ELECTRONIC SUPPLEMENT
TABLES, FIGURE AND APPENDIX

TABLE S1 - BASELINE AND TIME-DEPENDENT DATA BY TRANSPLANT REGIMEN

	Bone Marrow Myeloablative	PBSC Myeloablative	PBSC Nonmyeloablative	TLD + PBSC Nonmyeloablative
A) BASELINE DEMOGRAPHIC, CLINICAL AND LABORATORY DATA				
Subjects enrolled, n (% of total n = 800 enrolled)*				
Number	62 (8)	220 (28)	292 (37)	226 (28)
Age, years				
Mean +/- SD	37.6 +/- 11.3	35.0 +/- 12.5	41.4 +/- 15.7	49.4 +/- 11.4
Range	11 yr - 59 yr	9 yr - 68 yr	4 yr - 72 yr	20 yr - 72 yr
Gender, n (% of HCT regimen category)				
Female	25 (40)	110 (50)	93 (32)	102 (45)
Male	37 (60)	110 (50)	199 (68)	124 (55)
Weight, kg				
Kg +/- SD	68.9 +/- 14.3	68.0 +/- 14.8	73.6 +/- 20.0	73.4 +/- 13.3
Stem cell dose, CD34+ x 10^6 /kg (Day 0)*				
Mean +/- SD	1.6 +/- 1.1	6.0 +/- 2.3	8.2 +/- 4.2	7.2 +/- 3.0
Missing, frequency	n = 0	n = 11	n = 8	n = 1
Received transfusion pre-HCT, n (% of HCT regimen category)				
Any RBC, Days -10 through -1	39 (63)	62 (28)	118 (40)	136 (60)
Any platelets, Days -10 through -1	22 (36)	45 (21)	65 (22)	44 (20)
Any RBC and/or platelets, Days -10 through -1	40 (65)	73 (33)	121 (42)	137 (61)
ABO match, n (% of HCT regimen category)				
Identical	43 (69)	148 (67)	196 (67)	166 (74)
Major mismatch	7 (11)	32 (15)	49 (17)	26 (12)
Bidirectional mismatch	2 (3)	6 (3)	9 (3)	12 (5)
Minor mismatch	10 (16)	34 (16)	38 (13)	22 (10)
Diagnostic category, n (% of HCT regimen category)				
Hematologic malignancy, standard risk	30 (48)	151 (69)	13 (5)	18 (8)
Hematologic malignancy, intermediate risk	8 (13)	43 (20)	37 (13)	153 (68)
Hematologic malignancy, high risk	22 (36)	26 (12)	16 (6)	16 (7)
Benign hematologic disorder	2 (3)	0 (0)	96 (33)	0 (0)
Solid tumor	0 (0)	0 (0)	130 (45)	39 (17)
Time period, years, n (% of HCT regimen category)				
1993 - 2000	62 (100)	73 (33)	113 (39)	22 (10)
2001 - 2005	0 (0)	92 (42)	112 (38)	105 (47)
2006 - 2010	0 (0)	55 (25)	67 (23)	99 (44)
B) TIME-DEPENDENT CLINICAL AND LABORATORY DATA				
Received transfusion post-HCT, n (% of HCT regimen category)				
Any RBC, within 200 days	61 (98)	197 (90)	236 (81)	19 (85)
Any platelets, within 200 days	61 (98)	206 (94)	181 (62)	148 (66)
Any RBC or platelets, within 200 days	61 (98)	212 (97)	240 (82)	193 (85)
Death post-HCT, n (% of category)				
Within 30 days	4 (7)	2 (1)	4 (1)	5 (2)
Within 60 days	15 (24)	8 (4)	8 (3)	14 (6)
Within 100 days	23 (37)	15 (7)	24 (8)	25 (11)
Within 200 days	29 (47)	30 (14)	47 (16)	56 (25)
Survival & availability for transfusion post-HCT (% of HCT regimen category)*				
At Day 0	62 (100)	220 (100)	292 (100)	226 (100)
At Day 101	39 (63)	199 (90)	266 (91)	201 (89)
At Day 200	32 (52)	180 (82)	242 (83)	169 (75)

Notes:

*****n=780 subjects had complete data, n=20 subjects lacked CD34 stem cell dose.

******Patients became unavailable upon 1) death, or 2) censored due to second transplant.

Similar data for the entire population of n = 800 is presented in Table 1.

TABLE S2 - CUMULATIVE RBC AND PLATELET TRANSFUSION EVENTS DURING FOLLOW-UP, BY INTERVAL

	RBC TRANSFUSED*			PLATELETS TRANSFUSED*		
SUBJECT OR GROUP*	**INTERVAL, DAYS POST-TRANSPLANT**			**INTERVAL, DAYS POST-TRANSPLANT**		
	Day 0-30 (n = 800)	**Day 0-100 (n = 800)**	**Day 101-200 (n = 705)**	**Day 0-30 (n = 800)**	**Day 0-100 (n = 800)**	**Day 101-200 (n = 705)**
Transfusions per subject (mean +/- SD)	5.5 +/- 5.7	10.4 +/- 12.7	3.2 +/- 7.5	6.2 +/- 9.0	10.2 +/- 18.2	2.9 +/- 9.4
Sum of transfusions for all subjects	4,381	8,345	2,246	4,939	8,133	2,066

Notes:

*All n=800 subjects were considered available for the intervals 0-30 days, and 0-100 days. For the interval 101-200 days, the subset included those who completed at least one day in the interval. Patients became unavailable due to death, or censoring because of a second transplant.

Table S3 – Diagnostic Categories, NIH Clinical Center MSD HCT (1993-2010)

Diagnostic Category	Diseases
Solid Tumor	Renal cell carcinoma, melanoma, colon cancer, pancreatic cancer, breast cancer, etc.
Non-Malignant Hematologic Disorder	Severe aplastic anemia; paroxysmal nocturnal hemoglobinuria/severe aplastic anemia; chronic granulomatous disease and other primary immune deficiency diseases; severe congenital anemias including sickle cell disease, thalassemia, and Diamond-Blackfan anemia; etc.
Hematologic Malignancy – Standard Risk	CML-CP, AML/ALL-ICR
Hematologic Malignancy – Intermediate Risk	CML-AP, CML-atypical (t5:17), AML/ALL-2CR or greater, MDS – all but RAEBT & tMDS, CLL, lymphoma – Hodgkin's, lymphoma – non-Hodgkin's
Hematologic Malignancy – High Risk	CML-BC or BP, AML/ALL – relapse or refractory, MDS-RAEBT & tMDS, multiple myeloma, plasmacytoma

Abbreviations: ALL: acute lymphoid leukemia; AML: acute myeloid leukemia; AP: acute phase; BC: blast crisis; CLL: chronic lymphocytic leukemia; CML: chronic myeloid leukemia; CP: chronic phase; 2CR: second complete remission; ICR: in (first) complete remission; MDS: myelodysplastic syndrome; tMDS: MDS in transition; RAEBT: refractory anemia with excess blasts in transition.

Table S4 – Hematopoietic Cell Transplant Regimens, NIH Clinical Center (1993-2010)

Regimen	Myeloablative for Hematologic Malignancy, Bone Marrow Graft	Myeloablative for Hematologic Malignancy, PBSC Graft	Nonmyeloablative for Multiple Indications, PBSC Graft	Nonmyeloablative for PID, PBSC Graft	Nonmyeloablative for SCD, PBSC Graft	Nonmyeloablative for Malignancy, PBSC Graft, After Bridge of Chemotherapy and TLD
Dates of Transplants	9-1993 through 3-1997	4-1997 through 2010	12-1997 through 2010	1998 through 2000; 2010	2004 through 2010	1999 through 2010
Conditioning	Cyclophosphamide 60 mg/kg x 2 d; TBI 170 cGy BID x 4d or 200 cGy BID x 3d	Cyclophosphamide 60 mg/kg x 2 d; TBI 170 cGy BID x 4d	Cyclophosphamide 60 mg/kg x 2 d; fludarabine 25 mg/m^2/d x 5d	Cyclophosphamide 60 mg/kg x 2 d; fludarabine 25 mg/m2/d x 5d; ATG 40 mg/kg x 4d; alternatively, a busulfan-based reduced intensity regimen was used during 2010	Alemtuzumab (anti-CD52), 1 mg/kg (total dose) over 5d; 300 cGy TBI (single dose)	Pre-treat with DA-EPOCH-F/R until CD4 < 200/uL; or pre-treat with FLAG; RIC consisted of: cyclophosphamide 1,200 or 300 mg/m^2/d x 4d; fludarabine 30 mg/m^2 x 4d
GVHD Prophylaxis	Cyclosporine +/- ATG	Cyclosporine	Cyclosporine +/- MMF	Cyclosporine	Sirolimus	Cyclosporine +/- sirolimus, or +/- methotrexate, or +/- Th2 cells
Graft Source	Bone marrow	Apheresis PBSC	Apheresis PBSC	Apheresis PBSC	Apheresis PBSC	Apheresis PBSC
Graft Target Cell Doses	TNC > 2-4 x 10^8/kg, CD2, CD5 < 2 x 10^5/kg	CD34 > 3 x 10^6/kg, CD3 < 3 x 10^5/kg	CD34 > 5 x 10^6/kg, T cell replete	CD34 > 5 x 10^6/kg; CD3 exactly 1 x 10^5/kg	CD34 > 10 x 10^6/kg; T cell replete	CD34 target dose not specified; T cell replete
DLI Schedule and Doses	Days +30 and +45; 2 x 10^6/kg, then 7 x 10^7/kg	Days +45 and +100; 1 x 10^7/kg, then 5 x 10^7/kg	Evaluate at days +30, +60 and +100; 2-10 x 10^6/kg	Evaluate at day +30, +60, then 90-day intervals; if donor cells < 60% circulating CD3, then give DLI of 2 x 10^6 – 1 x 10^7 CD3/kg	NA	NA
Diagnoses	Hematologic malignancy	Hematologic malignancy	Hematologic malignancy; solid tumor; non-malignant indications	CGD; other PID	SCD	Breast cancer; solid tumor; lymphoid malignancy
References	Mavroudis (1996);[S1] Mavroudis (1998);[S2] Barrett (1998);[S3] Anandi (2017)[S4]	Bahceci (2000);[S5] Nakamura (2001);[S6] Anandi (2017)[S4]	Childs (1999);[S7] Childs (2000);[S8] Sloand (2003)[S9]	Horwitz (2001);[S10] Kang (personal communication)	Hsieh (2009)[S11]	Salit (2012);[S12] Salit (2013);[S13] Fowler (2004)[S14]

Abbreviations: ATG: anti-thymocyte globulin; BID: twice per day; CGD: chronic granulomatous disease; DA-EPOCH-F/R: dose-adjusted etoposide, prednisone, vincristine, cyclophosphamide, and doxorubicin plus fludarabine, with or without rituximab; DLI: donor lymphocyte infusion; FLAG: fludarabine, cytarabine, G-CSF; GVHD: graft versus host disease; MMF: mycophenolate mofetil; NA: not applicable; PBSC: peripheral blood stem cells; PID: primary immunodeficiency disease; RIC: reduced intensity conditioning; SCD: sickle cell disease; TBI: total body irradiation; TLD: targeted lymphocyte depletion; TNC: total nucleated cells.

References for Table S4

S1. Mavroudis DA, Read EJ, Cottler-Fox M, et al. CD34+ dose predicts survival, posttransplant morbidity, and rate of hematologic recovery after allogeneic marrow transplants for hematologic malignancies. *Blood*. 1996; 88: 3223-3229.

S2. Mavroudis DA, Read EJ, Molldrem J, et al. T cell-depleted granulocyte colony-stimulating factor (G-CSF) modified allogeneic bone marrow transplantation for hematological malignancy improves graft CD34+ cell content but is associated with delayed pancytopenia. *Bone Marrow Transplant.* 1998; 21: 431-440.

S3. Barrett AJ, Mavroudis DA, Tisdale J, et al. T Cell-depleted bone marrow transplantation and delayed T cell add-back to control acute GVHD and conserve graft-versus-leukemia effect. *Bone Marrow Transplant* 1998; 21: 543-551.

S4. Anandi P, Tian X, Ito S, et al. Ex vivo T-cell-depleted allogeneic stem cell transplantation for hematologic malignancies: the search for an optimum transplant T-cell dose and T-cell add-back strategy. *Cytotherapy*. 2017; 19: 735-743.

S5. Bahceci E, Read EJ, Leitman S, et al. CD34+ cell dose predicts relapse and survival after T-cell-depleted HLA-identical hematopoietic stem cell transplantation (HSCT) for haematological malignancies. *Br J Haematol*. 2000; 108: 408-414.

S6. Nakamura R, Bahceci E, Read EJ, Leitman SF, et al. Transplant dose of CD34+ and CD3+ cells predicts outcome in patients with haematological malignancies undergoing T cell-depleted peripheral blood stem cell transplants with delayed donor lymphocyte add-back. *Br J Haematol*. 2001; 115: 95-104.

S7. Childs R, Clave E, Contentin N, et al. Engraftment kinetics after nonmyeloablative allogeneic peripheral blood stem cell transplantation: full donor T-cell chimerism precedes alloimmune responses. *Blood.* 1999; 94: 3234-3241.

S8. Childs R, Chernoff A, Contentin N, et al. Regression of metastatic renal-cell carcinoma after nonmyeloablative allogeneic peripheral-blood stem-cell transplantation. *New Engl J Med*. 2000; 343: 750-758.

S9. Sloand E, Childs RW, Solomon S, et al. The graft-versus-leukemia effect of nonmyeloablative stem cell allografts may not be sufficient to cure chronic myelogenous leukemia. *Bone Marrow Transplant*. 2003; 32: 897-901.

S10. Horwitz ME, Barrett AJ, Brown MR, et al. Treatment of chronic granulomatous disease with nonmyeloablative conditioning and a T-cell-depleted hematopoietic allograft. *New Engl J Med*. 2001; 344: 881-888.

S11. Hsieh MM, Kang EM, Fitzhugh CD, et al. Allogeneic hematopoietic stem-cell transplantation for sickle cell disease. *New Engl J Med*. 2009; 361: 2309-2317.

S12. Salit RB, Fowler DH, Dean RM, et al. Host lymphocyte depletion as a strategy to facilitate early full donor chimerism after reduced-intensity allogeneic stem cell transplantation. *Biol Blood Marrow Transplant.* 2013; 19: 1509-1513.

S13. Salit RB, Fowler DH, Wilson WH, et al. Dose-adjusted EPOCH-rituximab combined with fludarabine provides an effective bridge to reduced-intensity allogeneic hematopoietic stem cell transplantation in patients with lymphoid malignancies. *J Clin Oncol*. 2012; 30: 830-836.

S14. Fowler DH, Bishop MR, Gress RE. Immunoablative reduced intensity stem cell transplantation: potential role of donor Th2 and Tc2 cells. *Semin Oncol*. 2004; 31: 56-67.

Table S5 - Factors Important for Transfusion Support Post-HCT (Selected Publications)

Reference	Key Findings	N	Donor-Recipient HLA Match	Duration (Days)	Number of Sites
Hefazi (2016)[S15]	Patients received a reduced intensity regimen. According to ABO compatibility groups, time to RBC and platelet engraftment was significantly longer, and the quantity of RBC transfusions during 0-100 days post-HCT was significantly greater, for major/bidirectional mismatches as compared to minor mismatches and identical matches. No differences were apparent in transfusion support during days 101-365 post-HCT.	127	MSD, MUD	365	1
Brierly (2015) [S16]	Patients received reduced intensity conditioning with alemtuzumab. Quantity of RBC and platelet transfusions did not differ by ABO mismatch. In multivariate analysis, time to platelet engraftment was significantly reduced for PBSC as compared to BM.	594	MSD, MUD	100	3
Le Viellez (2015)[S17]	Factors associated with increased RBC use by 30 days post-HCT included male sex, intermediate or advanced stage of disease, ABO minor or major incompatibility, and use of a cord blood graft. For platelets, factors associated with increased use by 30 days post-HCT included intermediate or advanced disease, and use of a cord blood graft.	169	Donors recorded as "related" or "unrelated"; HLA match recorded separately.	365	1
Datta (2015)[S18]	The mean requirement for blood products was significantly greater for MUD vs MRD transplants. ABO major and bidirectional mismatches required significantly more RBC transfusions as	100	Autologous, MRD, MUD, haplo-identical	100	1

	compared to ABO minor and identical procedures.				
Marenchino (2011)[S19]	Patients with multiple myeloma received nonmyeloablative HCT; major/bidirectional ABO incompatibility (in 3 of 19) was associated with more RBC and platelet transfusions, and for a longer period of time post-HCT.	19	MRD	> 100	1
Wang (2010)[S20]	1) Recipients of myeloablative transplants (n=1353) required more RBC and platelet transfusions than those who received nonmyeloablative procedures (n=503), for patients with hematologic malignancies. 2) For the nonmyeloablative group the number of days of RBC transfusions were fewer among MRD as compared to MUD recipients, with median numbers of red cell or platelet units transfused being comparable. 3) For the nonmyeloablative group major/bidirectional ABO mismatched transplant recipients required more RBC transfusions than ABO matched recipients.	1,856	MRD, MUD	100	1
Erker (2005)[S21]	More RBC transfusions were needed by older as compared to younger patients ($p = 0.001$). Patients experiencing acute GVHD required more RBC and platelet transfusions ($p = 0.036$; $p = 0.029$).	143	MSD, MUD	30	1
Ivanov (2004)[S22]	For all allogeneic HCT, those receiving marrow grafts required significantly more RBC transfusions as compared to those receiving mobilized peripheral blood stem cell grafts; and those receiving myeloablative regimens required more RBC transfusions, as compared to those receiving reduced intensity regimens. For those receiving reduced intensity	110	MSD	60	1

	allogeneic HCT, the number of RBC transfusions received post-HCT was inversely related to the Hb level before prior to conditioning.				
Xenocostas (2003)[S23]	For allogeneic BMT, pretransplant hemoglobin was an independent risk factor for transfusion support.	519	MSD, MUD, MMRD, MMUD	180	1
Ruiz-Arguelles (2003)[S24]	1) For nonmyeloablative allogeneic peripheral blood stem cell transplant for hematologic malignancy, 30% did not require any RBC or platelet transfusions post-HCT. 2) Patients who received a higher CD34+ dose (median 6.1 x 10^6; range 0.2 – 31.3 x 10^6/kg) required fewer transfusions of RBC or platelets.	44	MSD	100	1
Weissinger (2001)[S25]	Preparative regimen, nonmyeloablative (n=40) vs. myeloablative (n=67), was an important predictor of red cell and platelet transfusions required.	107	MRD	60	1
Bernstein (1998)[S26]	For myeloablative peripheral blood HCT or bone marrow transplant (BMT), CD34+ stem cell dose, platelet count at the start of therapy, and a graft from an HLA identical sibling donor were the most important predictors of time to recovery of platelet counts.	789	Autologous, MRD, MUD	60	18

Abbreviations: BM: bone marrow; NCT: hematopoietic cell transplant; Hb: hemoglobin; HLA: human leukocyte antigen; MMRD: mis-matched related donor; MMUD: mis-matched unrelated donor; MRD: matched related donor; MSD: matched sibling donor; MUD: matched unrelated donor

References for Table S5

S15. Hefazi M, Litzow M, Hogan W, et al. ABO blood group incompatibility as an adverse risk factor for outcomes in patients with myelodysplastic syndromes and acute myeloid leukemia

undergoing HLA-matched peripheral blood hematopoietic cell transplantation after reduced-intensity conditioning. *Transfusion* 2016; 56: 518-527.

S16. Brierley CK, Littlewood TJ, Peniket AJ, et al. Impact of ABO blood group mismatch in alemtuzumab-based reduced-intensity conditioned haematopoietic SCT. *Bone Marrow Transplant.* 2015; 50: 931-938.

S17. Le Viellez A, P'Ng S, Buffery S, et al. Red cell and platelet transfusion burden following myeloablative allogeneic haemopoietic stem cell transplantation. *Intern Med J*. 2015; 45: 1286-1292.

S18. Datta SS, Basu S, Chandy M. An analysis of transfusion support in haematopoietic stem cell transplantation – report from a centre in India. *Transfus Apher Sci*. 2015; 53: 373-377.

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S20. Wang Z, Sorror ML, Leisenring W, et al. The impact of donor type and ABO incompatibility on transfusion requirements after nonmyeloablative haematopoietic cell transplantation. *Br J Haematol*. 2010; 149: 101-110.

S21. Erker CG, Steins MB, Fischer RJ, et al. The influence of blood group differences in allogeneic hematopoietic peripheral blood progenitor cell transplantation. *Transfusion*. 2005; 45: 1382-1390.

S22. Ivanov V, Faucher C, Mohty M, et al. Decreased RBCTs after reduced intensity conditioning allogeneic stem cell transplantation: predictive value of prior Hb level. *Transfusion*. 2004; 44: 501-508.

S23. Xenocostas A, Yee A, Wong CJ, et al. RBC transfusion requirements after allogeneic marrow transplantation: impact of the before-transplant Hb level on transfusion and early survival. *Transfusion.* 2003; 43: 373-382.

S24. Ruiz-Arguelles GJ, Lopez-Martinez B, Gomez-Rangel D, et al. Decreased transfusion requirements in patients given stem cell allografts using a non-myeloablative conditioning regimen: a single institution experience. *Hematology*. 2003; 8: 151-154.

S25. Weissinger F, Sandmaier BM, Maloney DG, Bensinger WI, Gooley T, Storb R. Decreased transfusion requirements for patients receiving nonmyeloablative compared with conventional peripheral blood stem cell transplants from HLA-identical siblings. *Blood.* 2001; 98: 3584-3588.

S26. Bernstein SH, Nademanee AP, Vose JM, et al. for the Epidemiology of Platelet Recovery Study Group. A multicenter study of platelet recovery and utilization in patients after myeloablative therapy and hematopoietic stem cell transplantation. *Blood*. 1998; 91: 3509-3517.

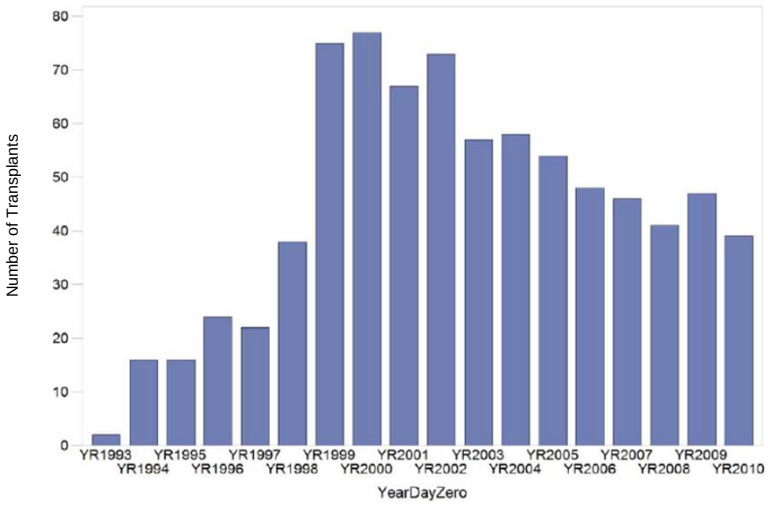
Figure S1 - Legend

Figure S1. Matched Sibling Donor Allogeneic Transplants, NIH Clinical Center (1993-2010).
Panel A: All Patients. From 1993–2010, of n=800 MSD transplants at the NIH Clinical Center, these transplants were performed continuously, with more transplants per year for 1999 – 2005 than before or since. For 2007 through 2010, the most recent year examined, about 40 MSD allogeneic HCT were performed per year.
Panel B: By Institute. The current transplant program at the Clinical Center, NIH was founded by the Hematology Branch, NHLBI in 1993. The Experimental Transplantation and Immunology Branch, NCI began their program in 1999. The Laboratory of Host Defenses, NIAID and the NIDDK began transplant programs for non-malignant indications in 1998 and 2004 respectively.
Panel C: By Regimen. Transplant approaches evolved over time 1993-2010. The initial preparative regimens were fully myeloablative of recipient bone marrow. More recent nonmyeloablative procedures utilized lower doses of chemotherapy and/or radiotherapy, and may have included components that were lymphoablative preferentially, to facilitate donor engraftment with fewer regimen-related toxicities. NHLBI offered myeloablative procedures, in the graph indicated as “Bone Marrow Myeloablative” for the earlier grafts collected by aspiration of donor marrow, and “PBSC Myeloablative” for more recent grafts collected by apheresis of donor peripheral blood after mobilization of stem cells using growth factors. Non-myeloablative regimens offered by NHLBI, NIAID and NIDDK are included in the “PBSC Nonmyeloablative” category. NCI offered a modified non-myeloablative approach, in which patients with malignancies were pre-treated with chemotherapy and T cell-depleting agents to achieve targeted lymphocyte depletion (TLD) prior to receiving the transplant preparative regimen which was of reduced intensity; these regimens are indicated as “TLD + PBSC Nonmyeloablative”.

For Panels A, B and C, subjects are grouped according to Day 0 of their transplant. “YR1993” includes transplants having Day 0 during the calendar year 1993, etc.

Figure S1

A.



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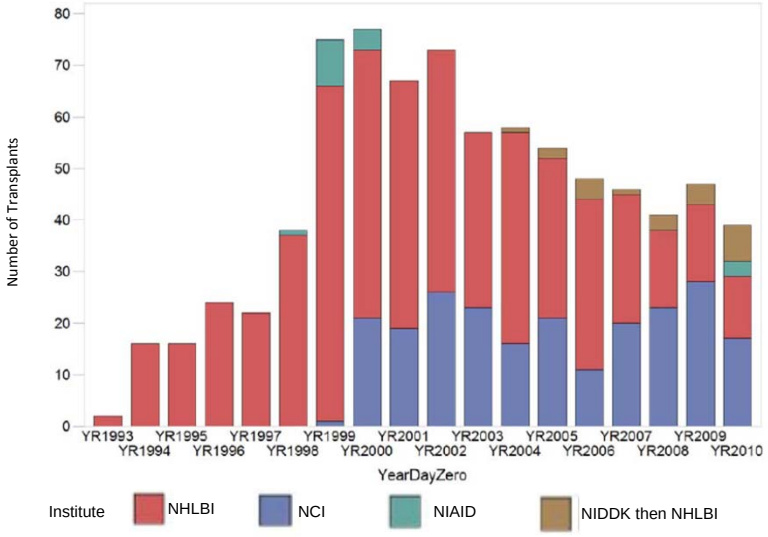

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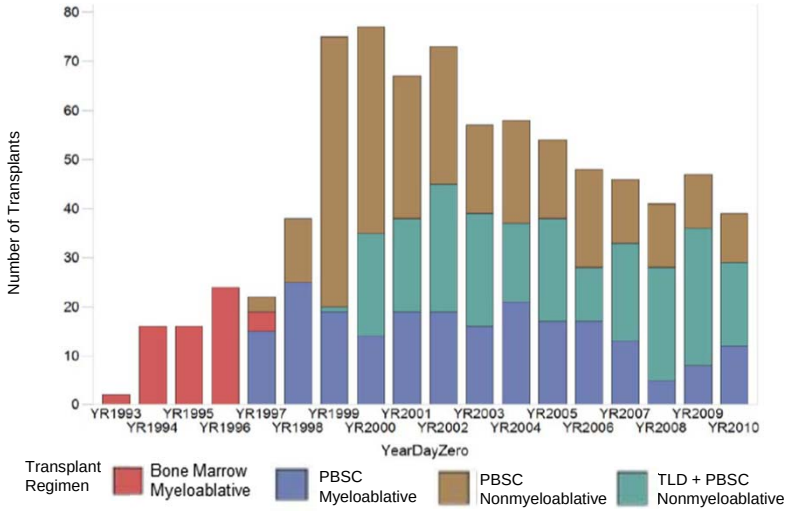

Appendix S1 - Accrual Summary, NIH Clinical Center MSD HCT (1993-2010)

Number of Subjects, Total and by Institute				
TOTAL	**NIAID**	**NCI**	**NHLBI**	**NIDDK**
800	**17**	**226**	**535**	**22**

Number of Subjects, by Transplant Protocol			
Protocol Number	**Subjects Accrued[a]**	**Protocol Title**	**Investigator(s)**
NIAID			
98-I-0104	13	Low intensity preparative regimen followed by HLA-matched, mobilized peripheral blood stem cell transplantation for chronic granulomatous disease	Horwitz, Barrett
07-I-0075[b]	4	Allogeneic and matched unrelated donor stem cell transplantation for congenital immunodeficiencies or patients with autoinflammatory / immunodysregulatory conditions: busulfan-based conditioning with Campath-1H or hATG, radiation, and sirolimus	Kang
NCI			
99-C-0143	53	Pilot study of donor Th2 cells for the prevention of graft-versus-host disease in the setting of non-myeloablative, HLA-matched allogeneic peripheral blood stem cell transplantation	Fowler, Bishop
00-C-0119	19	Allogeneic breast protocol 1: T-cell depleted allogeneic blood stem cell transplantation using an immunoablative conditioning regimen in metastatic breast cancer	Bishop, Fowler
03-C-0077	31	A pilot study of EPOCH-F/R induction chemotherapy and reduced-intensity, HLA-matched, related allogeneic hematopoietic stem cell transplantation, with cyclosporine & methotrexate GVHD prophylaxis for refractory or relapsed hematologic malignancies	Fowler
04-C-0055	103	Allogeneic HSCT without preparative chemotherapy or with low-intensity preparative chemotherapy using sirolimus and sirolimus-generated donor Th2 cells for therapy of refractory leukemia, lymphoma, myeloma, or myelodysplastic syndrome	Fowler
04-C-0131	9	Allogeneic breast protocol 2: phase I trial of T cell exchange with Th2/Tc2 cells for allogeneic stem cell transplantation after reduced intensity conditioning for metastatic breast cancer	Fowler
08-C-0088	11	Low intensity allogeneic hematopoietic stem cell transplantation therapy of metastatic renal cell carcinoma using early and multiple donor lymphocyte infusions consisting of sirolimus-generated donor Th2 cells	Fowler
NHLBI (Myeloablative)			
93-H-0212	38 Bone Marrow	T-lymphocyte depleted bone marrow transplantation for chronic myelogenous leukemia with delayed addition of donor T-lymphocytes to prevent graft-versus-host disease	Barrett
94-H-0092	14 Bone Marrow	T-lymphocyte depleted bone marrow transplantation for acute myelogenous leukemia with delayed addition of donor T-lymphocytes to prevent graft-versus-host disease	Barrett
94-H-0182	10 Bone Marrow	T-lymphocyte depleted allogeneic bone marrow transplantation for multiple myeloma with delayed addition of donor T-lymphocytes to prevent graft-versus-host disease and retain anti-tumor effects	Dunbar, Barrett

97-H-0099	40	HLA-matched peripheral blood mobilized hematopoietic precursor cell transplantation followed by T-cell add-back for hematological malignancies	Barrett
99-H-0046	52	Peripheral blood mobilized hematopoietic precursor cell transplantation followed by T-cell add-back for hematological malignancies – role of cyclosporine	Barrett
02-H-0111	35	Peripheral blood mobilized hematopoietic precursor cell transplantation followed by T cell add-back for hematological malignancies – role of preparative regimen and T cell dose in graft rejection and GVHD	Barrett
04-H-0112	51	Peripheral blood mobilized hematopoietic precursor cell transplantation followed by T cell add-back for hematological malignancies – effect of peritransplant cyclosporine on chimerism	Barrett
06-H-0248	41	Peripheral blood stem cell allotransplantation for hematological malignancies using a positive stem cell selection technique for T cell depletion, followed by delayed T cell add back	Battiwalla, Barrett
NHLBI (Nonmyeloablative)			
97-H-0196	78	A phase I/II study of HLA-matched peripheral blood mobilized hematopoietic progenitor cell transplantation for metastatic renal cell carcinoma followed by allogeneic T-cell infusion as adoptive immunotherapy	Childs
97-H-0202	22	Low intensity preparative regimen followed by HLA-matched peripheral blood mobilized hematopoietic precursor cell transplantation for hematologic malignancies in older patients	Barrett, Childs
98-H-0006	13	A phase I/II study of HLA-matched peripheral blood mobilized hematopoietic progenitor cell transplantation for metastatic melanoma followed by allogeneic T-cell infusion as adoptive immunotherapy	Childs
99-H-0050	95	Non-myeloablative allogeneic peripheral blood mobilized hematopoietic precursor cell transplantation for hematologic malignancies in high risk patients and in patients with debilitating hematologic diseases	Childs
99-H-0064	41	Exploratory study of non-myeloablative allogeneic peripheral blood stem cell transplantation and donor lymphocyte infusions for metastatic neoplasms refractory to standard therapy	Childs
00-H-0001	5	Nonmyloablative allogeneic peripheral blood mobilized hematopoietic precursor cell transplantation for chronic phase CML	Sloand, Childs
NIDDK then NHLBI			
03-DK-0170 and 03-H-0170	22	Nonmyeloablative allogeneic peripheral blood mobilized hematopoietic precursor cell transplantation for severe congenital anemias including sickle cell disease, thalassemia, and Diamond-Blackfan anemia	Tisdale

[a]The number of subjects accrued for this study from each of the transplant protocols is recorded. This is the number of subjects having "Day 0" or the day of graft infusion, on or prior to December 31, 2010.

[b]For Protocol 07-I-0075, only Group 1, consisting of MSD transplants, is included.

Abbreviations: ATG: anti-thymocyte globulin; CML: chronic myelogenous leukemia; EPOCH-F/R: etoposide, prednisone, vincristine, cyclophosphamide, and doxorubicin plus fludarabine, with or without rituximab; GVHD: graft-versus-host disease; HLA: human leukocyte antigen; MSD, matched sibling donor