The EBMT activity survey: 1990–2010

INTRODUCTION

Hematopoietic SCT (HSCT) is an established procedure for many acquired and congenital disorders of the hematopoietic system. Forecasts predict an ongoing increase in the near future. The annual activity survey, describing the status of HSCT in Europe, has become an instrument used to observe trends and to monitor changes in technology use. The survey captures the numbers of HSCT performed in the preceding year from each participating team, split by indication, donor type and stem cell source. The standardized structure of the survey over many years and the excellent commitment by the participating teams allow us to observe changes over time and to evaluate factors associated with such changes. More recently, the survey has included information on cellular transplants with hematopoietic stem cells for non-hematopoietic use, as well as on the use of non-hematopoietic stem and progenitor cells. This coincides with the recent interest of the World Health Organization WHO (http://www.who.org) in cell and tissue transplants and further stresses the need for adequate and timely information. The European Group of Blood and Marrow Transplantation (EBMT) analyses in previous years have shown an increase in the annual absolute HSCT numbers and transplant rates (number of HSCT/10 million inhabitants) of about 4–13% (median 8%) for allogeneic and of 1.5–9.5% (median 4%) for autologous HSCT, following earlier findings of the high predictability of transplant rates.

This report is based on the 2010 survey data and, in addition, as the survey was started in 1990 and as this is an anniversary edition, data on the way transplants have evolved from 1990 to 2010 is shown. As there are differences in the availability of resources, governmental support and access of patients to HSCT, we present differences among major European countries in transplant rates for different indications.

PATIENTS AND METHODS

Data collection and validation

Participating teams were requested to report data for 2010 by indication, stem cell source and donor type as listed in Table 1. Quality control measures included several independent systems: confirmation of validity of the entered data by the reporting team, selective comparison of the survey data with MED-A data sets in the EBMT Registry database, cross-checking with the National Registries and onsite visits of selected teams.

Teams

A total of 654 centers from 48 countries were contacted for the 2010 survey (39 European and 9 affiliated countries), of which 634 teams from 45 countries (37 European and 8 affiliated countries) reported their numbers. This corresponds to a 97% return rate and includes 517 active EBMT member teams. In all, 22 active teams failed to report in 2010. Contacted teams are listed in the appendix in alphabetical order by country, city, EBMT center code, with their reported numbers of first and

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Table 1. Numbers of hematopoietic stem cell transplants in Europe 2010 by indication, donor type and stem cell source

<table>
<thead>
<tr>
<th>Donor Source</th>
<th>Number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Allogeneic</td>
</tr>
<tr>
<td></td>
<td>Family HLA-identical</td>
</tr>
<tr>
<td>BM</td>
<td>PBPC</td>
</tr>
<tr>
<td>Leukemias</td>
<td>775</td>
</tr>
<tr>
<td>Acute myeloid leukemia</td>
<td>313</td>
</tr>
<tr>
<td>first CR</td>
<td>223</td>
</tr>
<tr>
<td>not first CR</td>
<td>90</td>
</tr>
<tr>
<td>Acute lymphatic leukemia</td>
<td>294</td>
</tr>
<tr>
<td>first CR</td>
<td>176</td>
</tr>
<tr>
<td>not first CR</td>
<td>118</td>
</tr>
<tr>
<td>Chronic myeloid leukemia</td>
<td>53</td>
</tr>
<tr>
<td>chronic phase</td>
<td>26</td>
</tr>
<tr>
<td>not 1st chronic phase</td>
<td>27</td>
</tr>
<tr>
<td>MDS,MD/MPN,transformed secondary AL</td>
<td>81</td>
</tr>
<tr>
<td>MPS</td>
<td>22</td>
</tr>
<tr>
<td>Chronic lymphatic leukemia</td>
<td>12</td>
</tr>
<tr>
<td>Lymphoproliferative disorders</td>
<td>102</td>
</tr>
<tr>
<td>Plasma cell disorders - MM</td>
<td>23</td>
</tr>
<tr>
<td>Plasma cell disorders - other</td>
<td>2</td>
</tr>
<tr>
<td>Hodgkin's lymphoma</td>
<td>19</td>
</tr>
<tr>
<td>Non Hodgkin lymphoma</td>
<td>58</td>
</tr>
<tr>
<td>Solid tumors</td>
<td>11</td>
</tr>
<tr>
<td>Neuroblastoma</td>
<td>4</td>
</tr>
<tr>
<td>Soft tissue sarcoma</td>
<td>2</td>
</tr>
<tr>
<td>Germinal tumors</td>
<td>1</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>1</td>
</tr>
<tr>
<td>Ewing</td>
<td>3</td>
</tr>
<tr>
<td>Other solid tumors</td>
<td>4</td>
</tr>
<tr>
<td>Non-malignant disorders</td>
<td>480</td>
</tr>
<tr>
<td>BM failure - SAA</td>
<td>171</td>
</tr>
<tr>
<td>BM failure - other</td>
<td>55</td>
</tr>
<tr>
<td>Hemoglobinopathies - thalassemia</td>
<td>98</td>
</tr>
<tr>
<td>Hemoglobinopathies - other</td>
<td>51</td>
</tr>
<tr>
<td>Primary immune deficiencies</td>
<td>84</td>
</tr>
<tr>
<td>Inherent disorders of metabolism</td>
<td>14</td>
</tr>
<tr>
<td>Auto immune disease</td>
<td>7</td>
</tr>
<tr>
<td>Others</td>
<td>18</td>
</tr>
<tr>
<td>Total patients</td>
<td>1386</td>
</tr>
<tr>
<td>Total transplant</td>
<td>1434</td>
</tr>
</tbody>
</table>

Abbreviations: MDS = myelodysplastic syndrome; MD/MPN = myelodysplastic/myeloproliferative neoplasm; MM = multiple myeloma.
total HSCT, and of first allogeneic and autologous HSCT. The WHO regional office definitions (http://www.who.org) were used to classify countries as European or non-European. According to the information received, there were no blood or marrow transplants performed in Albania, Andorra, Armenia, Georgia, Liechtenstein, Malta, Moldavia, Monaco, Montenegro and San Marino in 2010. Eight non-European countries participated in the 2010 EBMT activity survey: Algeria, Iran, Israel, Jordan, Lebanon, Saudi Arabia, South Africa and Tunisia. Their data, 7% of the total data set, are included in all analyses.

Definitions

Patient and transplant numbers. Wherever appropriate, patient numbers corresponding to the number of patients receiving a first transplant and transplant numbers reflecting the total number of transplants performed are listed. Multiple transplants may include multiple transplants defined as subsequent transplants within a planned double or triple autologous or allogeneic transplant protocol, and retransplants (autologous or allogeneic) defined as unplanned HSCT for rejection or relapse after a previous HSCT.

Information on stem cell source includes BM, peripheral blood or cord blood; transplants with more than one source were categorized as cord blood HSCT if cord blood was present or peripheral blood HSCT if BM and peripheral blood were used. Information on use of RIC transplants, as defined by EBMT, was collected.

Information on additional cellular therapies was subdivided into: HSC for non-hematopoietic use, non-hematopoietic stem cell therapies, MSC therapies for rejection or GVHD prevention/treatment and donor lymphocyte infusions. Collection of information was harmonized with similar surveys carried out by the European League against Rheumatism (http://www.eular.org) and Tissue Engineering and Regenerative Medicine International Society (http://www.termis.org).12

Transplant rates. Transplant rates, defined as numbers of HSCT per 10 million inhabitants, were computed for each country without adjustments for patients who crossed borders and received their HSCT in a foreign country. Population numbers were obtained from the US census bureau database (http://www.census.gov/population/international/data/idb/rank.php).

Analysis. Wherever appropriate, absolute numbers of transplanted patients, or transplants or transplant rates are shown for specific countries, indications or transplant techniques. Changes over time are depicted graphically. In seven large European countries (population >20 million) reporting to the survey, France, Germany, Italy, Poland, Spain, Turkey and the United Kingdom, descriptive comparisons of transplant rates for particular indications are presented. These countries were chosen in order to eliminate the impact that single transplant centers specializing in specific indications may have on these rates.

RESULTS

2010 data

Participating teams in 2010. Of the 634 teams, 390 (62%) did both allogeneic and autologous transplants, 222 (35%) restricted their activity to autologous HSCT only and 14 teams (2%) to allogeneic transplants only. In all, 8 (1%) teams reported having performed no transplants in 2010.

Numbers of patients and transplants in 2010. A total of 30,012 patients were transplanted in 2010. Of these, the first transplant for 12,276 (41%) patients was allogeneic, whereas the first transplant for 17,736 (59%) patients was autologous. Furthermore, there were 2022 retransplants (959 allogeneic/1063 autologous) and 1328 multiple transplants (110 allogeneic/1218 autologous), bringing the total to 33,362 HSCT procedures, 13,345 allogeneic (40%) and 20,017 autologous (60%) performed in 2010.

Indications for HSCT in 2010. Indications for HSCT in 2010 are listed in detail in Table 1 and their distribution is illustrated in Figures 1a and 1b: allogeneic HSCT and autologous HSCT, respectively.13 Main indications were lymphoid neoplasias with 17,362 patients (58%): 1977 allogeneic (11%) and 15,385 autologous (89%), leukemias with 9355 patients (31%): 8685 allogeneic (93%) and 670 autologous (7%), solid tumors with 1585 patients (5%): 81 allogeneic (5%) and 1504 autologous (95%) and non-malignant disorders with 1609 patients (5%): 1449 allogeneic (90%) and 160 autologous (10%). Autologous HSCT for non-malignant disorders predominantly include patients with autoimmune disorders (n=148). An additional 101 patients (<1%), 84 with allogeneic HSCT and 17 with autologous HSCT, were listed as 'other indications'.

Stem cell source and donor type in 2010. There were clear differences in the use of stem cell source between autologous and allogeneic HSCT. Of the 20,017 autologous transplants, 185 (1%) were BM-derived and 19,829 (99%) were derived from PBSCs or from combined peripheral blood and BM. There were three autologous HSCT reported with cord blood cells, one for a child with neuroblastoma, one for a child with SAA and one for a child with myelodysplastic syndrome (MDS) transformed to acute leukemia (AL). Of the 13,345 allogeneic transplants, 2985 (22%) were BM, 9,519 (71%) were peripheral blood and 841 (6%) were cord blood transplants. Cord blood was used as stem cell source for 47 (0.9%) of HLA-identical siblings, 81 (0.6%) from other family members and 789 (11%) of unrelated donors. The highest incidence of cord blood transplants from unrelated donors was seen in France, Italy and Spain: 450 (22% of all unrelated HSCT). The choice of stem cell source differed by main indication for all types of allogeneic HSCT. BM remained the preferred source of stem cells for autologeneic transplants for non-malignant disorders (59%).13

Donors for the 13,345 allogeneic HSCT were HLA-identical siblings (5359 (40%) BM or peripheral blood donors and 47 (0.35%) targeted cord blood HSCT, other family members (802 (6%)), syngeneic twin siblings (434 (3%)), unrelated donors (5806 (43%)), other (187 (1%)).

Figure 1. Absolute numbers and relative proportions of indications for an HSCT in Europe in 2010. (a) Proportions of disease indications for an allogeneic HSCT in 2010. Leukemias (green) 8685 (71%), lymphoproliferative disorders (blue) 1,977 (16%), solid tumors (orange) 81 (<1%), BM failures (red) 1449 (12%) and others (yellow) 84 (<1%). (b) Proportions of disease indications for an autologous HSCT in 2010. Leukemias (green) 670 (3.8%) (AML 2.9%, ALL 0.5%, CML <0.1%, CLL 0.3% and MDS/MPS 0.1%), lymphoproliferative disorders (blue) 15,385 (87%), solid tumors (orange) 1504 (9%), auto immune disease 148 (1%) and others (yellow) 29 (<1%).
donors (39 (0.3%)), unrelated BM or peripheral blood donors (6309 (47%)), or unrelated cord blood donors (789 (6%)).

RIC in 2010. Numbers of RIC HSCT24 continued to increase from 4842 in 2009 to 5285 in 2010. RIC conditioning was used for 40% of all allogeneic HSCT, a proportion similar to that of last year’s survey.

Donor lymphocyte infusions in 2010. There were 1995 patients reported as having received donor lymphocyte infusions in 2010; this corresponds to 15% of all patients with an allogeneic HSCT.

Additional cellular therapies in 2010. A total of 26 teams from 14 countries reported having treated 288 patients with hematopoietic stem cells for non-hematopoietic use in 2010. The main indications were cardiovascular, 135 (all autologous); neurological, 17 (4 allogeneic and 13 autologous); tissue repair, 74 (all autologous); and epithelial, 62 (26 allogeneic and 36 autologous). In addition, 356 patients in 55 teams and 16 countries received mesenchymal stromal cells for prevention/treatment of GVHD (213), prevention/treatment of graft failure (81) and for unspecified reasons (62).

Transplant rates in 2010. Transplant rates differed substantially between participating countries (Figure 2a: allogeneic HSCT; Figure 2b: autologous HSCT). These differences related to all the types of HSCT. Transplant rates for allogeneic HSCT ranged from 0 (several countries) to 348 in Italy and 533 in Iceland (median: 219). For autologous HSCT, they ranged from 11 in Ukraine to 497 in Italy and 533 in Iceland (median: 219).

Among the seven large European countries (population > 20 million) listed above, rates for allogeneic HSCT ranged from 74 transplants per 10 million population in Turkey to 348 in Germany. For autologous HSCT, the range was 93 in Turkey to 497 in Italy. Differences were even larger between countries when rates of unrelated donor transplants are compared (7 transplants per 10 million population in Turkey with 246 in Germany).

Indications for HSCT in the years 1990–2010

The first transplant activity survey was performed in 1990, where 143 teams from 20 countries reported their data by indication, donor type and stem cell source. In those early years, stem cells were collected from the BM and the techniques for collecting peripheral blood stem cells were being developed. In 1990, a total of 4234 patients were reported to the survey. Main indications were leukemias with 2377 patients (56%); 1621 allogeneic (68%) and 756 autologous (32%); lymphoid neoplasias with 1092 patients (26%); 144 allogeneic (13%) and 948 autologous (87%); solid tumors with 382 patients (9%); 5 allogeneic and 377 autologous and non-malignant disorders with 339 patients (8%); all allogeneic. An additional 44 patients (1%), 28 with allogeneic HSCT and 16 with autologous HSCT, were listed as ‘other indications’. The main donor type was HLA-identical sibling (1956). In addition, 181 HSCTs were performed from an unrelated donor primarily for leukemia or aplastic anemia.

Since 1990, the survey has been conducted annually. A gradual increase in the number of teams and countries, from 143 teams in 20 countries in 1990 to 634 teams in 45 countries (37 European and 8 affiliated countries) in 2010, allows a detailed observation of developing trends within the field of SCT (Figures 3a and b).

Within the cumulative data, a total of 375,948 patients have been reported to the survey, 135,179 with an allogeneic first HSCT (36%) and 240,769 with an autologous first HSCT (64%). The main indications were leukemias with 125,139 patients (33%); 98,108 allogeneic (78%) and 27,031 autologous (20%), lymphoid neoplasias with 189,299 patients (50%); 17,625 allogeneic (9%) and 171,674 autologous (91%), solid tumors with 41,070 patients (11%):...
1354 allogeneic (3%) and 39,716 autologous (97%) and non-malignant disorders with 17,953 patients (5%): 16,457 allogeneic (92%) and 1496 autologous. An additional 2487 patients (0.7%), 1635 allogeneic and 852 autologous, were listed as ‘other indications’. These considerations may have implications for long-term care of these patients. Data from the EBMT Registry indicate that for the same two decades, OS at 5 years is approximately 53%, whereas OS at 10 years is 44%. Extrapolating from this information, physicians outside of transplant centers have an increasing likelihood of encountering long-term survivors of HSCT. Approximately, 200,000 patients may be alive in Europe having had a HSCT in the past.

The main indications for allogeneic HSCT have shifted from CML and acute leukemia in 1990 to acute leukemia, myelodysplastic syndrome/myeloproliferative syndrome (MDS/MPS) and lymphoma in 2010. For autologous HSCT, the shift has been from lymphoma and acute leukemia to plasma cell disorders (PCDs) and lymphoma (Figure 3). Allogeneic transplants for CML have stabilized at a rate of 400 transplants per year. The percentage of CML transplants done after transformation to accelerated phase as compared with chronic phase continues to increase (now at 25% in advanced disease versus 16% in chronic phase) despite recommendations to do these transplants in patients nonresponsive or intolerant to tyrosine kinase inhibitors while still in chronic phase.

**Figure 4.** Absolute number of patients transplanted with an allogeneic HSCT by donor type 1990–2010.

**Figure 5.** Transplant rates for patients transplanted in seven countries with a population >20 million, 1990–2010. (a) allogeneic HSCT and (b) autologous HSCT.

The switch in allogeneic HSCT from marrow to peripheral blood occurred later and appears to have stabilized around 70%. In allogeneic HSCT, for non-malignant conditions, the use of marrow still predominates. After it has been shown in observational studies that peripheral blood was associated with more chronic GVHD and poor survival in patients with marrow failure, the trend is now to prefer marrow as a stem cell source for this indication.14,15 The use of marrow has increased from 48% in 2009 to 59% in 2010 for non-malignant disorders.

Changes in the use of donors are shown in Figure 4. It is evident that the use of unrelated donors is increasing more rapidly than that of sibling donors in Europe. Since 2008, the annual number of unrelated donor transplants exceeded that of identical sibling transplants, and in 2010, there were 30% more unrelated than HLA-identical sibling donor transplants (7098 unrelated HSCT versus 5406 HLA-identical siblings) done.

**Analysis of seven large European countries**

Figures 5a and b show transplant rates for allogeneic and autologous transplants in seven large countries with >20 million inhabitants. It is obvious that there are large differences corresponding to resources available in the respective countries. Allogeneic transplant rates (Figure 5a) continue to increase particularly in Germany, France, Italy and the United Kingdom and to a lesser extent in Spain, Turkey and Poland. Rates of autologous transplants (Figure 5b) appear to have reached a plateau in Germany, France and Italy at a rate of 330–420 per 10 million inhabitants but continue to increase in Poland and Turkey. There are particular differences that cannot be explained easily. Unrelated donor transplantation in CR1 of AML is particularly frequent in Germany, more so than in France and Italy (transplant rates of 31, 22 and 20 per 10 million for Germany, France and Italy, respectively) possibly reflecting the important investment in donor registries in Germany making unrelated donors more easily available. Even more striking are differences in the use of alternative donors such as cord blood (Figure 6a), used commonly in France and Spain and only rarely in Germany, whereas Italy and Germany are leading the field in transplants from mismatched related donors (Figure 6b). Unrelated donor cord-blood use appears to be in competition with haploidentical donor transplantation for patients without a sibling or a matched unrelated donor.

Figures 7a and b show rates of allogeneic and autologous transplantation for four indications, AML, Non Hodgkin’s lymphoma (NHL), Hodgkin’s disease (HD) and PCDs for the seven countries. It is evident that next to economic resources, other factors seem to have a role in the selection of treatment for patients. If we compare which countries are leading the field per indication, it becomes evident that for AML autologous HSCT it is Italy and Spain, for HD it is Italy before Spain, for NHL it is France and Italy and for PCD it is Germany and France. For allogeneic HSCT, it is Germany and Italy for AML, Italy and the United Kingdom for NHL, and France and Italy for PCD and HD.
Kingdom for HD, Germany and Italy for NHL and Germany and France for PCD. For instance, Germany is ranked first in allogeneic HSCT for NHL but fifth out of seven for HD. Such differences require explanation and suggest a lack of consensus about transplant indications, but probably reflect also discrepancies in general treatment algorithms for ‘transplantable’ diseases between large European countries.

**DISCUSSION**

The EBMT activity survey has been conducted annually since 1990. As this spans two decades in 2010, we show here not only the data pertaining to the 2010 survey but also a review of the development since 1990. Added is a seven-country comparison in transplant rates highlighting important differences between European countries.
The 2010 survey has for the first time reported more than 30,000 patients transplanted in a given year. This is almost ten times more than the 4,200 patients reported in 1990 and shows that HSCT is a dynamic procedure with continued growth even though certain types of transplants have been abandoned since; note the high number of patients with breast cancer that underwent autologous HSCT in the early 90s or the decline of CML as a prime indication since 2000.

The observed increase is multifactorial and appears to be due to developing indications for allogeneic HSCT, that is, MDS/MPDS, CLL and lymphoid neoplasias, the increasing age of allogeneic transplant patients with the introduction of RIC regimens (most diseases treated have a median age of onset of > 60 years), the availability of new donor sources, in particular, the huge increase in unrelated donors tested and available, which is now >19 million donors, the availability of cord blood units through the cord blood banks and resource-poor countries achieving a financial situation that permits investment in this expensive technology.

For autologous HSCT, there is a similar but weaker trend to increased numbers. Autologous HSCT is currently considered part of standard first-line therapy in PCD and second-line treatment in aggressive lymphomas. This may change somewhat in the future given the development of new drugs for these disorders.

These changes emphasize the necessity of continuously re-evaluating transplant indications, which is an important activity of the EBMT through this survey but also through the huge investment in observational research based on the EBMT Registry database.16–23

This survey is also useful to document changes in practice because of knowledge gained through studies. This is exemplified by the drastic reduction of autologous HSCT for breast cancer, the decline of CML for which HSCT nowadays is mostly used after failure of tyrosine kinase inhibitors, but also the reversal of the trend toward increasing use of peripheral blood in allogeneic HSCT for marrow failure after publication of data showing that marrow was associated with lower chronic GVHD risks. We hope that the trend towards allogeneic transplants for CML being done after transformation to advanced phase will be reversed as well. Evidently, predictions as to further development is difficult. As shown in Figure 5b, the numbers of autologous HSCT appear to level-off in the resource-rich countries, whereas the resource-poor countries continue to increase their number. The number of allogeneic HSCT continue to grow and it is of interest that there are large differences between countries, with countries of the former Eastern Block and of the Balkans lagging behind Western Europe. It is likely that transplant rates in these resource-poor countries will increase in the near future. It is of equal interest that the indications for HSCT differ among countries, this is true for the type of transplantation, such as unrelated cord blood or haploidentical HSCT, which are used differently in different countries, and also for the indications of particular diseases, for example, allogeneic HSCT for HD, used more commonly in the UK, and for myeloma, used more frequently in Germany. These differences are probably the best explanation for the differences in outcome and by protocols advancing one or the other indication as there is little evidence that disease incidence differs among countries to such an extent. It is important to highlight such differences and these data may be useful for discussion within the EBMT and transplant community.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

ACKNOWLEDGEMENTS

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REFERENCES

6 World Health Organisation, WH0http://www.who.int/topics/transplantation/en/.


APPENDIX 2010

List of transplant centers in 2010

(Total 1st HSCT (total all HSCT) N allogeneic 1st HSCT/N autologous 1st HSCT)


Bayreuth, Klinik fur Innere Medizin der Technischen Universita¨t Muenchen, CIC 584, V Steiner, O Drexer, O Finger (36 (42) 14/22)
Bielefeld, University Hospital, CIC 271, O Pohlandt, R Vedder (3 (3) 0/3)
Bochum, University Hospital Ruhr-University (hem), CIC 586, S Schilling, S Ambrosch, A M’Birgi (57 (60) 29/31)
Bonn, University Hospital of Aachen (hem), CIC 306, B Ziegler (60 (63) 32/31)
Brugg, AOK der Elisabethinen, Internal Medicine, CIC 407, A Hiss, D Stolz (13 (14) 1/13)
Brussel, KU Leuven (hem, onco), CIC 765, B Gery, R Dominici (113 (120) 44/74)
Budapest, General Hospital (hem, onco), CIC 457, A Krasznai, G Aszodi (18 (19) 10/12)
Budapest, Semmelweis University (hem, onco), CIC 254, Z Val/p, P Meszaros (138 (159) 61/88)
Budapest, University of Medical Sciences, CIC 267, A Bokori, G Horvath, E Marai (9 (10) 3/7)
Budapest, University of Veterinary Medicine, CIC 273, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 274, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 275, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 276, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 277, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 278, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 279, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 280, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 281, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
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Budapest, University of Veterinary Medicine, CIC 287, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 288, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 289, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 290, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 291, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 292, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 293, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 294, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 295, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 296, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 297, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 298, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 299, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 300, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 301, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 302, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 303, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 304, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 305, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 306, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 307, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 308, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 309, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 310, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 311, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 312, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 313, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 314, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 315, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 316, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 317, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 318, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Budapest, University of Veterinary Medicine, CIC 319, M Cibor, J Frey, A Pasztor (5 (6) 2/4)
Czech Republic: (9 teams) (498 (576) 214/284)
Brno, Masaryk University Hospital (ads, peds, hem, onco), CIC 597, J Vorlicek, J Mayer, Z Korusteck (117 (150) 31/86)
Hradec Kralove, Charles University (hem), CIC 729, L Jevavy, S Filip, M Blaha (50 (59) 26/24)
Olomouc, University Hospital (hem, onco), CIC 574, K Indrak (58 (62) 26/32)
Pilsen, Faculty Hospital (hem, onco), CIC 718, V Koza, K Steinerova (75 (86) 41/34)
Prague, Clinical Haematology, Charles University, CIC 318, T Kozak (75 (86) 41/34)
&
Prague, Thomayer Memorial Hospital, CIC 375, J Abrahamova (29 (33) 0/29)
Pilsen, Faculty Hospital (hem, onco), CIC 718, V Koza, K Steinerova (75 (86) 41/34)
Prague, Charles University, CIC 745, M Trneny (73 (83) 0/73)

Denmark: (4 teams) (278 (338) 118/160)
Aarhus, Amtssygehus (hem) and Skejby Hospital, CIC 634
Copenhagen, Righospitalet (hem), CIC 206, H Seneglov (159 (202) 92/67)

Estonia: (2 teams) (47 (52) 15/32)
Tallinn, North Estonia Medical Centre, K Vaht, T Jogi (19 (24) 0/19)
Tartu, University Hospital (hem, onco), CIC 746, H Everaus, A Kaare (28 (28) 15/13)

Finland: (7 teams) (307(330) 107/200)
Helsinki, Children’s Hospital, CIC 219, U Pihkala, S Vettenranta (20 (28) 13/7)
Helsinki, University Central Hospital, Dept of Medicine, CIC 515, L Volin (99 (101) 64/35)
Helsinki, University Hospital (onco), CIC 833, H Joensuu, R Janes (99 (101) 64/35)
Kuopio, Department of Medicine, University Hospital, CIC 396, E Jantunen, T Nousiainen (45 (45) 0/45)
Oulu, University Central Hospital (hem, onco), CIC 690, P Koistinen, E Turpeenniemi-Hujanen (25 (25) 0/24)
Tampere, University Hospital (ads, peds), CIC 635, R Silvennoinen, M Sinisalo, M Arola (42 (47) 0/42)
Turku, University Central Hospital, CIC 225, M Italä-Remes, K Remes (61 (68) 30/31)

France: (75 teams) (3997 (4342) 1477/2520)
Amiens, CHU Amiens, CIC 955, G Damaj, L Breton (34 (41) 0/34)
Angers, Centre Hospitalier, CIC 650, N Ifrah, S Franc¸ois, P Guardiola (70 (73) 35/35)
Argentueil, HopitalVictordupouy (hem), CIC 199, L Sutton (18 (18) 0/18)
Besançon, Hôpital Jean Minjoz & Hôpital St Jacques (ads, peds), CIC 233, P Herve, E Deconinck, PRohrich (101 (117) 60/41)
Bordeaux, CHU Bordeaux Groupe Hospitalier Pellegrin-Enfants (ped, hem, onco), CIC 978, C Hubert (22 (25) 14/8)
Boulogne sur Mer, CHU Hopital Duchenne, B Choufi, Dr Voronina (12 (13) 0/12)
Brest, CHU de Brest, Hopital Morvan (hem), D Gillet (61 (66) 32/29)
Caen, Centre Régional Francais Baclesse, C Fruchart (28 (33) 0/28)

Czech Republic: (9 teams) (498 (576) 214/284)
Brno, Masaryk University Hospital (ads, peds, hem, onco), CIC 597, J Vorlicek, J Mayer, Z Korusteck (117 (150) 31/86)
Hradec Kralove, Charles University (hem), CIC 729, L Jevavy, S Filip, M Blaha (50 (59) 26/24)
Olomouc, University Hospital (hem, onco), CIC 574, K Indrak (58 (62) 26/32)
Pilsen, Faculty Hospital (hem, onco), CIC 718, V Koza, K Steinerova (75 (86) 41/34)
Prague, Clinical Haematology, Charles University, CIC 318, T Kozak (75 (86) 41/34)
&
Prague, Thomayer Memorial Hospital, CIC 375, J Abrahamova (29 (33) 0/29)
Pilsen, Faculty Hospital (hem, onco), CIC 718, V Koza, K Steinerova (75 (86) 41/34)
Prague, Charles University, CIC 745, M Trneny (73 (83) 0/73)

Denmark: (4 teams) (278 (338) 118/160)
Aalborg, Aalborg Hospital (hem/clin immunology), CIC 848, J Baech, I Christiansen (18 (21) 0/18)
Aarhus, Amtssygehus (hem) and Skejby Hospital, CIC 634 + 510, E Segel, B Moeller (76 (84) 26/50)
Copenhagen, Righospitalet (hem), CIC 206, H Seneglov (159 (202) 92/67)

Estonia: (2 teams) (47 (52) 15/32)
Tallinn, North Estonia Medical Centre, K Vaht, T Jogi (19 (24) 0/19)
Tartu, University Hospital (hem, onco), CIC 746, H Everaus, A Kaare (28 (28) 15/13)

Finland: (7 teams) (307(330) 107/200)
Helsinki, Children’s Hospital, CIC 219, U Pihkala, S Vettenranta (20 (28) 13/7)
Helsinki, University Central Hospital, Dept of Medicine, CIC 515, L Volin (99 (101) 64/35)
Helsinki, University Hospital (onco), CIC 833, H Joensuu, R Janes (99 (101) 64/35)
Kuopio, Department of Medicine, University Hospital, CIC 396, E Jantunen, T Nousiainen (45 (45) 0/45)
Oulu, University Central Hospital (hem, onco), CIC 690, P Koistinen, E Turpeenniemi-Hujanen (25 (25) 0/24)
Tampere, University Hospital (ads, peds), CIC 635, R Silvennoinen, M Sinisalo, M Arola (42 (47) 0/42)
Turku, University Central Hospital, CIC 225, M Italä-Remes, K Remes (61 (68) 30/31)

France: (75 teams) (3997 (4342) 1477/2520)
Amiens, CHU Amiens, CIC 955, G Damaj, L Breton (34 (41) 0/34)
Angers, Centre Hospitalier, CIC 650, N Ifrah, S Franc¸ois, P Guardiola (70 (73) 35/35)
Argentueil, HopitalVictordupouy (hem), CIC 199, L Sutton (18 (18) 0/18)
Besançon, Hôpital Jean Minjoz & Hôpital St Jacques (ads, peds), CIC 233, P Herve, E Deconinck, PRohrich (101 (117) 60/41)
Bordeaux, CHU Bordeaux Groupe Hospitalier Pellegrin-Enfants (ped, hem, onco), CIC 978, C Hubert (22 (25) 14/8)
Boulogne sur Mer, CHU Hopital Duchenne, B Choufi, Dr Voronina (12 (13) 0/12)
Brest, CHU de Brest, Hopital Morvan (hem), D Gillet (61 (66) 32/29)
Caen, Centre Régional Francais Baclesse, C Fruchart (28 (33) 0/28)
Athens, Laikon General Hospital, CIC 438 (old CIC 328), J Meletis, M Angelopoulou (43 (43) 0/43)
Athens, Medical Center (hem), CIC 603, A Pigaditio (no report)
Athens, University of Athens, CIC 604, I Dervenoulas (14 (15) 4/10)
Athens, Evangelismos Hospital (hem), CIC 622, D Karakassis, N Harhalakis (65 (73) 48/17)
Athens, General Hospital G Gennimatas (hem), CIC 638, A Galanopoulos (no report)
Athens, Diagnosis & Therapy Centre 'Hygeia' (hem), Maroussi, CIC 643, G Karianakis (16 (16) 0/16)
Athens, Hellenic Cancer Institute St Savas (onco), CIC 751, A Efremidis, G Kouraklis, M Stamatiou, K Papanastassiou, I Fillis (25 (30) 3/20)
Athens, 'Agia Sophia' Children's Hospital, CIC 752, S Graphakis, G Vellasalas (39 (42) 30/9)
Creté, University Hospital Heraklion (peds), CIC 352, M Kalmanti (5 (5) 0/5)
Creté, University Hospital Heraklion (hem), CIC 435, H Papadaki (7 (7) 0/7)
Patras, University Medical School (hem), CIC 281, N C Zoumbos, A Spyridonidis, A Syvoniadis, M Tsinakou (23 (23) 15/8)
Thessaloniki, The George Papanicolaou General Hospital (hem), CIC 561, A Anagnostopoulos (84 (90) 41/43)

Hungary: (5 teams) (309 (315) 90/219)
Budapest, St Istvan & St Laszlo Hospital of Budapest (hem ads), CIC 556, A Fegyveres, G Kouraklis, M Stamatiou, K Papanastassiou, I Fillis (25 (30) 3/20)
Budapest, University of Debrecen, CIC 568, A Kiss (50 (50) 0/50)
Miskolc, Postgraduate Medical School (peds), CIC 599, N Kalman, D Marton, A Kelemen (18 (19) 11/7)
Pécs, University of Pécs, Internal Medicine, CIC 682, H Lózsczy, M Dávid, Á Szomor (40 (40) 0/40)

Iceland: (1 team) (13 (16) 0/13)
Reykjavik, National University Hospital (hem), CIC 605, S Reykdal (13 (16) 0/13)

Iran: (3 teams) (504 (510) 274/230)
Shiraz, Nemaziee Hospital (hem, onco), CIC 188, M Ramzi (63 (63) 12/51)
Teheran, Shariati Hospital (hem, onco), CIC 633, A Ghavamzadeh, M Jahani, (373 (377) 250/132)
Teheran, Taleghani BMT Centre, University Hospital, M Meh dizadeh (68 (70) 12/56)

Ireland: (5 teams) (184(191) 82/102)
Cork, Regional University Hospital (hem), O Gilligan, M Cahill (0 (0) 0/0)
Dublin, St James’s Hospital (hem), CIC 257, C Flynn, P Browne (128 (131) 66/62)
Dublin, St Vincent’s Hospital (hem, onco), CIC 541, J Crown, K Murphy, M Connell (11 (11) 0/11)
Dublin, Our Lady’s Hospital of Sick Children, Crumlin, CIC 774, A O’Meara (25 (29) 16/9)
Galway, University College Hospital, CIC 408, HO’ Dwyer (20 (20) 0/20)

Israel: (8 teams) (644 (696) 330/314)
Haifa, Rambam Medical Center (hem, ads, peds), CIC 345, J Rowe (135 (153) 59/76)
Jerusalem, Hadassah University Hospital (ads, peds), CIC 258, R Or, S Slavin (118 (129) 61/57)
Petach-Tikva, Beilinson Hospital (hem, ads) CIC 409, M Yeshurun (66 (66) 26/40)

Italy: (102 teams) (3998 (4653) 1492/2506)
Alessandria, SS Antonio e Biagio e C Arrigo (hem), CIC 825, A Levis, M Pini, S Tamiacco (52 (65) 24/28)
Ancona, Aziend Ospedale Salesi Riuniti (peds, hem, onco), P Pianeri (no report)
Ancona, Ancona University Hospital (hem), CIC 788, M Montanari, P Leoni (56 (57) 24/32)
Ascoli Piceno, Massolini Hospital, CIC 119, P Giani (32 (36) 11/21)
Avellino, AOS Giovanni Di Guglielmo (hem), CIC 789, N Cantore, G Storti (20 (20) 10/10)
Avezzano, Ospedale Civile di Avezzano, F Recchia (no report)
Aviano, CRA Aviano (onco), CIC 162, M Micheli, M Rupolo, M Mazzuccato, L Lollo (24 (35) 0/24)
Bari, Universi di Studi di Bari (hem), CIC 649, G Spreca, G Pignataro, D Pastore (52 (53) 16/36)
Bergamo, Ospedale Riuniti, CIC 658, A Rambaldi (108 (123) 50/58)
Bologna, St Orsola-Malpighi (hem, onco), CIC 240, G Bandini, F Bonifazi, M Baccarini (117 (131) 47/70)
Bologna, Poli. S Orsola, Clinica pediatrica III, CIC 790, A Pession, A Prete (26 (28) 16/10)
Bolzano, Ospedale S Maurizio (hem), CIC 299, G Cortelazzo, M Casini, I Cavattone (62 (62) 21/41)
Brescia, Azienda Spedali Civili (allo), CIC 141, D Russo, C Bergonzi (29 (30) 28/1)
Brescia, Azienda Spedali Civili (auto), CIC 288, G Rossini, C Alimenti (78 (110) 0/78)
Brescia, Università degli Studi di Brescia (peds), CIC 741, F Porta, A Ugaio (18 (21) 13/5)
Brindisi, Osredaliera ‘A Di Summa’, Perrino Hospital (hem), CIC 920, G Quarta, S Pinna (25 (28) 3/22)
Busto Arsizio, Ospedale di circolo de Busto Arsizio, CIC 927, L Montalbetti (9 (10) 0/9)
Cagliari, Ospedale A Basino (hem), CIC 791, E Angelucci, S Magnani, D Baronzioni, C Pepa, M Furlanini (48 (59) 20/28)
Cagliari, Centro Trapianti di Midollo Osseo, (ads,peds), CIC 811:1, G La Nasa (24 (32) 11/13)
Cagliari, Ospedale per le Microcitemie (peds), CIC 811:2, M Orfino, M Addadi (8 (8) 8/0)
Catania, Ospedale Ferrarotto (hem), CIC 792, G Milone (38 (38) 16/22)
Catania, University of Catania (peds, hem, onco), L Lo Nigro (8 (8) 4/4)
Civitavecchia-Marche, Ospedale di Civitavecchia Marche, A:S:U:R: No.8, CIC 419, R Centurioni (10 (10) 0/10)
Cremona, Ospedale Maggiore (hem), CIC 226, F Lanza, D Moretti, E Angelucci (54 (55) 20/25)
Cuneo, Hypothermia (hem, onco), CIC 606, A Gallamini, M Mordini (54 (55) 20/25)
Ferrara, St Anna Hospital, CIC 330, A Cuneo, G Dalla Pozza, G Blackford, B Bielorai (37 (38) 25/12)

Petach-Tikva, Children's Medical Center, CIC 755, J Stein (40 (43) 30/10)
Rehovot, Kaplan Hospital (hem), CIC 327, A Berribi (7 (7) 0/7)
Tel Aviv, Sourasky Medical Center, CIC 161, E Naperstek (44 (50) 20/24)
Tel Hashomer, Chaim Sheba Medical Center (hem, onco, ads) CIC 754, A Nagler, A Shimoni (197 (210) 109/88)
Tel Hashomer, Chaim Sheba Medical Center (hem, onco, peds) CIC 572, A Toren, H Golan, B Bielorai (37 (38) 25/12)
Pavia, Policlinico S Matteo (hem), CIC 286, EP Alessandrinovo (78 (88) 33/45)
Pavia, Policlinico St Matteo (hem, onco, peds), CIC 557, M Zecca (35 (43) 27/8)
Pavia, Fondazione S Maugeri (onco), CIC 771, A Zambelli, G Robustelli della Cuna (11 (17) 0/11)
Perugia, Policlinico Monteluce (onco), CIC 573, AM Liberati, F Grignani (no report)
Perugia, Policlinico Monteluce (hem), Università, CIC 794, MF Martelli, F Aversa, A Tabilio (107 (116) 41/66)
Pesaro, Ospedale San Salvatore, CIC 529, G Visani (34 (38) 14/20)
Pescara, Ospedale Civile (hem), CIC 248, P di Bartolomeo (38 (41) 34/38)
Placenza, Ospedale Civile (hem, onco), CIC 163, L Cavanna (25 (26) 6/19)

Pisa, University of Pisa (ads, hem, onco), CIC 132, M Petrini, G Papineschi (50 (55) 5/45)
Pisa, University of Pisa (peds, hem, onco), CIC 795, C Favre (13 (14) 12/11)

Potenza, San Carlo Hospital, CIC 861, A Olivieri, M Cimmino (30 (35) 8/22)

Ravenna, Ospedale Civile (hem, onco), CIC 306, E Ruffa (27 (32) 0/27)

Reggio di Calabria, Azienda Ospedale ‘Riuniti e Morelli’, CIC 587, P Iapopinto, G Console (81 (89) 23/58)
Reggio Emilia, Policlinico di Modena (hem), CIC 623, A Pozzoli, P De Fabritiis (225 (240) 17/34)

Rimini, Ospedale Infermi Rimini (hem, onco), M Iomola (15 (19) 0/15)

Rionero in Vulture, Centro di Riferimento Oncologico della Basilicata (hem), CIC 250, P Musto, N Di Renzo (9 (15) 0/9)
Roma, Università ‘La Sapienza’ (hem), Faculty I, CIC 232, R Sola, M Noll (83 (89) 15/34)
Roma, Ospedale S Giovanni (hem, onco), CIC 287, I Majolino, A Locasciulli (36 (39) 24/12)
Roma, Università Cattolica (hem), CIC 307, S Cuore, S Sica, G Leone (54 (57) 20/34)
Roma, Rome Transplant Network CIC 756, Universitario Tor Vergata (hem), Ospedale Bambino Gesù (hem), W Arcese, P De Fabritiis (225 (240) 17/34)

San Giovanni Rotondo, Hospital Casa Sollievo Sofferenza (hem), CIC 526, N Cascavilla, AM Carellai, M Greco (67 (80) 21/46)
Sassari, Universita Di Sassari (hem) CIC 870, M Longinotti (12 (14) 0/12)

Siena, Ospedale S Giovanni di Dio (hem, onco), CIC 232, G Marotta (43 (45) 15/28)

Turonio, Azienda Ospedaliero Universitario (hem), CIC 307, S Cuore, S Sica, G Leone (54 (57) 20/34)

Venza, Policlinico Monteluce (hem), Università, CIC 794, MF Martelli, F Aversa, A Tabilio (107 (116) 41/66)

Verbania-Pallanza, Ospedale Civile (hem, onco), CIC 573, AM Liberati, F Grignani (no report)

Verona, Policlinico GB Rossi (hem, onco), CIC 623 + CIC 514, F Benedetti (64 (65) 24/40)

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EBMT activity survey 2010
JR Passweg et al
Norway: (5 teams) (204 (225) 67/137)
Bergen, Haukeland Universitets Sjukehus, CIC 197, M Sjo (32 (41) 8/24)
Oslo, Oslo University Hospital, CIC 235 and Ulleval Universitets Sykehus, D Albrechtsen, L Brinch, F Wisloff, J-M Tangen (79 (84) 56/23)
Oslo, Rikshospitalet Radiumhospitalet (onco), G Lauritzen, S Kvaloy (48 (51) 3/45)
Tromso, University Hospital of Northern Norway (hem), IM Dahl, A Vik (16 (16) 0/16)
Trondheim, St Olavs Hospital, J Hammerstrom, A Waage (29 (33) 0/29)

Poland: (18 teams) (951 (1032) 369/582)
Bydgoszcz, Nicolaus Copernicus University (peds, hem, onco), CIC 764, M Wysocki, J Stycznski (35 (38) 22/13)
Gdansk, Medical University (hem), CIC 799, A Hellmann (68 (69) 27/41)
Gilwice, Maria Sklodowska-Curie memorial Cancer Centre (onco), CIC 428, S Giebel (40 (41) 0/40)
Katowice, Silesian Medical Academy (hem), CIC 677, S Kyrucz-Krzemien (172 (187) 88/84)
Krakow, Jagiellonian University (hem, onco), CIC 553, A Skotnicki, B Pitkowska-Jakubas (71 (71) 12/59)
Krakow, University Children's Hospital, CIC 507, J Godzik (23 (23) 20/3)
Lodz, Medical University of Lodz (hem), CIC 171, T Robak (36 (39) 0/36)
Lublin, Children's University Hospital (hem, onco), CIC 678, J Kowalczyk (20 (21) 14/6)
Lublin, University Medical School (hem, onco), CIC 695, A Dmoszynska, M Wach, A Walter-Croneck, W Legiec (63 (83) 3/60)
Poznan, Institute of Pediatrics, CIC 641, J Wachowiak (20 (21) 15/5)
Poznan, K Marcinkowski University (hem), CIC 730, M Komarnicki (89 (92) 38/51)
Warsaw, Inst. of Haematology and Blood Transfusion, CIC 693, B Marianska, B Naslowska-Adamska, A Tomaszewska, M Szczechinski (38 (40) 18/20)
Warsaw, Maria Sklodowska-Curie, Centre of Oncology, CIC 800, J Walewski (42 (43) 0/42)
Warsaw, Central Hospital Military Medical Academy (hem, onco), CIC 816, P Rzepecki, K Sulek, C Szczyluk (34 (37) 5/29)
Warsaw, Medical University of Warsaw (hem, onco), CIC 954, F Wiktor-Jedrzejczak, C Deptala, M Rokicka (58 (72) 28/30)
Wrocław, Lower Silesian Centre for Cellular Transplantation with National Bone Marrow Donor Registry, CIC 538, A Lange (43 (45) 20/23)
Wrocław, Medical Academy (hem, onco), CIC 699, K Kuliczkowski (45 (46) 17/28)
Wrocław, University of Medicine (peds, hem, onco), CIC 817, A Chybicka, J Owoc-Lempach (54 (64) 42/12)

Portugal: (6 teams) (363 (419) 125/238)
Coimbra, University Hospital, A Teixeira, I Costa (27 (27) 0/27)
Lisbon, Instituto Portugues de Oncologia, CIC 300, M Abecasis (72 (84) 26/46)
Lisbon, Hospital de Santa Maria, CIC 636, J Alves do Carmo, F de Lacerda (70 (81) 33/37)
Lisbon, Hospital de St Antonio dos Capuchos, CIC 826, A Botelho (20 (21) 15/5)
Peso, Instituto Portugues de Oncologia, CIC 291, P Pimentel, F Campilho (131 (142) 66/65)
Peso, Hospital S Joao (hem, onco), CIC 329 plus CIC 572, JF Guimaraes, F Prince (34 (42) 0/31)
(hem), CIC 427, D Colita, C Arion (68 (71) 12/56)
Bucharest, Fundeni University Institute, 2nd department of
Hematology, CIC 454, A Moicean (0 (0) 0/0) starting in 2011
Targu-Mures, Sectia Clinica de Hematologie, CIC 178, I Benedek
(38 (39) 3/35)
Timisoara, Emergency Childrens Hospital ‘Louis Turcanu’, III Ped
Clinic (hem/onco), CIC 174, M Serban, C Jinca (29 (36) 5/24)

Russia: (15 teams) (564 (642) 194/370)
Ekaterinburg, Regional Hospital No. 1, TS Konstantinova,
VA Shalaev (25 (29) 1/24)
Moscow, Russian Children’s Hospital (hem), CIC 694, A Maschan,
E Skorobogato, E Pachanov (68 (73) 48/20)
Moscow, Cancer Research Center, KN Melkova (29 (39) 5/24)
Moscow, Burnaysan Federal Medical Biophysical Center (Institute of
Biophysics), AA Davyan, AE Baranov (30 (33) 0/30)
Moscow, Cancer Research Center (peds, hem/onco), G Mentkevich
(25 (25) 6/19)
Moscow, Research Hematology Center of RAS, VG Savtchenko
(60 (70) 16/44)
Moscow, Main Military Clinical Hospital (hem), SV Shamansky,
OA Rukavitin (15 (16) 1/14)
Moscow, Clinic of Hematology and Cellular Therapy Transplanta-
tion Unit, CIC 520, A Novik (no report)
Moscow, Pirogov Medical Surgical Centre, DA Fedorenko (78 (78)
1/77)
Novosibirsk, Institute of Clinical Immunology, CIC 376, I Lisukov (28
(28) 5/23)
Samara, Regional Hospital, VA Rossiev (7 (7) 0/7)
St Petersburg, Leningrad Regional Clinical Hospital, I Zyuzgin
(10 (11) 2/8)
St Petersburg, Research Institute of Hematology, KM Abdulkadyrov
(17 (27) 1/16)
St Petersburg, State Pavlov Medical University (hem), CIC 725,
BV Afanassiev, L Zubarovskaya (172 (205) 108/64)
Yaroslavl, Regional Clinical Hospital (hem), V A Lapin (no report)

Saudia Arabia: (3 teams) (286 (304) 204/82)
Riyadh, King Faisal Specialist Hospital and Research centre (onco,
adsm hem), CIC 3971, M Al Jurj (143 (158) 83/60)
Riyadh, King Faisal Specialist Hospital and Research centre (peds
hem, onco), CIC 3972, M Ayas (137 (140) 116/21)
Riyadh, Armed Forces Hospital, CIC 818, A Alabdulaaly (6 (6) 5/1)

Serbia: (4 teams) (105 (111) 27/78)
Belgrade, Mother and Child Health Institute, CIC 358, D Vujic (22
(23) 9/13)
Belgrade, Clinical Centre of Serbia (hem), CIC 373, J Bila, M
Todorovic (19 (19) 0/19)
Belgrade, Military Medical Academy (hem), CIC 582, D Stamatovic
(52 (57) 16/36)
Novi Sad, Institute of Internal Diseases, Clinical Centre of Novi Sad
(hem), CIC 655, S Popovic (12 (12) 2/10)

Slovakia: (5 teams) (162 (164) 46/116)
Bansra Bystrica, Roosevelt Hospital (hem), CIC 333, I Markuljak,
E Krkalova (10 (10) 0/10)
Bratislava, National Cancer Institute, CIC 560, J Lakota (71 (71)
8/63)
Bratislava, University Hospital (hem), CIC 610, M Mistrik (38 (39)
22/16)
Bratislava, University Hospital, 2nd Children’s Clinic, CIC 684,
S Sufliarska, J Horakova, I Bodova (24 (25) 16/8)

Spain: (73 teams) (2246 (2397) 742/1504)
Alicante, Hospital General, C Rivas-Gonzales (19 (19) 0/19)
Barcelona, Hospital Clinic (hem, onco), CIC 214, E Carreras (74 (83)
26/48)
Barcelona, Santa Creu I Sant Pau (adults), CIC 260, J Sierra, S Brunet
(80 (91) 37/43)
Barcelona, Santa Creu I Sant Pau (peds), CIC 260, I Badell Serra,
N Pardo, M Torrent (13 (14) 11/2)
Barcelona, Hospital Vall d’Hebron, Materno Infantil, CIC 422,
J Sanchez de Toledo Codina, C Diaz de Heredia, T Olivé, I Ebeza
(35 (35) 26/9)
Barcelona, Hospital Vall d’Hebron (ads), CIC 584, D Valcarcel (43
(43) 19/24)
Barcelona, Hospital Mutua de Terrasa (hem-onco), JM Marti
Tutusaus (14 (14) 0/14)
Barcelona, Hospital Universitario Germans Trias i Pujol, CIC 613,
J Ribera (55 (59) 16/39)
Barcelona, Hospital Sant Joan de Deu, CIC 668, J Estella Aguado
(11 (12) 0/11)
Barcelona, Hospital Duran i Reynals (Hem), Institut Catala
d’Oncologia, CIC 759, R Duarte Palomino, C Ferrà, J Berlanga,
A Fernández (59 (61) 21/38)
Caceres, Hospital San Pedro de Alcantara, J Prieto (29 (31) 0/29)
Cadiz, Hospital de Jerez (hem), CIC 612, S Garzon (44 (45) 13/31)
Cadiz, Hospital Universitario ‘Puerta del Mar’ (hem), CIC 679,
J Munoz Muñoz (14 (14) 0/14)
Canary Isles, Las Palmas, Hospital Insular (hem), CIC 335,
J Gonzalez-San Miguel (19 (19) 0/19)
Canary Isles, Las Palmas, Hospital Materno-Infantil (peds, hem,
onco), J Lodos Rojas, C Molinez (no report)
Canary Isles, Las Palmas, Hospital Universitario de Gran Canaria ‘Dr
Negrín’, CIC 537, T Molero, S Jimenez, C Campo, A Suarez,
H Luzardo (30 (30) 14/16)
Canary Isles, Teneriffe, Hospital Universitario de Canarias,
J Rukavitsin, M Ayas (14 (14) 0/14)
Canary Isles, Teneriffe, Hospital NF De la Candelaria, J Garcia-
Luzardo (30 (30) 14/16)
Canary Isles, Teneriffe, Hospital Universitario de Gran Canaria ‘Dr
Negrín’, CIC 537, T Molero, S Jimenez, C Campo, A Suarez,
H Luzardo (30 (30) 14/16)
Canary Isles, Teneriffe, Hospital Universitario de Canarias,
J Rukavitsin, M Ayas (14 (14) 0/14)
Canary Isles, Teneriffe, Hospital NF De la Candelaria, J Garcia-
Luzardo (30 (30) 14/16)
Canary Isles, Teneriffe, Hospital Universitario de Canarias,
J Rukavitsin, M Ayas (14 (14) 0/14)
Canary Isles, Teneriffe, Hospital NF De la Candelaria, J Garcia-
Luzardo (30 (30) 14/16)
Canary Isles, Teneriffe, Hospital NF De la Candelaria, J Garcia-
Luzardo (30 (30) 14/16)
Canary Isles, Teneriffe, Hospital NF De la Candelaria, J Garcia-
Luzardo (30 (30) 14/16)
Castellon de La Plana, Hospital General de Castellon (hem), R Garcia-Boyero (9 (9) 0/9)
Cordoba, Hospital Reina Sofia (hem), CIC 238, A Torres Gomez (61 (63) 32/29)
Cruces-Barakaldo, Hospital de Cruces (hem), CIC 393, I Zuaza-Verde, F Floristan (52 (54) 0/52)
Galdakao, Hospital de Galdakao, Hem, CIC 393, J Ojanguren, K Atutxa (8 (8) 0/8)
Girona, Institut Català d’Oncologia, CIC 433, D Gallardo (10 (10) 0/10)
Granada, Hospital Virgen de la Nieves (hem), CIC 559, M Jurado Checon (30 (30) 12/18)
Jaen, Hospital Ciudad de Jaen (hem), A Alcalam (10 (10) 0/10)
La Coruña, Complexo Hospitalario Universitario A Coruña, CIC 361, FJ Battle, C Ramirez, P Torres, R Gonzalez-Rodriguez, R Varela (50 (50) 13/37)
León, Hospital de León (hem), CIC 426, F Ramos, C Cecchini, N De las Heras, C Alvarez (3 (3) 0/3)
Lleida, Hospital Arnau de Vilanova, J Macia (13 (13) 0/13)
Logroño, Hospital Rioja, Hospital San Pedro (hem), R Pabasa Barabaír (10 (10) 0/10)
Lugo, Hospital Xeral-Calde, M Gonzales-Lopez (14 (14) 0/14)
Madrid, Hospital de la Princesa (hem), CIC 236, A Figuera, A Alegre (52 (52) 24/28)
Madrid, Hospital Doce de Octubre (hem, ads), CIC 382, JJ Lahuerada, J De la Serena (55 (57) 3/52)
Madrid, Hospital Ramon y Cajal (ads, hem), CIC 615, J Lopez-Jiménez, (51 (51) 14/37)
Madrid, Hospital Universitario Puerta de Hierro (hem, CIC 728, JR Cabrera Marin (36 (41) 20/16)
Madrid, Hospital Nino Jesus (peds, onco), CIC 732, MA Diaz (36 (44) 24/12)
Madrid, Hospital Universitario San Carlos (hem), J Diaz Mediavilla, L Llorente, R Martinez (31 (31) 0/31)
Madrid, Hospital La Paz Infantil (hem, onco) and Hospital General La Paz (ads), CIC 734, A Martinez-Rubio, A Sastre, F Hernandez-Navarro, M Canales, R Arrieta (21 (23) 13/8)
Madrid, Hospital General Universitario Gregorio Marañon, Servicio de Hematologia-UTMO, (ads), CIC 819, JL Diez Martin, P Balsalobre, J Gayoso, D Serrano, I Bunó, A Gomez-Pineda, C Munoz (56 (61) 25/31)
Madrid, Hospital Universitario Materno Infantil Gregorio Maranon (ped) C Belendez (1 (2) 1/0)
Madrid, Clinica Moncloa (hem), JM Fernandez-Rañada, A Escudero (no report)
Madrid, Hospital Quiron Madrid (hem, ads), JM Fernandez-Rañada, A Escudero (no report)
Madrid, Hospital Quiron Madrid (hem, ped), LMadero (3 (3) 0/3)
Madrid, Hospital Universitario de Getafe (hem), F Oña Compan, N Somolinos (8 (8) 0/8)
Madrid, Fundacion Jimenez Diaz, A Lopez Lorenzo, M Lobo, M Callejas (12 (12) 0/12)
Madrid, Hospital Universitario Sanchinarro, J Perez de Oteyza (11 (12) 0/11)
Madrid, Leganes, Hospital Universitario Severo Ochoa, P Sanchez-Godoy (6 (6) 0/6)
Madrid, Alcala de Henares, Hospital Universitario Principe Asturias (hem), JJ Gil Fernandez, C Burgaleta (5 (5) 0/5)
Malaga, Carlos Haya Hospital (hem), CIC 576, M Gonzalez, M Pascual (70 (75) 27/43)
Murcia, Hospital Univ Virgen de la Arrixaca’, CIC 323, JM Moraleda, A Morales-Lazo, MU Majado-Martinez (53 (61) 22/31)
Murcia, Hospital Morales Meseguer, CIC 735, V Vicente-Garcia, I Heras (45 (53) 14/31)
Orense, Hospital Cristal-Pinor (hem), J-L Sastre-Moral (12 (13) 0/12)
Oviedo, Hospital Covadonga (hem), CIC 642, J-C Vallejo (59 (75) 15/44)
Palma de Mallorca, Hospital Son Espases (hem), CIC 722, J Besalduch, M Canaro (30 (32) 8/22)
Palma de Mallorca, Hospital Son Llatzer, CIC 110, J Bargay-Lleonart (12 (12) 0/12)
Pamplona, Hospital de Navarra (hem), CIC 577, E Olatzaria (55 (59) 20/35)
Pamplona, Clinica Universitaria de Navarra, CIC 737, J Rifon (11 (11) 1/10)
Pontevedra, Hospital Montecelo (hem), A-M Dios Loureiro (10 (10) 0/10)
Salamanca, Hospital Clinico (hem), CIC 727, D Caballero (126 (133) 51/75)
San Sebastian, Hospital Nostra Senora de Aranzazu, CIC 598, R Lasa, J Marín, D Martinez (38 (40) 11/27)
Santander, Hospital Universitario M de Valdecilla (hem), CIC 242, A Iriondo, E Conde (87 (94) 49/38)
Santiago de Compostela, Hospital Xeral de Galicia (hem), CIC 570, JL Bello (30 (30) 16/14)
Sevilla, Hospital Universitario Virgen del Rocío, CIC 769, I Espigadot (79 (82) 30/49)
Tarragona, Hospital de Tarragona Joan XXIII (hem), A Llorente Cabrera (8 (8) 0/8)
Valencia, Hospital Clinico Universitario (hem, onco), CIC 282, C Solano, C Arbona (74 (76) 28/46)
Valencia, Hospital Infantil La Fe (peds, onco), CIC 653, V Castel, A Verdeguer, J M Fernandez (25 (30) 8/17)
Valencia, Hospital Universitario La Fe (hem), CIC 663, MA Sanz, GF Sanz (100 (119) 52/48)
Valencia, Hospital Doctor Peset (hem), P Ribas Garcia (9 (9) 0/9)
Valencia, Instituto Valenciano de Oncologia (hem), I Picon (9 (9) 0/9)
Valencia, Hospital Arnau de Vilanova de Valencia, A Lopez (8 (8) 0/8)
Valladolid, Hospital Rio Hortega, CIC 611, J Garcia Frade (17 (19) 1/16)
Vigo, Complexo Hospitalario Universitario de Vigo (hem), CIC 421, C Albo-Lopez (31 (32) 18/13)
Zaragoza, Clinico Universitario Lozano Blesa (hem, onco), CIC 531, L Palmera Bernal (11 (11) 0/11)
Zaragoza, Hospital Miguel Servet (hem + onco), D Rubio-Félix, A Anton (23 (23) 7/16)

Sweden: (8 teams) (595 (654) 252/343)
Goteborg, CHECT (ads + peds), CIC 289, M Brune, A Fasth (100 (109) 47/53)
Linköping, University Hospital (hem), CIC 740, C Malm (69 (71) 29/40)
Lund, University Hospital (hem), CIC 283, S Lenhoff (82 (98) 24/58)
Örebro, University Hospital (hem, onco), CIC 738, P Kozlowski (19 (24) 0/19)
Stockholm (Huddinge), Karolinska University Hospital (hem, onco), CIC 212, P Ljungman (168 (176) 79/89)
Umea, Umea University Hospital, CIC 731, A Wahlin, V Lazarevic, J Lindh, B Markevärn (54 (58) 28/26)
Uppsala, University Hospital (ads + peds), CIC 266, G Oberg (103 (118) 45/58)

Switzerland: (9 teams) (452 (523) 157/295)
Aarau, Kantonsspital (hem, onco), CIC 316, M Wernli, M Bagetti (30 (34) 0/30)
Basel, Kantonsspital (hem, onco), CIC 202, J Passweg, A Gratwohl, D Heim, J Halter, T Kühne (83 (96) 52/31)
Bellinzona, Ospedale San Giovanni (hem, onco), CIC 829, F Cavalli, M Ghielmini, L Leoncini (9 (10) 0/9)
Bern, Inselspital (ads, peds, hem, onco), CIC 221, K Leibundgut, M Fey, T Pabst, D Baerlocher (83 (97) 0/83)
London, Hammersmith Hospitals NHS Trust, CIC 205, J Apperley, E Olavarria, E Kanfer, A Rahemtulla, R Szydlo (79 (95) 35/44)
London, Royal Free Hospital (hem), CIC 216, S Mackinnon (74 (80) 49/25)
London, Royal Marsden Hospital (hem), CIC 218, M Potter (194 (210) 81/113)
London, University College Hospital (hem), CIC 224, K Thomson (147 (155) 60/87)
London, Great Ormond Street Hospital, CIC 243, P Veys (74 (83) 58/16)
London, St George’s Hospital (hem), CIC 539, M Koh, EC Gordon-Smith (18 (18) 9/9)
London, Guy’s Hospital (hem), CIC 721, M Kazmi (47 (49) 20/27)
London, King’s College (hem), CIC 763, A Pagliuca (139 (158) 77/62)
London, St Bartholomew’s, CIC 768 and the Royal London Hospital, J Gribben, J Cavenagh, S Agrawal, T Lister (104 (112) 28/76)
London, St Mary’s Hospital, CIC 866, J de La Fuente, JD Cavenagh, S Agrawal, T Lister (20 (21) 20/0)
London, Parkside Hospital, CIC 450, R Powles (2 (2) 0/2)
Manchester, Royal Children’s Hospital, CIC 521, R Wynn (24 (27) 23/1)
Manchester, The Royal Infirmary, CIC 601, JA Yin, E Tholonli (74 (85) 36/38)
Manchester, Christie Hospital (hem), CIC 780, A Bloor (95 (100) 32/63)
Newcastle upon Tyne, Royal Victoria Infirmary and the Sunderland Royal Hospital, CIC 276, M Collins, GH Jackson, SJ Proctor, P Taylor, A Cant, R Skinner PJ Carey (153 (160) 77/76)
Norwich, Norfolk and Norwich Hospital (hem), CIC 391, M Lawes, G Turner (18 (18) 0/18)
Nottingham, City Hospital, CIC 717, N Russell, JL Byrne, AP Haynes, A McMillan (124 (138) 48/76)
Oxford, John Radcliffe Hospital (hem, onco), Headington and Wycombe General, CIC 255, A Peniket, TJ Littlewood, C Mitchell, C Hatton (93 (93) 44/49)
Plymouth, Derriford Hospital, CIC 823, MD Hamon (41 (44) 7/34)
Salisbury NHS Ffoundation Trust, CIC 757, J Cullis (3 (3) 0/3)
Sheffield, Sheffield Teaching Hospitals NHS Foundation Trust CIC 778/1, J Snowden, & Sheffield Children’s Hospital NHS Foundation Trust CIC 778/2, A Vora (99 (105) 38/61)
Somerset, Taunton and Somerset Hospital S Bolam (10 (10) 0/10)
Southampton, CRC Wessex, CIC 704, D Richardson, A Duncombe (94 (96) 42/52)
Stoke-on-Trent, University Hospital of North Staffordshire (hem), CIC 394, R Chasty (14 (14) 0/14)
Swansea, Singleton Hospital, CIC554, S Al Ismail (15 (16) 0/15)
Swindon, Great Western Hospital (Hem), CIC 608, NE Blesing, A Gray, S Green, A Koster (6 (6) 0/6)