hospitalier, M Dicato*
Esch-Alrette, Hopital de la Ville Esch/Alzette, CIC 545, F Le Moine*

Macedonia (1 team; 9 (12), 3/6)
Skopje, Medical Faculty (haem), B Georgievski (9 (12), 3/6)

Malta: no report

Moldova: no report

Monaco: no report

The Netherlands (14 teams; 573 (605), 247/326)
Amsterdam, Academic Medical Center (ads, peds), CIC 247, J van der Lelie, H van den Berg (peds) (27 (27), 5/22)
Amsterdam, Free University Hospital (onco), CIC 380, E van der Wall (0 (0), 0/0)
Amsterdam, Free University Hospital (Haem), CIC 588, GM Ossenkoppele (68 (71), 12/56)
Amsterdam, The Netherlands Cancer Institute, CIC 976, S Rodenhuis, J Baars (17 (30), 0/17)
Enschede, The Medisch Spectrum Twente, CIC 360, Dr Schaafsma (17 (17), 0/17)
Groningen, University Hospital (hem), CIC 546, E Vellenga (36 (36), 0/36)
The Hague, Leyenburg Hospital, CIC 547, PW Wijermans (20 (20), 0/20)
Leiden, University Medical Centre (ads, peds), CIC 203, J Vossen, R Willemze (83 (89), 57/26)
Maastricht, University Hospital (haem, onco), CIC 565, HC Schouten, J Wagstaff (42 (43), 24/18)
Nieuwegein, St Antonius Hospital, CIC 200, D Biesma, G Veth, O de Weerdt (8 (8), 0/8)
Nijmegen, University Hospital (ads, peds, onco), CIC 237, A Schattenberg, L Beex, P Hoogerbrugge (92 (94), 57/35)
Rotterdam, Dr Daniel den Hoed Cancer Center, CIC 246, JJ Cornelissen (75 (77), 38/37)
Utrecht, University Hospital (ads + peds), CIC 239, LF Verdonck, NM Wulffraat, D Biesma (83 (88), 54/29)
Zwolle, Isala Klinieken / Sophia Ziekenhuis, CIC 548, M von Marwijk Kooy (5 (5), 0/5)

Norway (5 teams; 127 (129), 43/84)
Bergen, Haukelands Sjukhus, P Ernst (18 (18), 0/18)
Oslo, Rikshospitalet, CIC 235, D Albrechtsen, L Brinch (54 (56), 43/11)
Oslo, The Norwegian Radium Hospital, CIC 782, S Kvaloy (33 (33), 0/33)
Oslo, Ullevals Sjukhus (haem), F Wisslöf, J-M Tangen (9 (9), 0/9)
Trondheim, St Olavs Hospital, J Hammerstrom, A Waage (13 (13), 0/13)

Poland (16 teams; 577 (640), 216/361)
Gdansk, Medical University, CIC 799, A Hellmann (45 (48), 14/31)
Katowice, Silesian Medical Academy, CIC 677, J Holowiecki (136 (146), 50/86)
Krakow, CMUJ, CIC 553, A Skotnicki (36 (38), 8/28)
Lodz, Medical University of Lodz (Hem), CIC 171, T Robak (10, (10), 0/10)
Lublin, Ped Hem Onco, CIC 678, J Kowalczyk (17 (17), 8/9)
Lublin, University Medical School, CIC 695, A Dmoszynska, M Wach, A Walter-Croneck, W Legiec (28 (32), 0/28)
Poznan, Institute of Pediatrics, CIC 641, J Wachowiak (17 (17), 15/2)
Poznan, Medical Academy, CIC 730, J Hansz (64 (71), 33/31)
Warsaw, Inst of Haematology and Blood Transfusion, CIC 693, B Marianska, L Konopka (17 (19), 4/13)
Warsaw, Maria Sklodowska-Curie, Centre of Oncology, CIC 800, J Walewski (35 (45), 1/34)
Warsaw, Central Clinical Hospital, Military Medical Academy, CIC 816, K Sulek (16 (16), 6/10)
Warsaw, Central Military Hospital (onco), CIC 824, C Szczylik (8 (8), 2/6)
Warsaw, Central Clinical Hospital, CIC 954, W Wiktor-Jedrzejczak, A Dzwigala, M Rokicka (32 (50), 9/23)
Wroclaw, K Diuske Hospital, CIC 538, A Lange (59 (62), 33/26)
Wroclaw, Medical Academy (Hem), CIC 699, K Kuliczkowski (5 (5), 0/5)
Wroclaw, University of Medicine, Dept of Children, CIC 817, A Chybicka (52 (56), 33/19)

Portugal (6 teams; 223 (249), 90/133)
Coimbra, University Hospital, CIC 164, N Costa (19 (19), 0/19)
Lisbon, Instituto Portugues de Oncologia, CIC 300, M Abecasis, F Leal Costa (57 (63), 24/33)
Lisbon, Hospital de Santa Maria, CIC 636, J Alves do Carmo, F de Lacerda (38 (46), 25/13)
Lisboa, Hospital de St Antonio dos Capuchos, CIC 826, A Botelho de Sousa (16 (16), 0/16)
Porto, Instituto Portugues de Oncologia, CIC 291, P Pimentel, F Campilho (76 (87), 41/35)
Porto, Hospital S Joao (hem. onco), CIC 329 (merged with CIC 572, F Principe), JE Guimaraes (17 (18), 0/17)

Romania (3 teams; 4 (4), 0/4)**
Bucharest, Fundeni University Hospital, CIC 296, AD Moicean, D Colita, C Arion (1 (1), 0/1)
Targu-Mures, Sectia Clinica de Hematologie, CIC 178, I Benedek (1 (1), 0/1)**
Timisoara, University of Medicine (lll peds Hem/Onco), CIC 174, M Serban (2 (2), 0/2)

Russia (14 teams; 166 (174), 59/107)
Ekaterinburg, City Hospital No 7, LB Filatov (3 (4), 0/3)
Ekaterinburg, Regional Hospital No 1, TS Konstantinova, VA Shalaev (11 (15), 0/11)
Moscow, Russian Children's Hospital, CIC 694, A Maschan, E Skorobogato, E Pachanov (26 (26), 17/9)
Moscow, Cancer Research Center, CIC 757, V Ptuschkin (17 (17), 0/17)
Moscow, Institute of Biophysics, AE Baranov*
Moscow, Cancer Research Center peds Hem/onco, G Mentrevich (5 (5), 5/0)
Moscow, Research Hematology Center of RAS, VG Savtchenko (25 (27), 12/13)
Novosibirsk, Insitute of Clinical Immunology, CIC 376, I Lisukov (11 (11), 2/9)
Samara, Regional Hospital, VA Rossiev (21 (21), 2/19)
St Petersburg, Clinical Center for Advanced Medical Tech, CIC 370, E Podoltseva, V Soldatenkov, O Ryasnyanskaya (6 (6), 1/5)
St Petersburg, Military Medical Academy, CIC 520, A Novik (3 (3), 0/3)

St Petersburg, Research Institute of Hematology, CIC 724, KM Abdulkadirov (7 (7), 5/2)
St Petersburg, State Pavlov Medical University, CIC 725, BV Afanassiev, L Zubarovskaya (31 (32), 15/16)
Yaroslavl, City Hospital No 8, VA Lapin*

San Marino: no report

Slovakia (4 teams; 107 (115), 31/76)
Bansra Bystrica, Roosevelt Hospital, CIC 333, I Markuljak, E Kralikova (16 (23), 1/15)
Bratislava, National Cancer Institute, CIC 560, J Lakota (50 (50), 8/42)
Bratislava, University Hospital, CIC 610, M Mistrik (24 (25), 13/11)
Bratislava, 2nd Children's Clinic, University Hospital, CIC 684, J Lukac (17 (17), 9/8)

Slovenia (1 team; 27 (31), 7/20)
Ljubljana, University Medical Centre, CIC 640, J Pretnar (27 (31), 7/20)

Spain (76 teams; 1889 (2031), 450/1 439)**
Alicante, Hospital General, C Rivas-Gonzales (19 (19), 0/19)
Barcelona, Hospital Clinic, CIC 214, E Montserrat, E Carreras (94 (100), 38/56)
Barcelona, Santa Creu I Sant Pau (adults), CIC 260, J Sierra, S Brunet (88 (101), 39/49)
Barcelona, Santa Creu I San Pau (peds), CIC 260, I Badell Serra, J Cubells-Riero (10 (10), 4/6)
Barcelona, Santa Creu I Sant Pau (onco), CIC 260, Dr JJ Lopez, C Solia (32 (32), 0/32)
Barcelona, Hospital M Infantil, CIC 527, J Ortega (45 (46), 28/17)
Barcelona, Hospital Mutua de Terrasa (hem-onco), CIC 556, J Marti (5 (5), 0/5)
Barcelona, Hospital General 'Vall d'Hebron', CIC 583, A Julia Font, J Zuazu (28 (29), 7/21)
Barcelona, Hospital Universitario Germans Trias i Pujol, CIC 613, J Rivera (28 (29), 3/25)
Barcelona, Hospital Sant Joan de Deu, CIC 668, J Estella Aguado (10 (10), 0/10)
Barcelona, Instituto Dexeus (hem), CIC 670, A Granena, J Sarra, J Garcia (0 (0), 0/0)
Barcelona, Hospital Duran i Reynals (Hem), Institut Catala d'Oncologia, CIC 759, A Granena, C Ferra, J Berlanga (34 (36), 12/22)
Barcelona, Instituto Hematologico Torre Vilana, CIC 777, P Vivancos (3 (3), 0/3)
Barcelona, Instituto de Oncologia Corachan, D Alfonso-Modolell (2 (2), 0/2)
Barcelona, Sant Cugat del Vallés, Hospital General de Cataluna, M Sureda-Gonzales*
Caceres, Hospital San Pedro de Alcantara, J Bergua Burgues (16 (16), 0/16)
Cadiz, Hospital del SAS de Jérez, CIC 612, A Leon (43 (47), 5/38)
Cadiz, Hospital Universitario 'Puerta del Mar', CIC 679, J Gil (13 (20), 0/13)
Canary Isles, Las Palmas, Hospital Insular, CIC 335, F Fernandez-Fuentes, J Gonzalez-San Miguel (10 (12), 0/10)
Canary Isles, Las Palmas, Hospital Materno-Infantil (haem, onco), J Lodos Rojas, A Molinés (1 (1), 0/1)
Canary Isles, Las Palmas, Hospital Universitario de Gran Canaria 'Dr Negrin', T Molero, R Mataix, C Campo, S Jiménez (19 (21), 8/11)
Canary Isles, Teneriffe, Hospital Universitario de Canarias, L Hernandez Nieto, MT Hernandez Garcia (18 (18), 0/18)
Canary Isles, Teneriffe, University Hospital, P Rios Ru (12 (12), 0/12)
Castellon de La Plana, Hospital General de Castellon (haem), R Garcia-Boyero (5 (5), 0/5)
Cordoba, Hospital Reina Sofia, CIC 238, A Torres Gomez (46 (48), 34/12)
Cordoba, Hospital de la Cruz Roja de Cordoba (haem), J-M Garcia-Castellano (2 (2), 0/2)
Cruces-Barakaldo, Hospital de Cruces, CIC 393, I Zuazua-Verde (35 (37), 0/35)
Galdakao, Hospital de Galdakao, Hem, CIC 975, J Ojanguren, K Atucha (9 (9), 0/9)
Granada, Hospital Virgen de la Nieves, CIC 559, JM de Pablos Gallego (25 (29), 7/18)
Jaen, Hospital Cuidad de Jaen (haem), A Alcalam, (14 (14), 0/14)
La Coruna, Complexo Hospitalario Juan Canalejo, CIC 361, FJ Batlle, C Ramirez, P Torres, R Varela (38 (42), 8/30)
Lérida, Hospital Arnan de Villanova, J Macia (12 (12), 0/12)
Lugo, Hospital Xeral-Calde, CIC 371, M Gonzales-Lopez (5 (5), 0/5)
Madrid, Hospital de la Princesa, CIC 236, JM Fernández Rañada, A Figuera, A Alegre (66 (73), 33/33)
Madrid, Hospital Doce de Octubre, CIC 382, JJ Lahuerta (hem), H Cortés Funes (onco), J Lopez Perez (peds) (52 (58), 1/51)
Madrid, Hospital Ramon y Cajal (ads), CIC 615, J Odriozola, J Pérez de Oteyza, J Lopez, J Garcia Larana (44 (44), 11/13)
Madrid, Hospital Ramon y Cajal (peds), CIC 615, A Munoz Villa, MS Maldonado (5 (5), 1/4)
Madrid, Clinica Puerta de Hierro, CIC 728, MN Fernandez (35 (41), 15/20)
Madrid, Hospital Nino Jesus, CIC 732, LM Madero (44 (44), 16/28)
Madrid, Hospital Universitario San Carlos (hem, onco), CIC 733, M Martin, J Diaz Mediavilla, L Llorente, E Diaz-Rubio, A Casado, JA Lopez-Martin (32 (32), 0/32)
Madrid, Hospital La Paz Infantil, CIC 734, A Martinez-Rubio, A Sastre, P Garcia-Miguel (47 (51), 6/41)
Madrid, Unidad de TMO-ONC 4, Hospital Gregorio Maranon, CIC 819, JL Diez Martin (30 (34), 9/21)
Madrid, Clinica La Luz, H Cortés-Funes, J Hornedo (0 (0), 0/0), starting in 2002
Madrid, Clinica Moncloa (hem), JM Fernandez, Q Escudero (9 (9), 0/9)
Madrid, Clinica Ruber, JM Fernandez-Ranada, Q Escudero (17 (17), 0/17)
Madrid, Hospital Ruber Internacional, J Diaz Mediavilla (1 (1), 0/1)

Madrid, Hospital Universitario de Getafe (hem), F Oña Compan, N Somolinos, (11 (12), 0/11)
Madrid, Hospital General La Paz (ads), F Hernandez Navarro, M Canales (32 (34), 1/31)
Madrid, Fundacion Jimenez Diaz CIC 309, J Tomas, C Paniagua, F Lobo (20 (21), 6/14)
Madrid, Hospital Militar Gomez Ulla, F Sancho-Cuesta, S Enrech-Frances (1 (1), 0/1)
Malaga, Hospital Regional, CIC 576, J Maldonado (37 (38), 12/25)
Murcia, Hospital Virgen de la Arrivxaca, CIC 323, R Candel Parra (16 (17), 0/16)
Murcia, Hospital General Uni. Morales Meseguer, CIC 735, JM Moraleda, V Vicente-Garcia, I Heras (34 (39), 14/20)
Orense, Hospital Cristal-Pinor (hem), J-L Sastre-Moral (16 (18), 0/16)**
Oviedo, Hospital Covadonga, CIC 642, D Carrera Fernandez, C Rodriguez Pinto (47 (51), 5/42)
Palma de Mallorca, Hospital Son Dureta, CIC 722, J Besalduch, HS Dureta (23 (27), 5/18)
Palma de Mallorca, Policlinica Miramar, J Besalduch, A Sampol (4 (4), 1/3)
Pamplona, Hospital Provincial de Navarra, CIC 577, E Pérez Equiza, MJ Uriz Pascual, J Gastearena (19 (19), 0/19)
Pamplona, Clinica Universitario de Navarra, CIC 737, J Rifon (12 (14), 3/9)
Pontevedra, Hospital Montecelo, CIC 549, M Constela (16 (16), 0/16)
Salamanca, Complejo Hospital, CIC 727, D Caballero (70 (78), 21/49)
San Sebastian, Hospital Nostra Senora de Aranzazu, CIC 598, J Marin, D Martinez (23 (30), 3/20)
Santander, Hospital Universitario M de Valdecilla, CIC 242, A Iriondo, E Conde, E Bureo, A Zubizarreta-Pina (67 (76), 15/52)
Santiago de Compostela, Hospital Xeral de Galicia, CIC 570, JL Bello (22 (22), 1/21)
Sevilla, Hospital Universitario Virgen del Rocio, CIC 769, JM Rodriguez Fernandez (44 (45), 14/30)
Sevilla, Clinica Del Sagrado Corazon, JM Rodriguez*
Tarragona, Hospital de Tarragona Joan XXlll (hem), A Llorente Cabrera (10 (10), 0/10)
Valencia, Hospital Clinico Universitario, CIC 282, J Garcia-Conde, C Solano (67 (71), 16/51)
Valencia, Hospital Universitario La Fe (peds), CIC 653, V Castel, A Verdeguer (22 (23), 8/14)
Valencia, Hospital Universitario La Fe, CIC 663, MA Sanz, GF Sanz (72 (82), 30/42)
Valencia, Hospital Doctor Peset (hem), P Ribas Garcia (7 (8), 0/7)
Valencia, Instituto Valenciano de Oncologia, V Guillen, J Palau*
Valladolid, Hospital Rio Hortega, CIC 611, J Garcia Frade (13 (13), 0/13)
Vigo, Hospital Xeral-Cies, A Martinez-Dalmau (24 (24), 4/20)
Zaragoza, Clinico Universitario Lozano Blesa (Haem, onco), CIC 531, A Tres, L Palomera, M Gutierrez, J Mayordomo (29 (29), 0/29)
Zaragoza, Hospital Miguel Servet (hem + onco) M Giralt, G Pérez-Lugmus, D Rubio-Félix, A Anton (28 (28), 6/22)

Sweden (10 teams; 429 (498), 154/275)
Goteborg, CHECT (ads), CIC 289, M Brune (70 (99), 20/50)
Goteborg, CHECT (peds), CIC 289, A Fasth, J Abrahamson, K Mellgren, S Berg, S Óskarsdóttir (9 (11), 6/3)
Huddinge, Hospital, CIC 212, P Ljungman (95 (98), 58/37)
Linköping, University Hospital, CIC 740, G Juliusson (37 (46), 15/22)
Lund, University Hospital, CIC 283, AN Bekassy (50 (57), 14/36)
Malmö, University Hospital, I Turesson (5 (5), 0/5)
Örebro, Medical Center Hospital, CIC 738, U Tidefelt (12 (12), 0/12)
Stockholm, Karolinska Hospital, CIC 626, M Björkholm (36 (43), 0/36)
Umea, Norrland University Hospital, CIC 731, A Wahlin, P Hörnsten, J Lindh, L Eliasson (40 (48), 15/25)
Uppsala, University Hospital, CIC 266, B Simonsson, K Carlson, G Oberg (75 (79), 26/49)

Switzerland (10 teams; 281 (377), 75/206)
Aarau, Kantonsspital, CIC 316, M Wernli, M Bargetzi (11 (12), 0/11)
Basel, Kantonsspital, CIC 202, A Gratwohl, T Kühne, R Herrmann (50 (78), 32/18)
Bellinzona, Ospedale San Giovanni, CIC 829, F Cavalli, M Ghielmini, L Leoncini (10 (14), 0/10)
Berne, Inselspital (hem/onco), CIC 221, A Tobler, K Leibundgut, M Fey (32 (36), 0/32)
Geneva, Hôpital Cantonal Universitaire, CIC 261, B Chapuis, Y Chalandon, P Wacker (15 (21), 14/1)
Lausanne, CHUV, CIC 820+CIC 579, M Schapira, T Kovacsovics, S Leyvraz, N Ketterer, N Nenadov-Beck (65 (82), 0/65)
St Gallen, Kantonsspital, CIC 324, U Hess (10 (11), 0/10)
Zurich, University Hospital (ads, hem/onco), CIC 208, U Schanz, J Halter, R Stahel, L. Jost (69 (93), 20/49)
Zurich, University Hospital (peds), CIC 334, R Seger (12 (15), 9/3)
Zurich, Klinik Im Park, CIC 700, J Gmür, U Breitenstein, A von Rohr (7 (15), 0/7)

Turkey (25 teams; 373 (382), 170/203)
Ankara-Sihhiye, Hacettepe University Medical School (hem), CIC 168, O Ozcebe, H Goker (2 (2), 2/0)
Ankara-Besevler, Gazi University (hem), CIC 169, R. Haznedar (0 (0), 0/0), starting in 2002
Ankara, Gazi University Medical School (peds Hem/Onco), CIC 182, O Gulyuz (0 (0), 0/0)
Ankara, Hacettepe University, Inst. Of Oncology Hematopoietic Stem Cell Transplantation Unit CIC 292, E Kansu, C Akyüz (21 (22), 1/20)
Ankara-Etlik, GATA BMT Center, CIC 372, A Yalcin, F Arpaci, A Özet, C Beyan, A Ural (43 (43), 12/31)
Ankara, Childrens Hospital Hacettepe University, CIC 509, A Tuncer, D Uckan (19 (20), 18/1)
Ankara, Ibn-i Sina Hospital, CIC 617, H Koc (50 (51), 31/19)

Ankara, University of Ankara (peds), CIC 620, E Unal (8 (8), 8/0)
Ankara, Numune Education and Research Hospital, CIC 691, T Demirer, D Suleyman (55 (56), 26/29)
Antalya, Akdeniz University hospital, CIC 618, MA Yesilipek, V Hazar, O Yegin (12 (12), 11/1)
Antalya, Akdeniz University hospital, CIC 685, L Undar (6 (6), 5/1)
Balcali, Hospital, CIC 821, A Tanyeli (8 (8), 7/1)
Eskisehir, Osmangazi University, CIC 686, Z Güblas (9 (9), 4/5)
Istanbul, Maltepe Medical Faculty, CIC 210, K Ozerkan, A Tamkan (0 (0), 0/0) starting in 2004
Istanbul, Marmara University, Altunizade, CIC 714, S Ratip, T Akoglu (4 (4), 1/3)
Istanbul, University of Istanbul, CIC 760, S Kalayoglu-Besisik (30 (31), 14/16)
Istanbul, Cerrahpasa Medical School, CIC 761, B Ferhanoglu, T Soysal, Z Baslar (11 (12), 5/6)
Istanbul, Tip Fakultesi, CIC 762, G Gedikoglu (16 (16), 12/4)
Istanbul, GATA Haydarpasa Egitim Hst, CIC 687, A Öztürk (0 (0), 0/0) starting in 2002
Istanbul, Institute of Oncology, CIC 689, H Onat, M Basaran (8 (8), 0/8)
Izmir, Ege University Medical Faculty (peds), CIC 621, S Kansoy (5 (5), 2/3)
Izmir, Ege University Medical Faculty (ads), CIC 628, S Cagirgan (39 (40), 3/36)
Izmir, Dokuz Eylul University, CIC 688, U Yilmaz (3 (5), 0/3)
Kayseri, Erciyes University Hospital, CIC 627, A Unal, M Cetin, (16 (16), 4/12)
Trabzon, Karadeniz Technical University, CIC 170, E Ovali (8 (8), 4/4)

Ukraine (2 teams; 37 (44), 2/35)
Kiev, Kiev City BMT Center, CIC 176, E Karamanescht, V Chomenko, I Korenkova, S Borodkin (26 (28), 0/26)
Kiev, Kiev Regional Oncologic Hospital, CIC 177, S Donska, O Ryzhak (11 (16), 2/9)

United Kingdom (53 teams; 2 104 (2 303), 772/1 332)**
Aberdeen, The Royal Infirmary, CIC 344, DJ Culligan (19 (19), 6/13)
Bangor, Gwynedd Hospital, CIC 736, M Gilleece (9 (9), 0/9)
Bath, Royal United Hospital, CIC 619, C Knechtli (5 (5), 0/5)
Belfast, Belvoir Park Hospital, CIC 268, P Abram (0 (0), 0/0)
Belfast, Royal Victoria Hospital (CIC 268) and City Hospital (CIC 753), F Jones, TCM Morris (41 (42), 12/29)
Birmingham, Heartlands Hospital, CIC 284, DW Milligan (47 (50), 18/29)
Birmingham, Queen Elizabeth Hospital, CIC 387, C Craddock, P Mahendra (99 (101), 44/55)
Birmingham, The Birmingham Childrens Hospital, CIC 781, PJ Darbyshire, MW Williams (35 (38), 28/7)
Bournemouth, Royal Bournemouth Hospital, CIC 765, S Killick (14 (15), 0/14)
Bristol, Royal Hospital for Sick Children, CIC 386, JM Cornish and Avon Haematology Unit Bristol, J Hows, D Marks (71 (76), 51/20)
Cambridge, Addenbrooke's Hospital and Norwich Hospital, CIC 566 + 391, RE Marcus, J Craig, M Deane (58 (60), 11/47)
Cardiff, University Hospital of Wales, CIC 303, KMO Wilson, AK Burnett, JA Whittaker, CH Poynton, (49 (52), 11/38)
Cheltenham, Cheltenham General Hospital, CIC 398, E Blundell (12 (12), 0/12)
Coventry, University Hospital & Warwickshire NHS Trust, N Jackson (14(15), 0/14)
Dundee, Ninewells Hospital, CIC 719, D Bowen (6 (6), 0/6)
Edinburgh, Western General Hospital, (hem) CIC 228, JM Davies, PRE Johnson, MJ Mackie, PH Roddie (27 (27), 5/22)
Exeter, Royal Devon and Exeter Hospital, CIC 571, C Rudin (13 (13), 0/13)
Glasgow, Royal Infirmary, CIC 244, A Parker, IG McQuaker (55 (56), 21/34)
Glasgow, The Western Infirmary, CIC 325, T Fitzsimons (25 (25), 0/25)
Glasgow, Royal Hospital for Sick Children, CIC 707, B Gibson (11 (13), 10/1)
Leeds, St James's University Hospital and The General Infirmary, CIC 254, G Cook, S Kinsey, JA Child (126 (126), 27/99)
Leicester, Royal Infirmary, CIC 713, AE Hunter (49 (54), 14/35)
Liverpool, Royal Liverpool University Hospital, CIC 501, RE Clark, A Pettitt (58 (61), 17/41)
Liverpool, Alder Hay, M Caswell (10 (10), 4/6)
London, Hammersmith and Charing Cross Hospital, CIC 205, JM Goldman, J Apperley, D Samson, C Giles, E Kanfer (112 (128), 47/65)
London, Royal Free Hospital, CIC 216, HG Prentice, M. Potter (76 (83), 52/24)
London, Royal Marsden Hospital, CIC 218, R Powles, J Mehta (115 (159), 38/77)
London, University College Hospital, CIC 224, S MacKinnon, AH Goldstone (122 (135), 55/67)
London, Institute of Child Health, CIC 243, P Veys, IM Hann (56 (66), 43/13)
London Oncology Marrow Transplantation Group, CIC 263, PJ Gravett (7 (16), 0/7)
London, St. George's Hospital, CIC 539, J Marsh, S Ball, EC Gordon-Smith, C Dearden (24 (25), 13/11)
London, Guy's Hospital, CIC 721, S Schey (32 (34), 2/30)
London, King's College, CIC 763, A Pagliuca, GJ Mufti (60 (74), 35/25)
London, St Bartholomew's, CIC 768 and the Royal London Hospital, CIC 269, M Barnett, AC Newland, J Cavenagh (68 (68), 18/50)
Manchester, Royal Children's Hospital, CIC 521, AM Will (22 (24), 19/3)
Manchester, The Royal Infirmary, CIC 601, JA Yin (43 (48), 26/17)
Manchester, Christie Hospital, CIC 780, R Chopra (98 (114), 27/71)

Manchester, Hope Hospital, PA Carrington (4 (4), 0/4)
Manchester, Trafford General Hospital, PA Carrington (4 (4), 0/4)
Newcastle upon Tyne, Royal Victoria Infirmary, CIC 276, GH Jackson, SJ Proctor, P Taylor, A Cant, R Skinner (84 (88), 38/46)
Norwich, Norfolk and Norwich Hospital (hem), CIC 391, G Turner (10 (10), 0/10)
Nottingham, City Hospital, CIC 717, N Russell (81 (96), 36/45)
Oxford, John Radcliffe Hospital, Headington, CIC 255, TJ Littlewood, C Bunch, C Mitchell, C Hatton, G Hall, J Wainscoat (41 (41), 12/29)
Plymouth, Derriford Hospital, CIC 823, MD Hamon (35 (36), 13/22)**
Poole, Dorset Cancer Centre, CIC 580, A Bell (17 (20), 0/17)
Sheffield, Royal Hallamshire Hospital – J Snowdon, Weston Park Hospital – L Evans, The Children's Hospital – A Vora, and Rotherham General Hospital, CIC 778:1/2/3/5, H Barker (40 (44), 18/22)
Somerset, Taunton and Somerset Hospital, SA Johnson, S Bolam (14 (15), 0/14)
Southampton, CRC Wessex, CIC 704, K Orchard, A Duncombe, J Kohler (44 (44), 1/43)
Stoke-on-Trent, North Staffordshire Royal Infirmary, R Chasty (9 (9), 0/9)
Sunderland, The Sunderland Royal, PJ Carey (3 (3), 0/3)
Swansea, Singleton Hospital, Sketty, CIC 554, S Al Ismail (11 (11), 0/11)
Swindon, Princess Margaret Hospital (Hem), CIC 608, NE Blesing, A Gray, S Green, A Koster (7(7), 0/7)
Wakefield, Pinderfield's and Pontefract Hospitals NHS Trust, CIC 764, MC Galvin, D Wright (12 (12), 0/12)

Yugoslavia (Serbia and Montenegro) (4 teams; 20 (21), 6/14)
Belgrade, Mother and Child Health Institute, CIC 358, D Makic, D Vujic (0 (0), 0/0)
Belgrade, Clinical Centre of Serbia, CIC 373, M Colovic, A Bogdanovic (0 (0), 0/0) not transplanting presently
Belgrade, Military Medical Academy, CIC 582, M Malesevic (20 (21), 6/14)
Novi Sad, Institute of Internal Diseases, CIC 655, D Pejin (0 (0), 0/0) starting in 2002

*no report
**late change or late data, not included in tables and figures
Final data: Total 599 teams; 19 668 (23 154), 6426/13 242; November 2002