



Annual Report 2 0 1 1

JOSÉ CARRERAS
LEUKAEMIA
FOUNDATION

REDMO
Bone marrow
donor registry



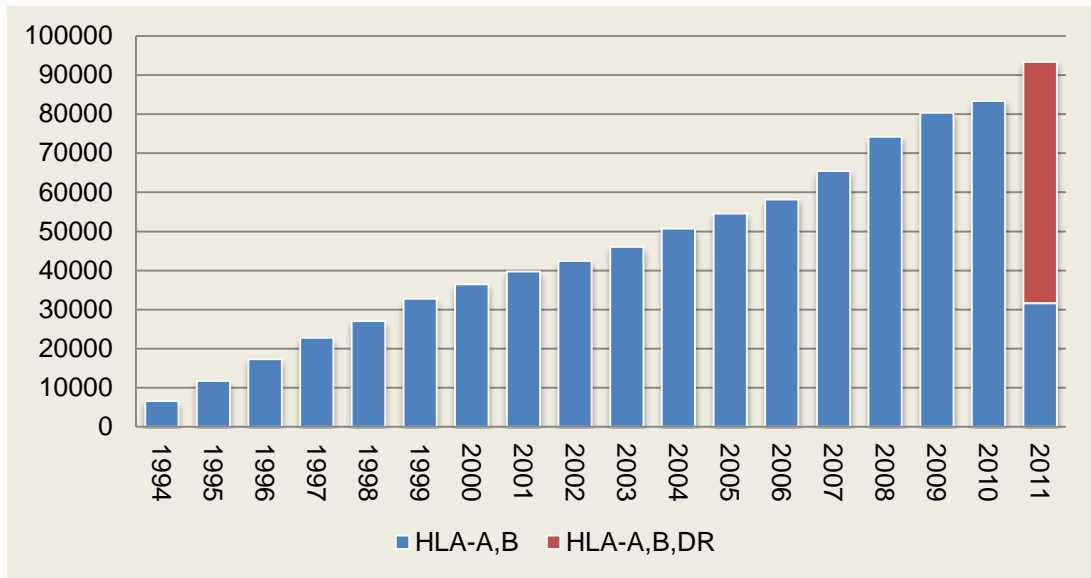
VOLUNTEER DONORS

Available typed donors as of December 31st, 2011

(▲ 8 %) 93 366

Donors typed in 2011

(▲ 3 %) 8 429



Total HLA -A,B,DR typed donors

61 699

Total HLA -A,B typed donors

31 667

Total male typed donors

39 774

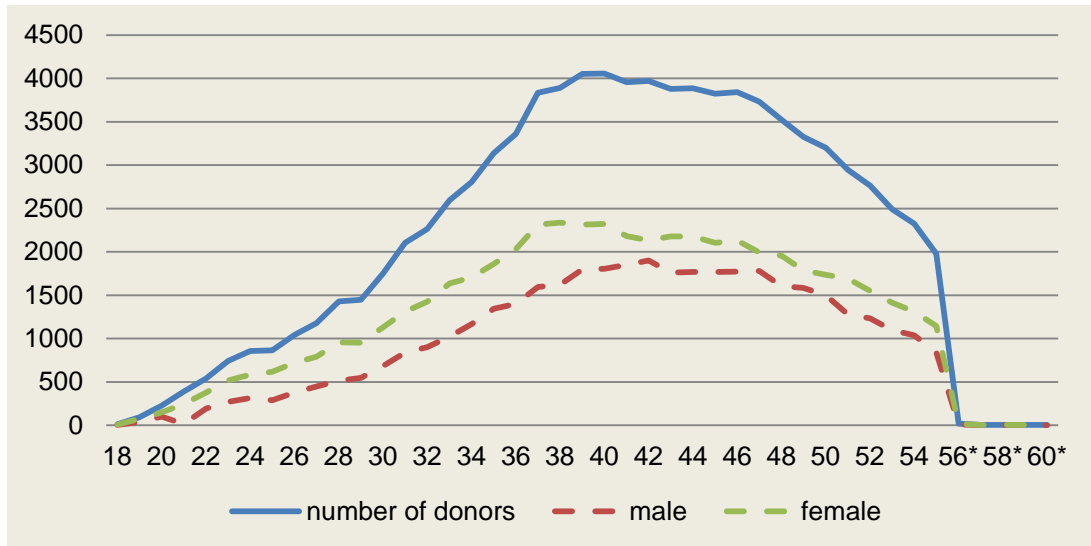
Total female typed donors

53 592



VOLUNTEER DONORS

Current age of available typed donors



Mean donor age:

Standard deviation: ± 10

43

* In 2011 we increased our donors' age limit up to 60.

Typing requests and results

DR typing requests 587

DR typing with results (59 %) 349

HR typing request 890

HR typing with results (74 %) 660

Blood samples for confirmatory typing requests 347

Shipped blood samples (75 %) 260

VOLUNTEER DONORS

Donors per Autonomous Community

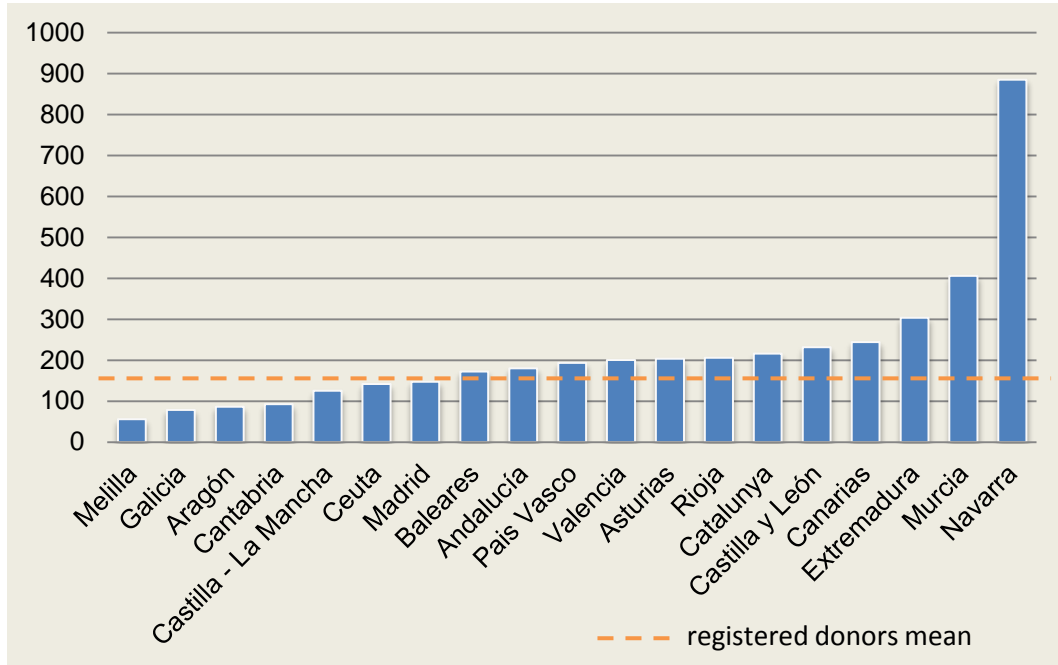
Autonomous Community	Typed in 2011 (2010)	Total active donors	x 100 000 inhabitants*
Andalucía	1 422 (1 545)	15 209	180.54
Aragón	75 (29)	1 163	86.39
Asturias	78 (91)	2 203	203.70
Baleares (Islas)	358 (157)	1 922	172.67
Canarias	474 (710)	5 199	244.46
Cantabria	20 (63)	549	92.56
Castilla y León	381 (528)	5 927	231.66
Castilla – La Mancha	275 (206)	2 657	125.61
Catalunya	2 409 (1 068)	16 315	216.39
Comunidad Valenciana	1 021 (1 821)	10 245	200.21
Extremadura	272 (145)	3 369	303.69
Galicia	111 (172)	2 202	78.77
Madrid (Comunidad de)	743 (649)	9 578	147.59
Murcia (Región de)	101 (279)	5 966	405.83
Navarra (Comunidad Foral de)	82 (471)	5 683	885.13
País Vasco	519 (144)	4 226	193.44
Rioja (La)	75 (80)	665	205.91
Ciudad Autónoma de Ceuta	11 (14)	117	142.03
Ciudad Autónoma de Melilla	0 (1)	44	56.07
Andorra	2 (2)	127	
Total	8 429 (8 175)	93 366	197.85

* Data obtained from the latest available census, dated 01/01/2011, by the INE (National Statistics Institute)

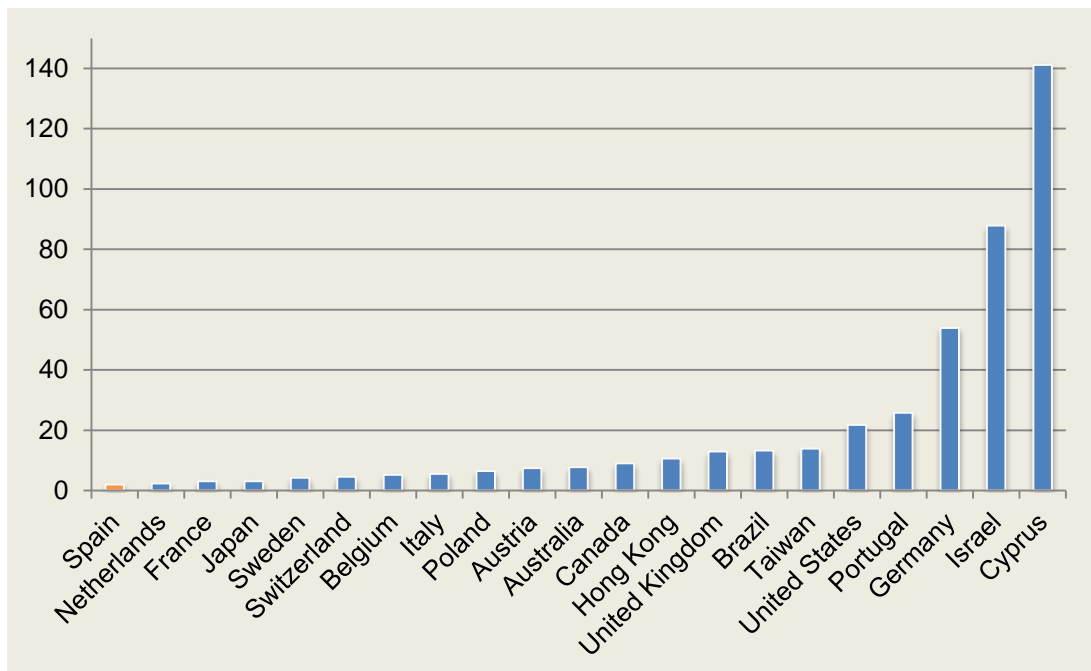


VOLUNTEER DONORS

Registered Spanish Volunteer Donors per 1 000 inhabitants



Registered Volunteer Donors per 1 000 inhabitants



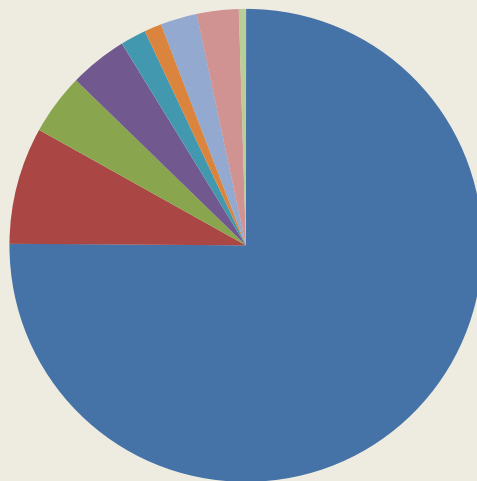


VOLUNTEER DONORS

Donors cancelled throughout 2011 1 438

Reason for cancellation

Over 55	1 080
Disease	115
Untraceable	60
Voluntary withdrawal	57
PBSC donation	25
Death	17
Ethical	36
Transferred to other registries	41
Other reasons	7



- Over 55 years
 - Untraceable
 - PBSC donation
 - Ethical
 - Other reasons
- Disease
 - Voluntary withdrawal
 - Death
 - Transferred to other registries



VOLUNTEER DONORS

Donations of haematopoietic stem cells in 2011	34
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By Product

Bone marrow (BM)	7
Peripheral blood stem cells (PBSC)	25
Lymphocytes (DLI)	2

Collection Centres (BM / PBSC / DLI)

Hospital	BM	PBSC	DLI	Total
Hospital Gregorio Marañón	1	3	1	5
Hospital de la Princesa	1	3		4
Hospital Ramón y Cajal	3	1		4
Hospital Clínico de Salamanca	1	2		3
Hospital Dr. Negrín		2	1	3
Hospital Virgen del Rocío	1	2		3
Complejo Hospitalario Univ. Santiago		2		2
Hospital Carlos Haya		2		2
Hospital Marqués de Valdecilla		2		2
Hospital Miguel Servet		2		2
Hospital Donostia		1		1
Hospital Reina Sofía		1		1
Hospital Son Espases		1		1
Hospital Virgen de la Arrixaca		1		1
Total	7	25	2	34



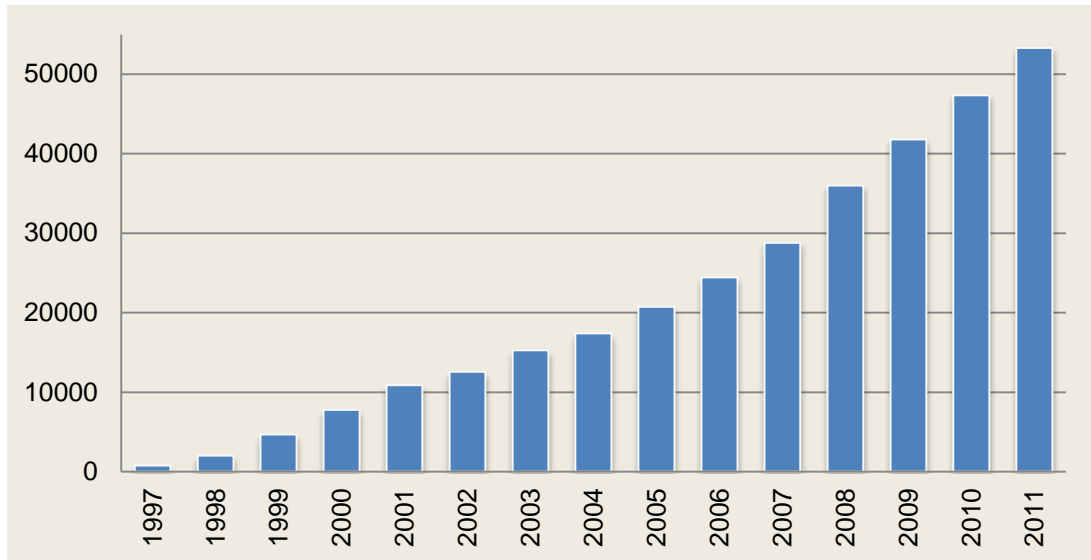
UMBILICAL CORD BLOOD

Available cord blood units as of December 2011

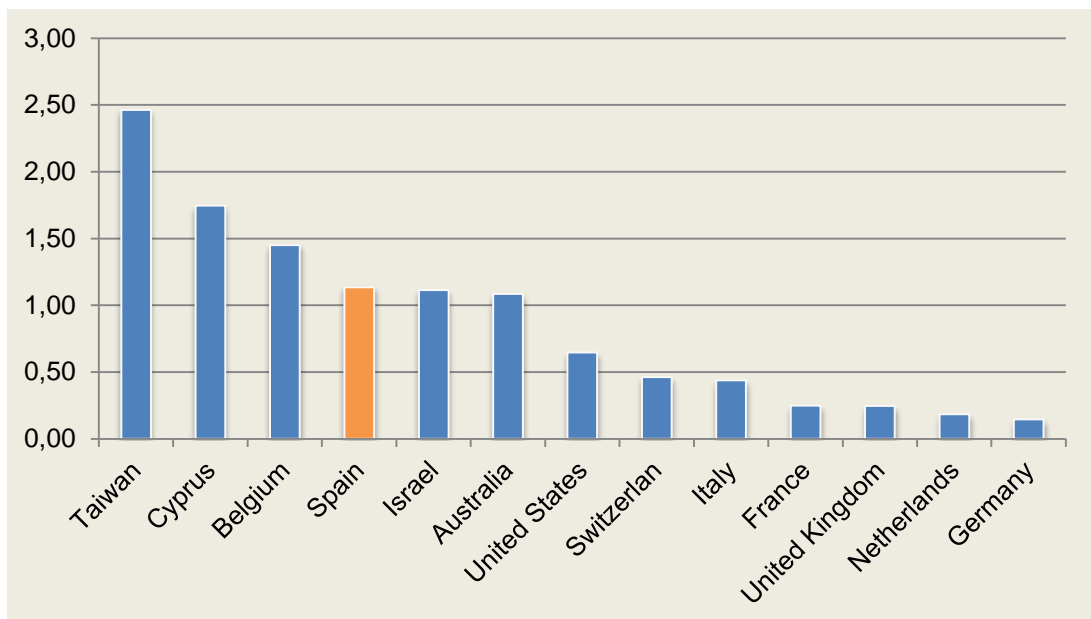
(▲ 13%) 53 277

Cord blood units 2011

(▲ 0,4 %) 5 789



Available Cord Blood Units per 1 000 inhabitants

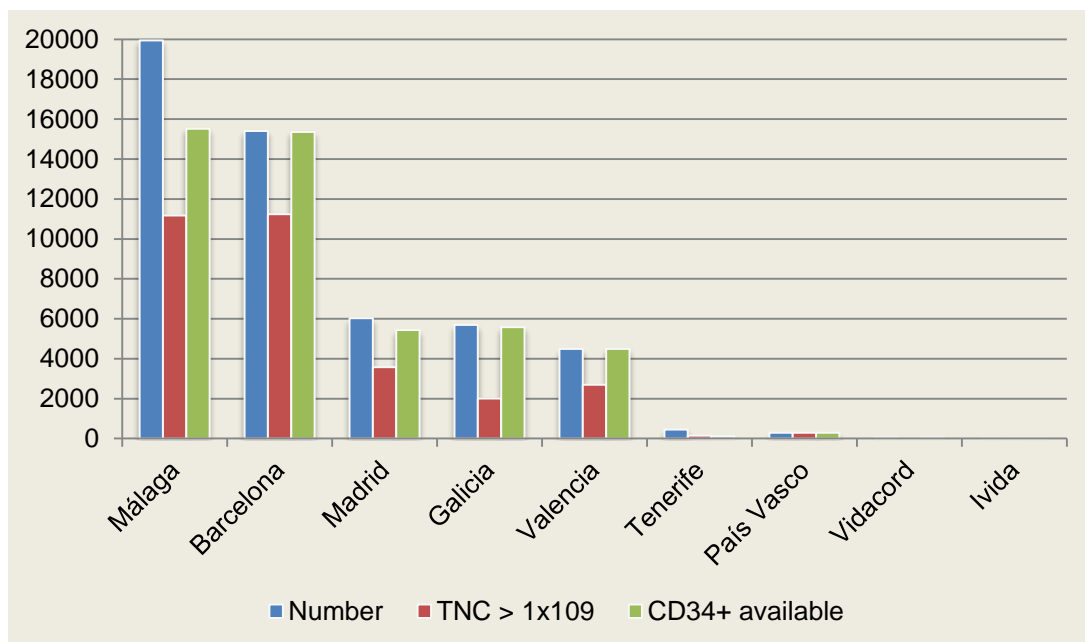




UMBILICAL CORD BLOOD

Cord Blood Units – Cord Blood Bank Distribution

Bank	Number	TNC >1 x 10 ⁹	CD34+ available
Málaga Castilla – La Mancha: 195; Murcia: 29	19 942	56 %	78 %
Barcelona Navarra: 847; Extremadura: 370; Aragón: 355; Baleares; 240; Cantabria: 122	15 414	73 %	100 %
Madrid La Rioja: 49	6 037	59%	90 %
Galicia Castilla y León: 244; Asturias: 103	5 690	35 %	98 %
Valencia	4 494	60%	100 %
Tenerife	455	34 %	26%
País Vasco	293	99 %	100 %
Vidacord	50	32 %	100 %
Ivida	2	50 %	100 %





UMBILICAL CORD BLOOD

Spanish Cord Blood Units provided in 2011

(▼ 9 %) 312

By originating bank			
Originating Bank	National patients	Foreign Patients	Total
Barcelona	65* (60)	144 (175)	209 (235)
Málaga	9* (7)	54 (45)	63 (52)
Madrid	0 (2)	18 (19)	18 (21)
Valencia	3* (3)	10 (16)	13 (19)
Galicia	2(0)	6 (15)	8 (15)
País Vasco	0	1 (0)	1 (0)
Tenerife	0	0 (1)	0 (1)
Vidacord	0	0	0
Ivida	0	0	0
Total	79 (72)	233 (271)	312 (343)

* 2 units infused in 2012 and 1 unit sent but not infused (2010 info in parenthesis)

Mean Celularity for Units Provided

>= 15 years

< 15 years

TNC x 10⁷

CD34+ x 10⁵

TNC x 10⁷

CD34+ x 10⁵

National patients	170	76	238	130
Foreign patients	153	62	206	80

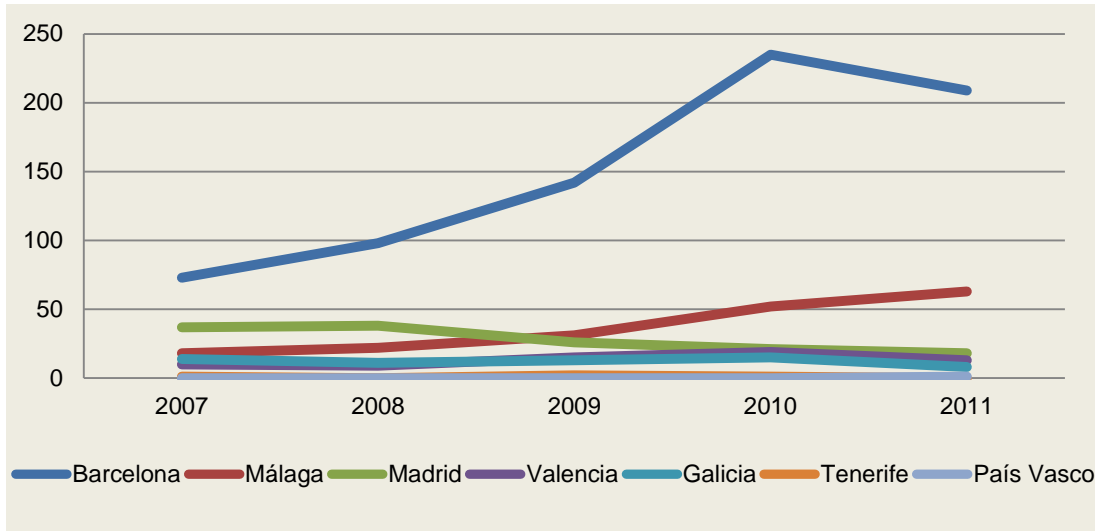
Number of Recruitment Cancellations by Reason

Cord Blood Bank reasons	19
National patient reasons	2
Foreign patient / registry reasons	13

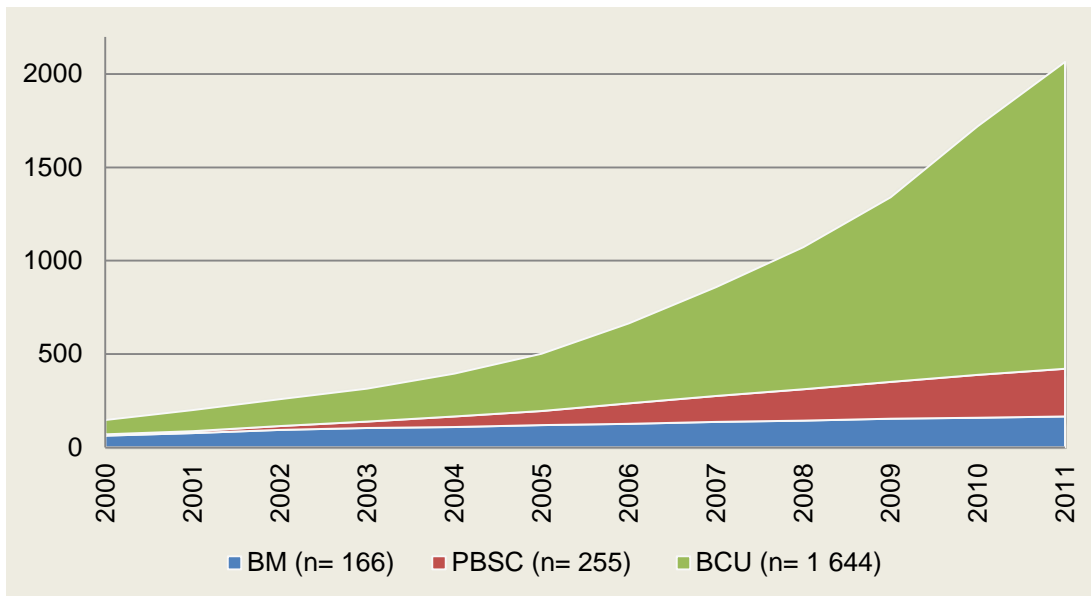


UMBILICAL CORD BLOOD

Cord Blood Units Provided by Cord Blood Bank



Cumulative Incidence of Spanish Donations* (n = 2 065)



*DLI donations not included



NATIONAL PATIENTS

SEARCHES STARTED

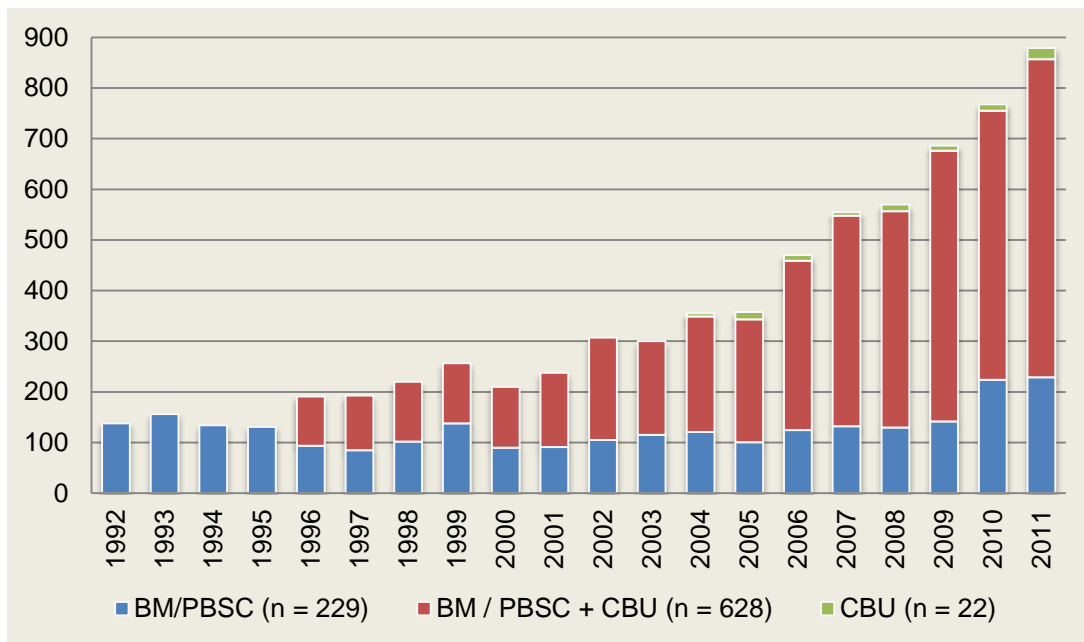
Searches started in 2011

(▲ 14,5 %) 879

Type of search

Bone marrow / Peripheral blood	229
Cord blood	22
Bone marrow / Peripheral blood and Cord blood	(71 %) 628

Search evolution for national patients (n = 879)



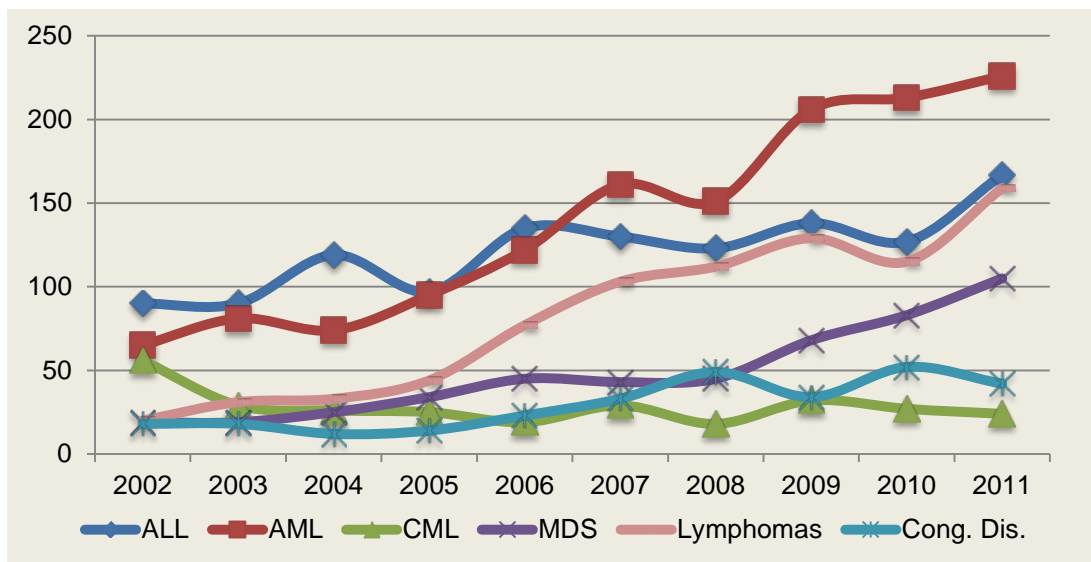


NATIONAL PATIENTS

Searches Started by Diagnostic(n = 879)

Acute Myeloblastic Leukaemia	(26%) 226
Acute Lymphoblastic Leukaemia	(19%) 167
Non-Hodgkin's Lymphoma	(13%) 110
Myelodysplastic Disorders	(12%) 105
Other Leukaemias	(5%) 49
Hodgkin's Lymphoma	(5%) 49
Monoclonal Gammopathy	(5%) 45
Severe Aplastic Anaemia	(3%) 29
Other Malignant Disease	(3%) 26
Chronic Myeloid Leukaemia	(3%) 24
Inherited Erythrocyte Abnormality	(2%) 16
Inherited Immune System Disease	(1%) 11
Histiocytosis	(1%) 8
Other Non-Malignant Disease	(1%) 7
Inherited Metabolic Disease	(1%) 7

Evolution of Searches by Main Diagnoses





NATIONAL PATIENTS

Searches Started by Community of Patient's Residence (n = 879)

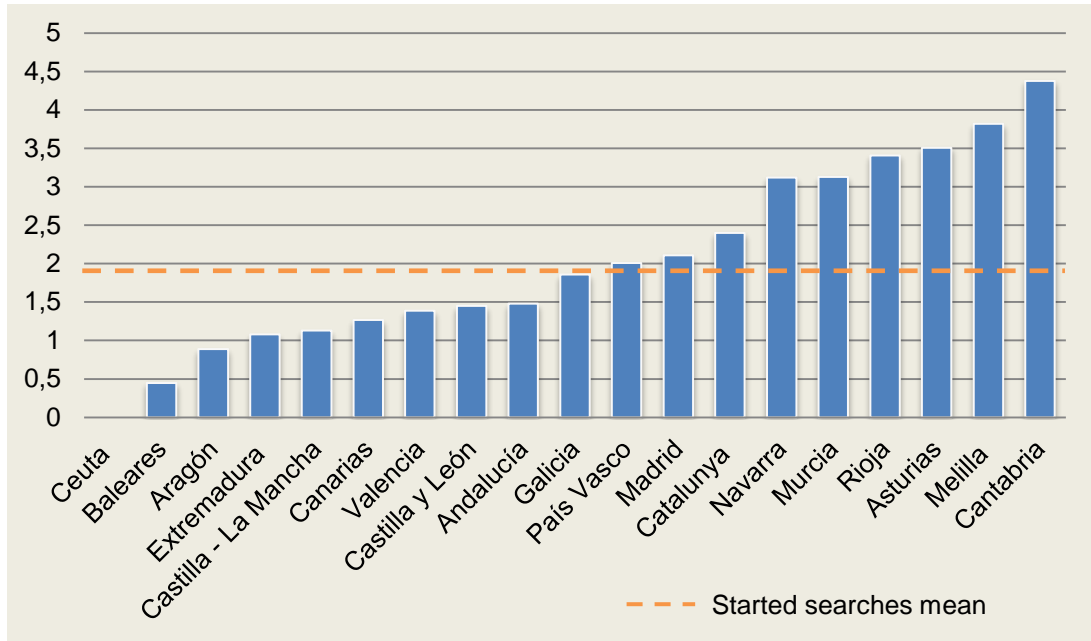
Autonomous Community	Number	x 100 000 inhabitants*
Andalucía	125	1.48
Aragón	12	0.89
Asturias	38	3.51
Baleares (Islas)	5	0.45
Canarias	27	1.27
Cantabria	26	4.38
Castilla y León	37	1.45
Castilla – La Mancha	24	1.13
Catalunya	181	2.40
Comunidad Valenciana	71	1.39
Extremadura	12	1.08
Galicia	52	1.86
Madrid (Comunidad de)	137	2.11
Murcia (Región de)	46	3.13
Navarra (Comunidad Foral de)	20	3.12
País Vasco	44	2.01
Rioja (La)	11	3.41
Ciudad Autónoma de Ceuta	0	0.00
Ciudad Autónoma de Melilla	3	3.82
Foreign	8	NA
Total	879	1.86

* Data obtained from the latest available census, dated 01/01/2011, by the INE (National Statistics Institute)

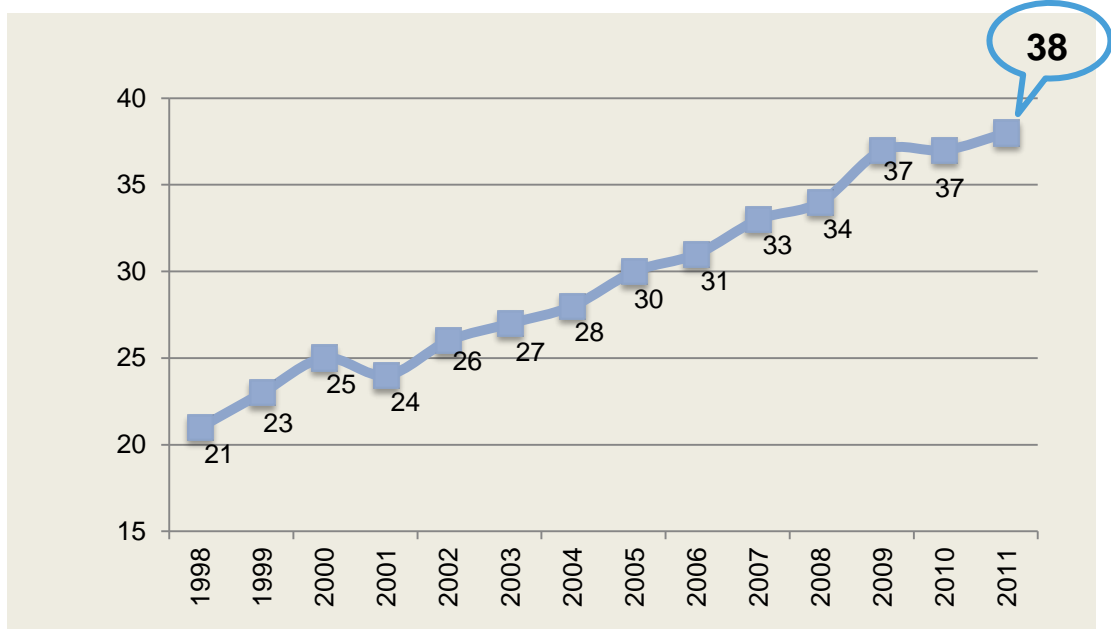


NATIONAL PATIENTS

Searches Started by Community of Patient's Residence per 100 000 inhabitants



Evolution of searches' mean age





NATIONAL PATIENTS

CBU selections made by REDMO's office in 2011	(▼ 8,5 %) 150
Active searches on January 1 st , 2011	(▲ 7 %) 268
Active searches on December 31 st , 2011	(▲ 3 %) 277
Searches cancelled throughout 2011	820

Cancellation Reasons (n = 820)

Unrelated transplantation	(58 %) 476
National Regulations (see details*)	(15 %) 121
Death	(14 %) 115
Clinical Status	(7 %) 57
Related Transplantation	14
Patient's Decision	4
Unrelated DLI Infusion	18
Other (typing changes, other therapy, transfer to other registries)	13
Autologous transplant	2

* Details of Searches Cancelled Due to National Regulations

Inactive searches for >1 year (without donor)	2
Inactive searches for >1 year (with donor)	53
Searches that remained active 2 years	7
Searches that remained active 1 year	59



NATIONAL PATIENTS

Inactive Searches on December 31st, 2011

(▲ 24 %) 252

Reasons for Inactive Searches

Suitable donor found	231
Selected cord blood unit (infusion pending)	14
Other reasons (clinical status, other therapy)	7

LOCALISED DONORS

Patients for whom one or more donors have been located (BM / PBSC)	517
Donors located in 2011 (BM / PBSC)	937
Time to find the first BM / PBSC donor. Mean (in days) Standard deviation: ± 101,8	83,5
Time to find the first BM / PBSC donor. Median (in days) Extremes: 9 – 957	49

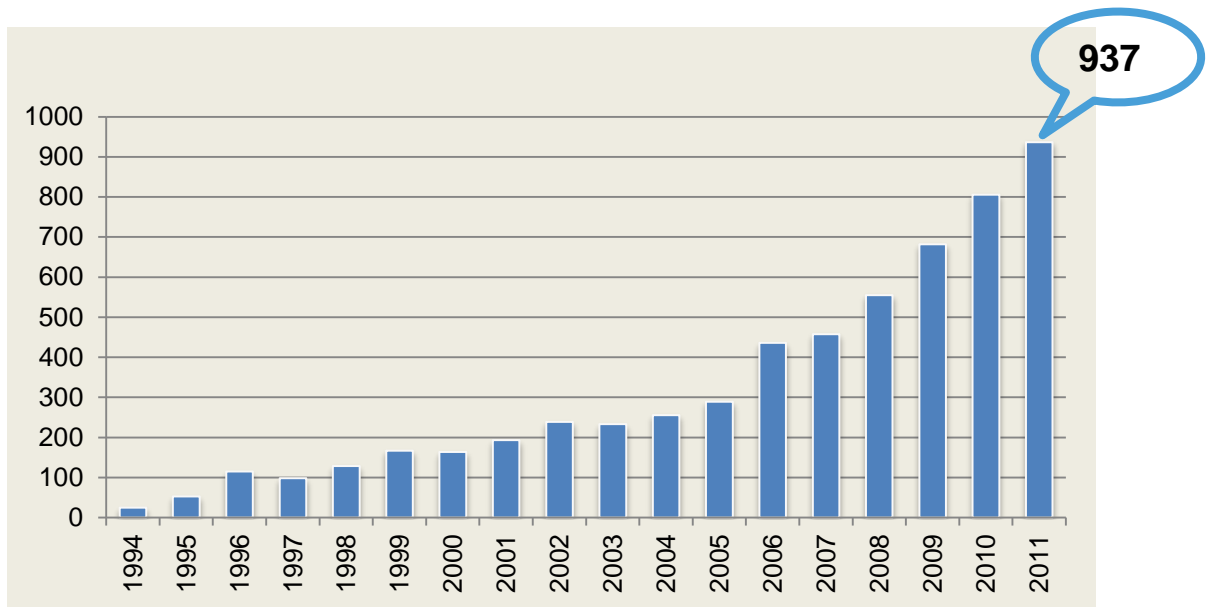
Search Time for BM / PBSC Donors by Percentage

Less than 3 months	74 %
Between 3 and 6 months	16 %
Between 7 and 9 months	6 %
Between 10 and 12 months	1 %
More than 12 months	3 %

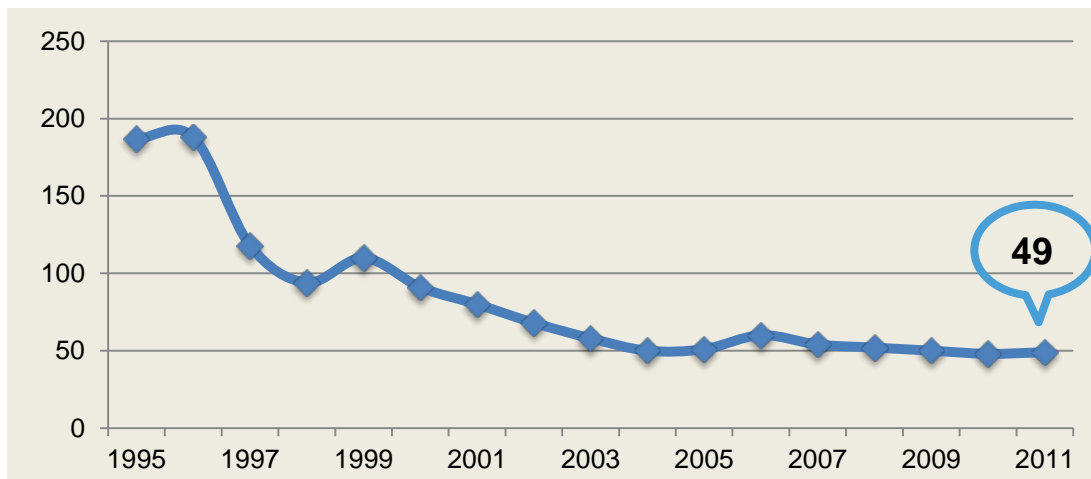


NATIONAL PATIENTS

Evolution of Localised Donors



Median Time to Locate First BM / PBSC Donor





NATIONAL PATIENTS

TRANSPLANTS

Haematopoietic transplantations carried out in 2011

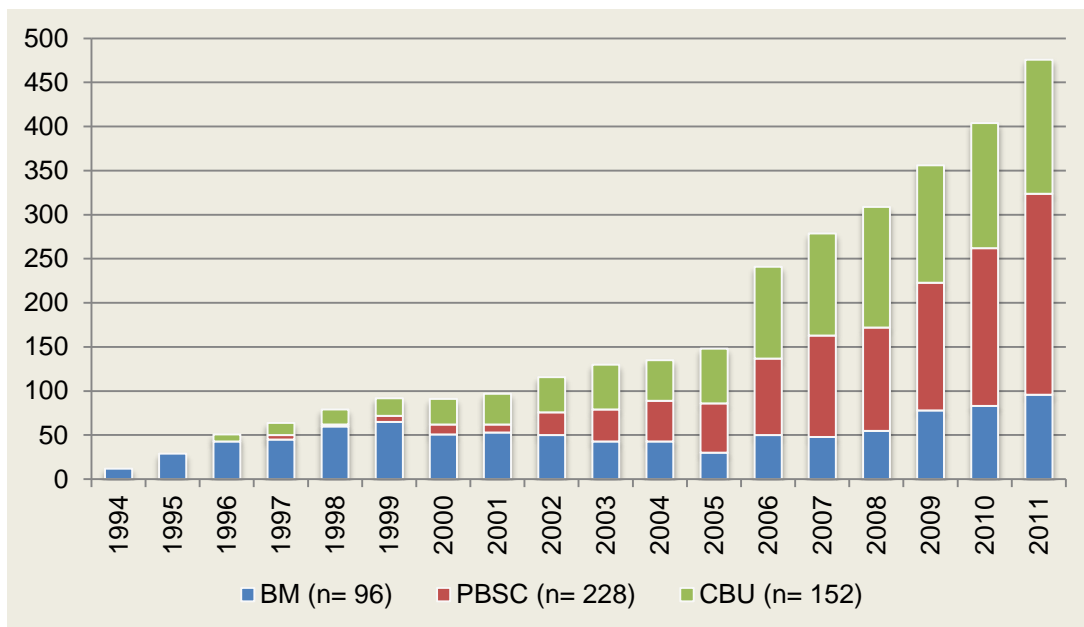
(▲ 18 %) 476

By Product

Bone marrow	(20 %) 96
Peripheral blood stem cells	(48 %) 228
Cord blood unit (<i>lymphocyte infusion</i>)	(32 %) 152

(*4 trasplant performed with double cord)

TRASPLANTS' EVOLUTION



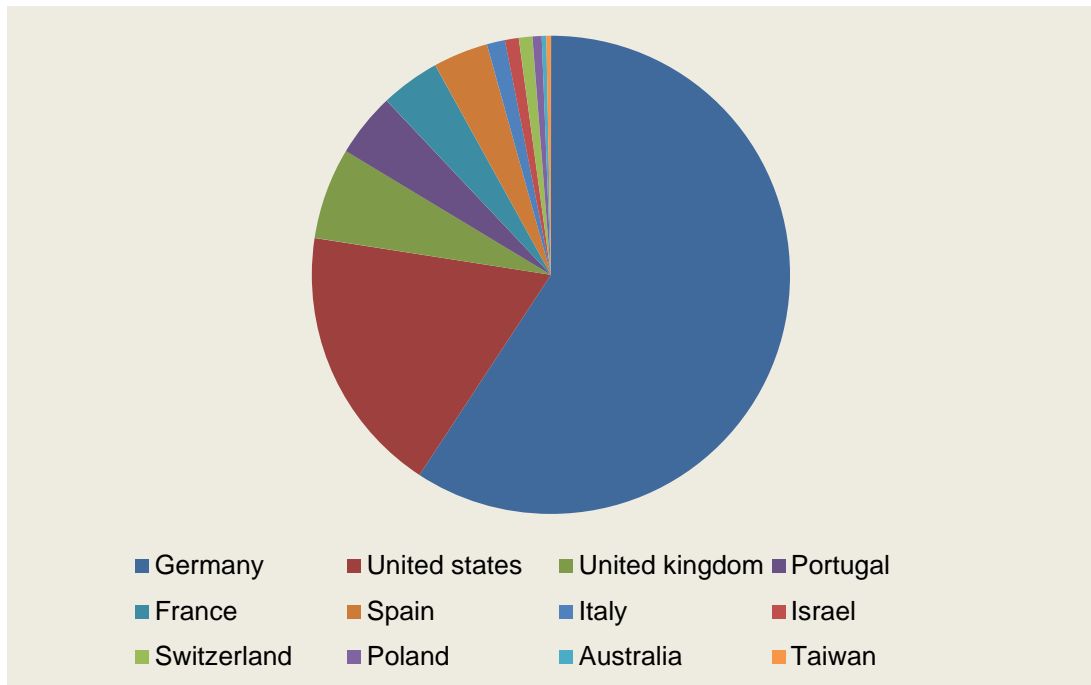
Hospital	Bone marrow		Peripheral blood stem cells		Cord blood unit		Total transplants (extracommunity patients)	Per Autonomous Com. (extracommunity patients)
	<= 15 years	> 15 years	<= 15 years	> 15 years	<= 15 years	> 15 years		
Hospital Clínic Barcelona	0	3	0	16	0	4	23 (4)	
Hospital de Sant Pau	0	0	0	14	2	9	25 (6)	
Hospital Vall d'Hebron	7	3	1	8	12	8	39 (11)	113 (21)
Hospital Germans Trias i Pujol	0	1	0	9	0	7	17 (0)	
Hospital Duran i Reynals	0	0	0	5	0	4	9 (0)	
Hospital La Fe	2	0	3	3	1	33	42 (10)	50 (10)
Hospital Clínico de Valencia	0	0	0	4	0	4	8 (0)	
Hospital La Paz	7	0	0	6	4	0	17 (7)	
Hospital Ramón y Cajal	0	0	0	11	0	2	13 (1)	
Hospital de la Princesa	0	1	0	13	0	0	14 (8)	99 (28)
Hospital Univ. Puerta de Hierro	0	2	0	7	0	13	22 (5)	
Hospital Gregorio Marañón	0	1	0	11	0	8	20 (2)	
Hospital Niño Jesús	0	0	5	1	7	0	13 (5)	
Hospital Reina Sofía	2	0	2	7	2	2	15 (1)	69 (4)
Hospital Carlos Haya	4	3	0	3	3	5	18 (2)	
Hospital Virgen del Rocío	2	4	1	8	4	1	20 (1)	
Hospital Virgen de las Nieves	0	0	0	8	0	1	9 (0)	
Hospital de Jerez	0	1	0	3	0	3	7 (0)	
Complejo Hosp. Univ. de Santiago	1	0	0	8	3	1	13 (0)	
Hospital Xeral-Cies	0	0	2	9	0	1	12 (0)	35 (0)
Complejo Hosp. Univ. de A Coruña	0	0	1	8	0	1	10 (0)	
Hospital Morales Messeguer	0	1	0	8	0	2	11 (1)	13 (1)
Hospital Virgen de la Arrixaca	0	0	1	1	0	0	2 (0)	
Hospital Marqués de Valdecilla	1	30	0	12	0	0	43 (24)	43 (24)
Hospital Clínico de Salamanca	0	1	1	8	1	3	14 (0)	14 (0)
Hospital Central de Asturias	4	14	0	3	1	0	22 (0)	22 (0)
Hospital Donostia	0	0	0	9	0	0	9 (0)	9 (0)
Hospital Son Espases	0	0	0	2	0	0	2 (0)	2 (0)
Hospital de Navarra	0	1	0	6	0	0	7 (0)	7 (0)
Total	30	66	17	211	40	112	476 (88)	476 (88)



NATIONAL PATIENTS

Transplants by Country of Origin BM / PBSC(n = 324)

Germany	(59 %) 192
United States	(18 %) 59
United Kingdom	20
Portugal	14
France	13
Spain	12
Italy	4
Israel	3
Switzerland	3
Poland	2
Australia	1
Taiwan	1



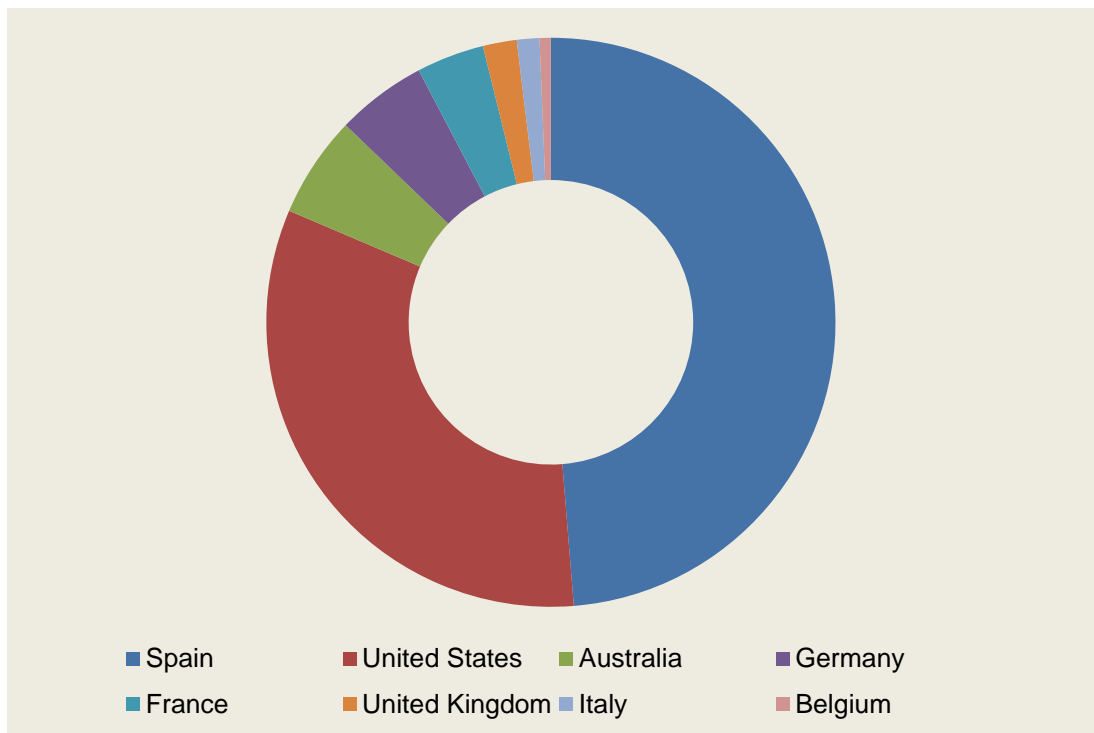


NATIONAL PATIENTS

Transplants by Country of Origin CBU* (n = 156)

Spain	(50 %) 76
United States	(33 %) 51
Australia	9
Germany	8
France	6
United Kingdom	3
Italy	2
Belgium	1

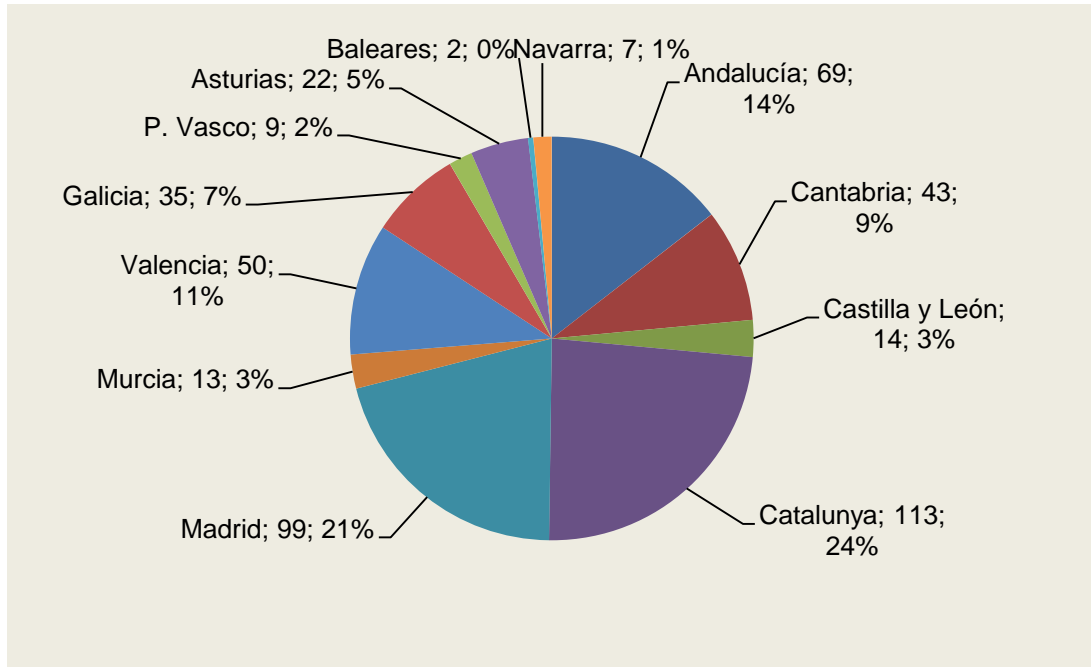
(* 4 double cord trasplantation)



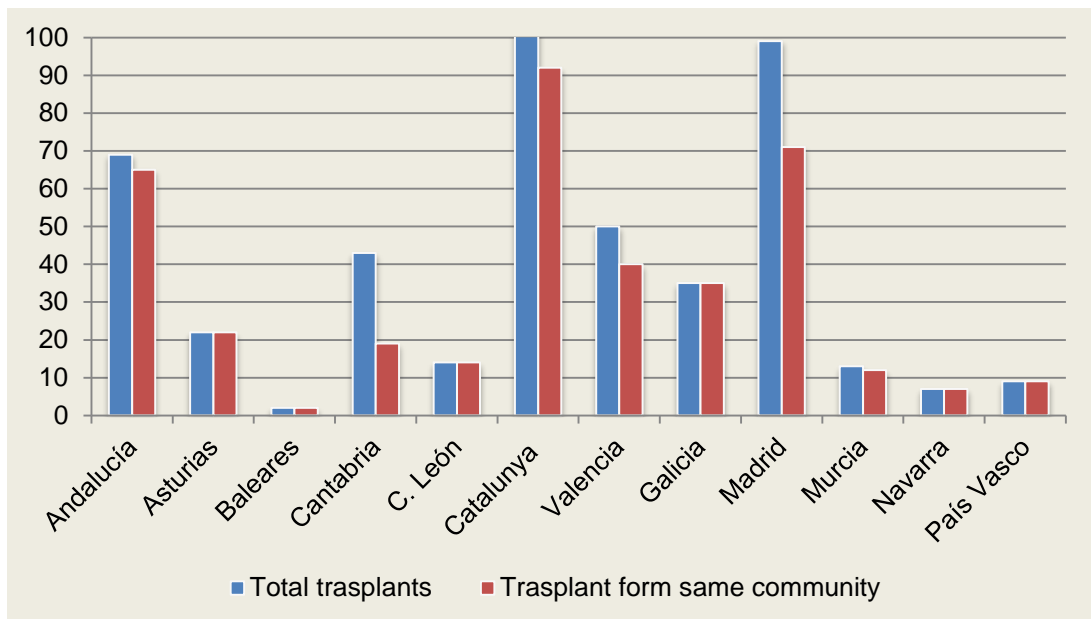


NATIONAL PATIENTS

Transplants by Autonomous Community (2011)

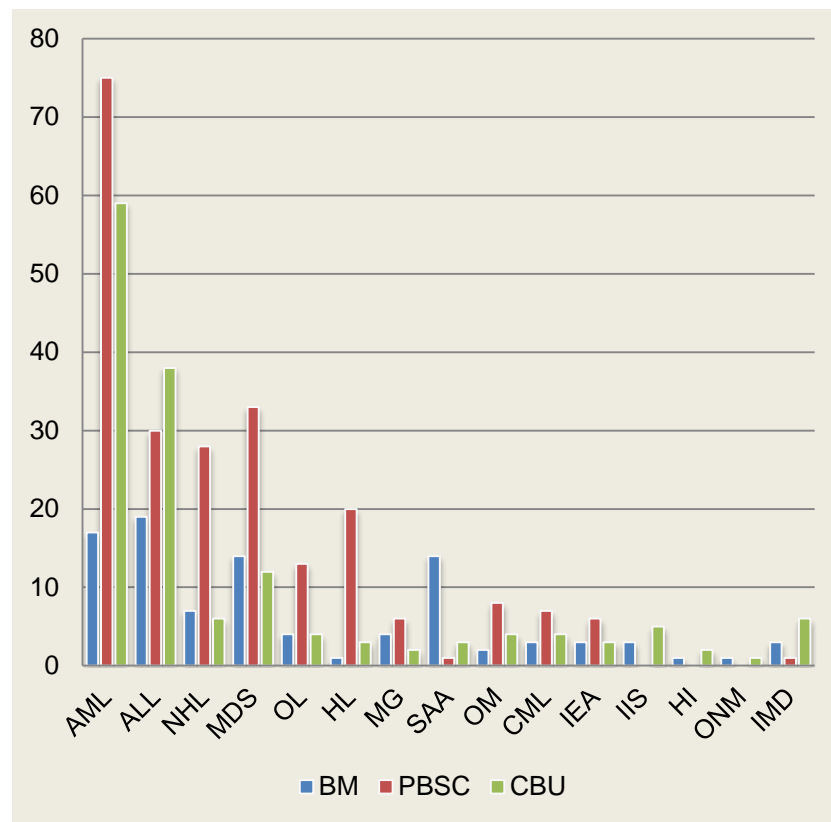


Activity by Autonomous Community



Transplants per diagnosis (n = 476)

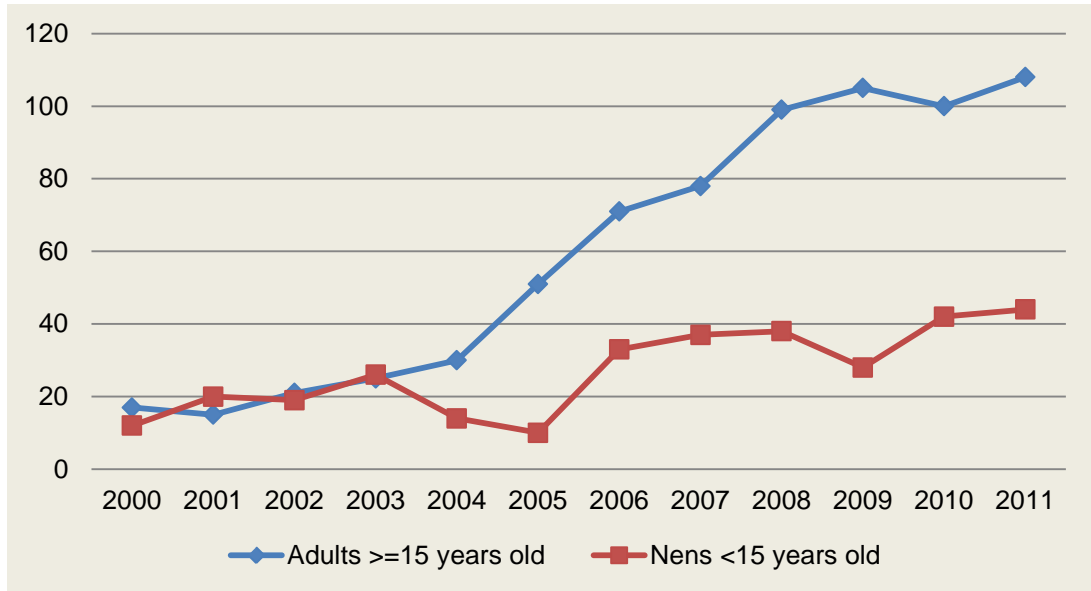
	Donor		CBU
	BM	PBSC	
Acute myeloblastic leukaemia (AML)	17	75	59
Acute lymphoblastic leukaemia (ALL)	19	30	38
Non-Hodgkin's Lymphoma (NHL)	7	28	6
Myelodysplastic disorder (MDS)	14	33	12
Other leukaemias (OL)	4	13	4
Hodgkin's Lymphoma (HL)	1	20	3
Monoclonal gammopathy (MG)	4	6	2
Severe aplastic anaemia (SAA)	14	1	3
Other malignant disease (OM)	2	8	4
Chronic myelogeneous leukaemia (CML)	3	7	4
Inherited erythrocyte abnormality (IEA)	3	6	3
Inherited immune system disorder (IIS)	3	0	5
Histiocytosis (HI)	1	0	2
Other non-malignancies (ONM)	1	0	1
Inherited metabolic disorders (IMD)	3	1	6



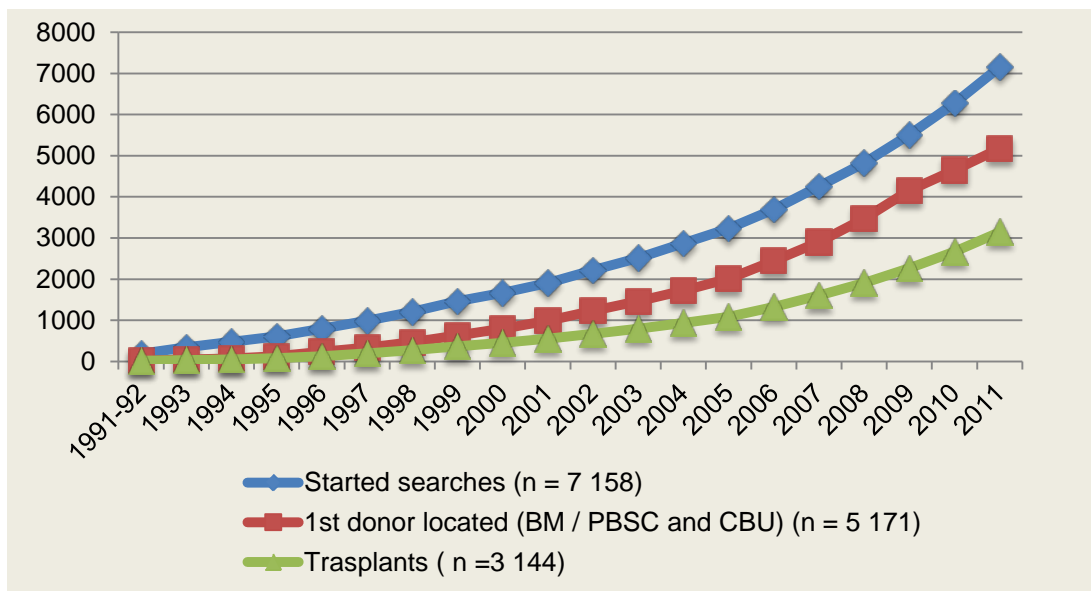


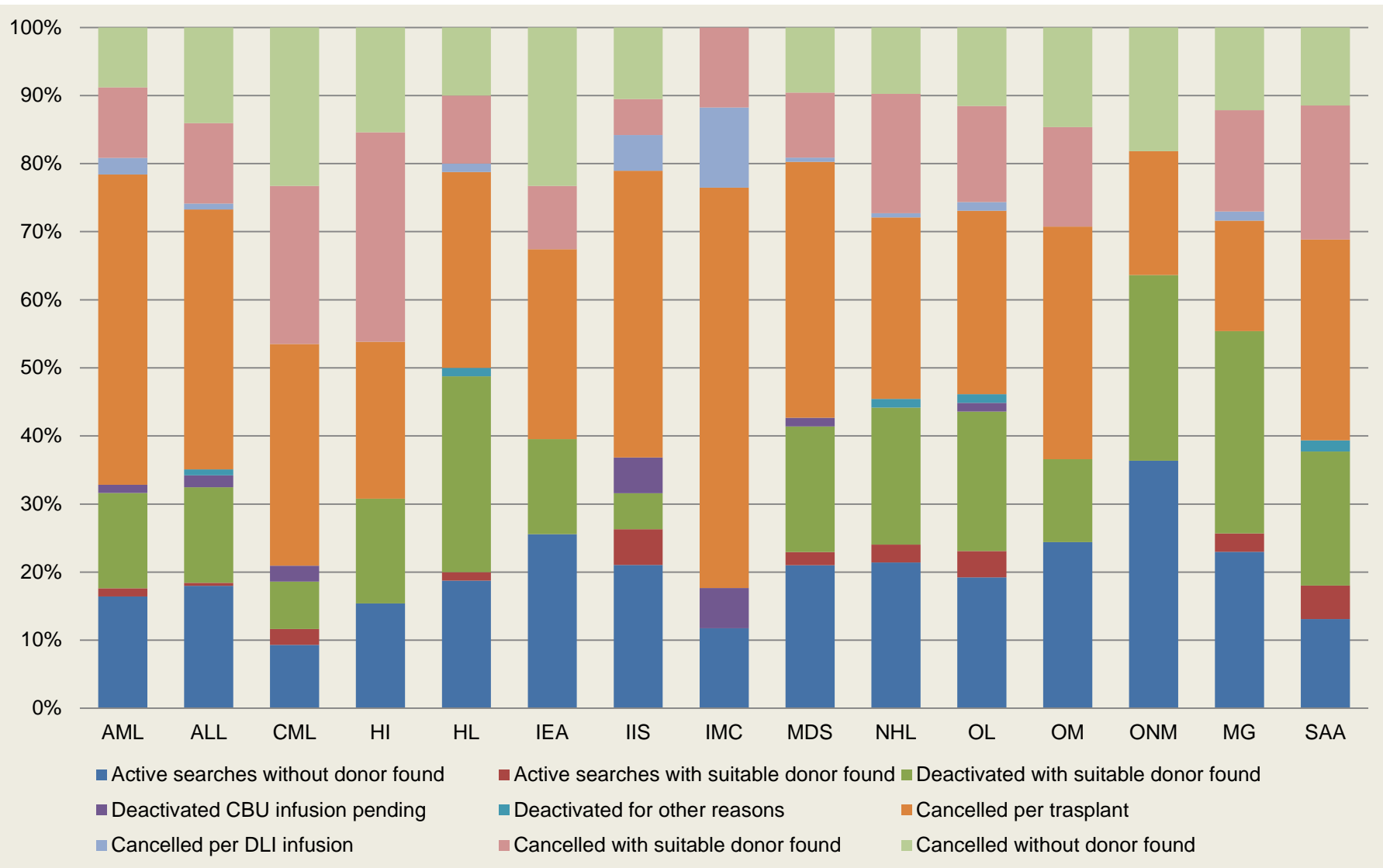
NATIONAL PATIENTS

Haematopoietic Activity CBU Spain (children / adults ratio)



Summary of REDMO's Activity (National Patients)





Unrelated transplants per population (2010)

Country	Population	PBSC / BM	PBSC / BM x 10 ⁶	CBU	CBU x 10 ⁶	Total Transplants	Transplants x 10 ⁶
Germany	81.8	2.011	24.6	34	0.4	2.045	25.0
Israel	7.8	142	18.2	40	5.1	182	23.0
Austria	8.4	107	12.7	20	2.4	177	21.1
Netherlands	16.7	271	16.2	63	3.8	334	20.0
Sweden	9.5	161	16.9	7	0.7	188	19.8
Japan	127.7	1.207	9.5	1.056	8.3	2.263	17.7
France	63.4	737	11.6	355	5.6	1.092	17.2
Belgium	10.8	150	13.9	19	1.7	169	15.6
Czech Rep.	10.5	159	15.1	1	0.1	160	15.2
United States	313	3 325	10.6	1.374	4.4	4.699	15.0
United Kingdom	62.3	736	11.8	117	1.9	853	13.7
Switzerland	7.9	78	9.9	20	2.5	98	12.4
Italy	60.7	634	10.4	130	2.1	764	12.6
Australia	22.6	184	8.1	70	3.1	254	11.2
Korea	48.6	433	8.9	73	1.5	506	10.4
Spain 2011	46.2	324	7	152	3.3	476	10.3
Canada	33.5	266	7.9	54	1.6	320	9.5
Spain 2010	47.3	262	5.5	142	3.0	404	8.5
Poland	38.1	231	6.1	4	0.1	235	6.2
Brazil	192.4	113	0.6	61	0.3	174	0.9
China	1 339.7	618	0.5	54	0.0	672	0.5

* = BM transplant activity: WMDA report 2010 / World population: Wikipedia



FOREIGN PATIENTS

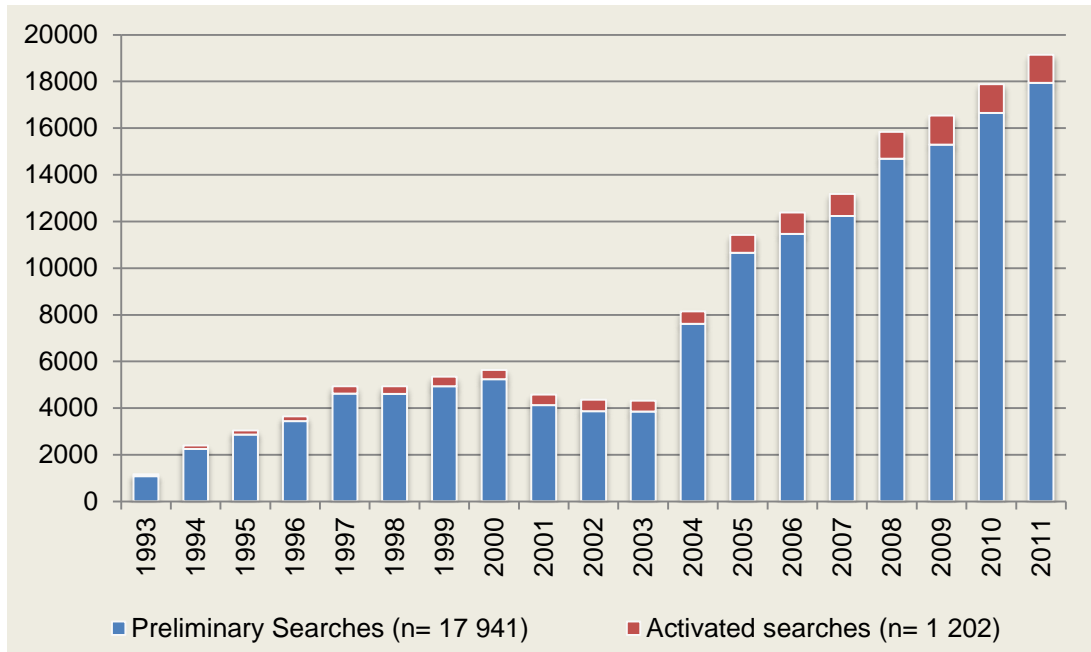
Preliminary Searches

(▲ 8 %) 17 941

Activated Searches

(▼ 2 %) 1 202

Evolution of Searches for Foreign Patients



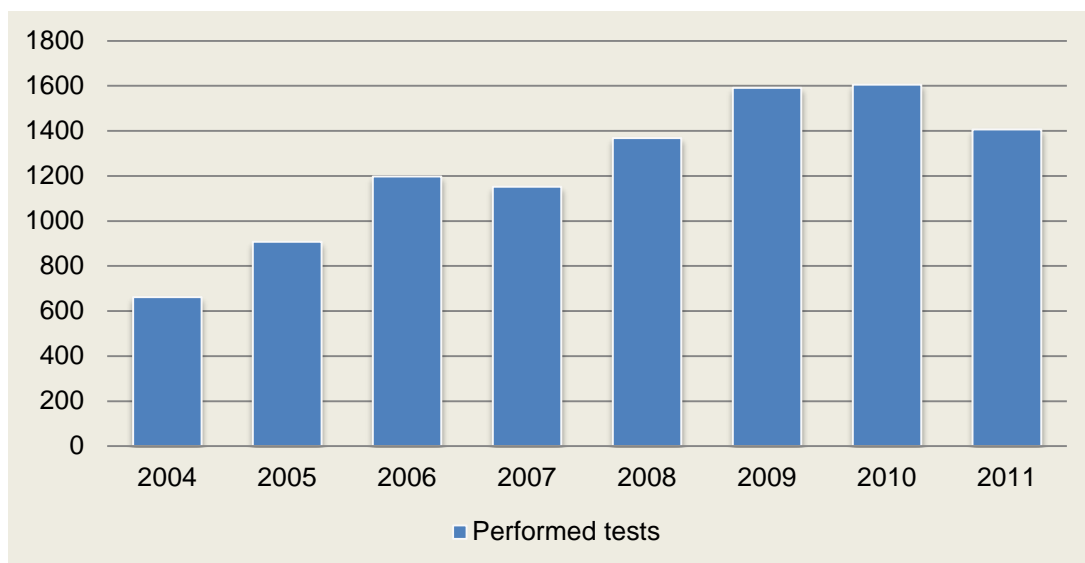


FOREIGN PATIENTS

Requested Tests 1 748

Performed Tests (80,43 %) 1 406

Evolution of Performed Tests



Haematopoietic stem cell transplants performed in 2011 (▼ 15 %) 253

By Product

Bone marrow 2

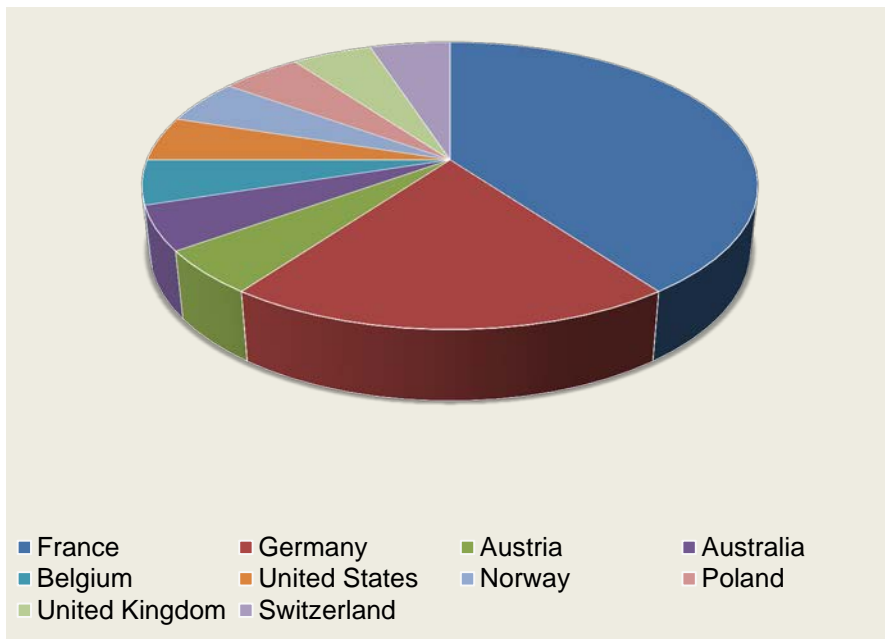
Peripheral blood stem cells 18

Umbilical cord blood 233*

(*lymphocyte infusion*) (2)

* This corresponds to UCB units shipped. There is no confirmation of infusion in all cases.

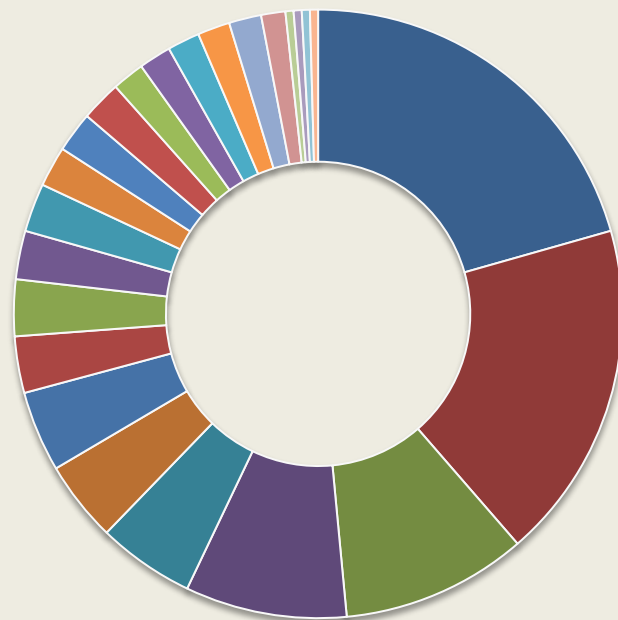
**Transplants by country of destination
BM / PBSC (n=20)**



Transplants by country of destination BM / PBSC (n = 20)	
France	8
Germany	4
Austria	1
Australia	1
Belgium	1
United States	1
Norway	1
Poland	1
United Kingdom	1
Switzerland	1

SCU shipments by country of destination (n=233)

France	48
United States	42
United Kingdom	23
Netherlands	20
Israel	12
Colombia	10
Italy	10
Germany	7
Canada	7
Austria	6
Hungary	6
Belgium	5
Chile	5
Greece	5
Argentina	4
Australia	4
Denmark	4
Mexico	4
Turkey	4
New Zealand	3
Croatia	1
Czech Rep.	1
Portugal	1
Uruguay	1



- France
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