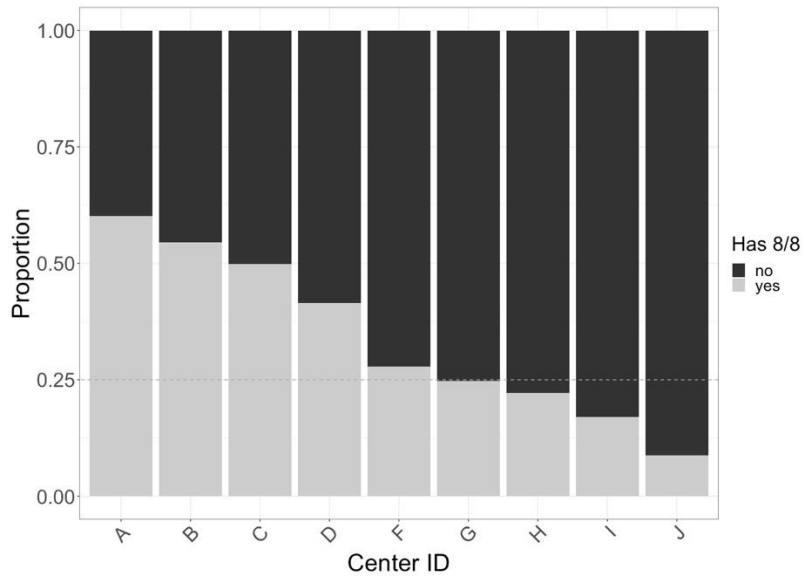
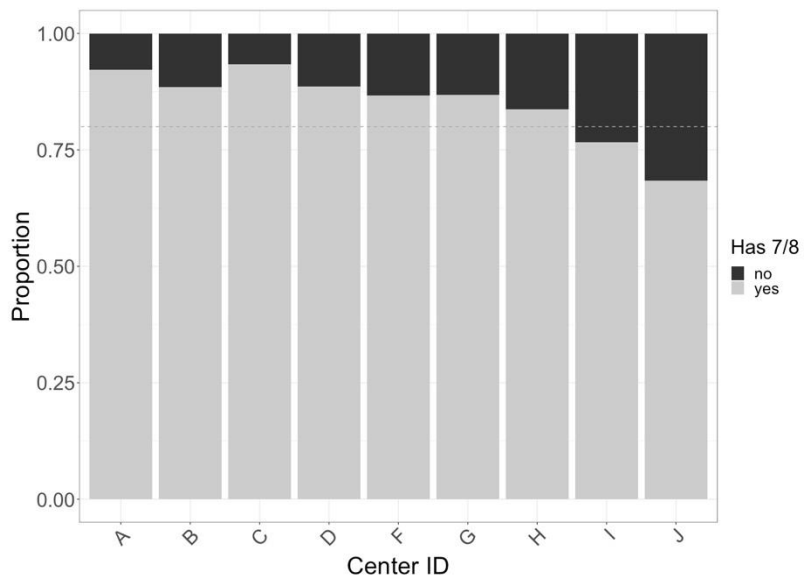


Supplemental Figure 1a.



Supplemental Figure 1b.



SUPPLEMENTAL FIGURE LEGENDS

Supplemental Figure 1a: Percent of 8/8 match existence for Adult HRD HCT patients treated at the highest volume HRD centers highlighting potential center preference/prioritization of HRD donors.

Supplemental Figure 1b: Percent of 7/8 match existence for Adult HRD HCT patients treated at the highest volume HRD centers highlighting potential center preference/prioritization of HRD donors.

SUPPLEMENTAL MATERIAL

Supplemental Table 1: Characteristics of adult patients receiving haploidentical transplant between 2013-20 at a U.S. transplant center, reported to the CIBMTR and with sufficient HLA typing for evaluation (N=9696).

Characteristic	
Number of patients	8212
No. of centers	172
Patient-Related	
Patient age	
Median (range)	55 (18-87)
Age Group (by decade) - no. (%)	
18-19 Years Old	175 (2.1)
20-29 Years Old	1077 (13.1)
30-39 Years Old	877 (10.7)
40-49 Years Old	1114 (13.6)
50-59 Years Old	1845 (22.5)
60-69 Years Old	2424 (29.5)
70-79 Years Old	695 (8.5)
80+ Years Old	5 (0.1)
Broad Race - no. (%)	
African American	1507 (18.4)
Asian and Pacific Islander	446 (5.4)
Non-hispanic White	4725 (57.5)
Hispanic	1220 (14.9)
Multiple Race	100 (1.2)
Native American	23 (0.3)
Unknown	191 (2.3)
Sex - no. (%)	
Male	4884 (59.5)
Female	3328 (40.5)
Donor-Related	
Donor age, years	
Median (range)	35 (0-77)
Donor Age Group (by decade) - no. (%)	
0-9 Years Old	15 (0.2)
10-19 Years Old	631 (7.7)
20-29 Years Old	2135 (26.0)
30-39 Years Old	2320 (28.3)
40-49 Years Old	1667 (20.3)
50-59 Years Old	966 (11.8)
60-69 Years Old	415 (5.1)
70+ Years Old	31 (0.4)
Missing	32 (0.4)

Donor Sex: - no. (%)	
Male	4980 (60.6)
Female	3231 (39.3)
Missing	1 (0)

Disease-Related

Primary disease - no. (%)	
Autoimmune disorder	4 (0.0)
Acute lymphoid leukemia	1261 (15.4)
Acute myeloid leukemia	3305 (40.2)
Chronic myeloid leukemia	272 (3.3)
Hodgkin's disease	244 (3.0)
Histiocytic disorders	17 (0.2)
Hemoglobinopathies	137 (1.7)
Inherited immune disorders	14 (0.2)
Inherited disorders of metabolism	5 (0.1)
Inherited bone marrow failure syndromes	7 (0.1)
Myelodysplastic syndromes	1207 (14.7)
Myeloproliferative neoplasms	280 (3.4)
Non-Hodgkin's lymphoma	816 (9.9)
Other disease	3 (0.0)
Other acute leukemia	92 (1.1)
Other leukemia	156 (1.9)
Plasma cell disorders	159 (1.9)
Paroxysmal nocturnal hemoglobinuria	8 (0.1)
Severe Aplastic Anemia	207 (2.5)
Solid tumor	18 (0.2)

Transplant-Related

GVHD prophylaxis - no. (%)	
PtCy	7547 (91.9)
Other	477 (5.8)
Unknown	188 (2.3)
Transplant year - no. (%)	
2013	247 (3.0)
2014	546 (6.6)
2015	818 (10.0)
2016	986 (12.0)
2017	1209 (14.7)
2018	1374 (16.7)
2019	1495 (18.2)
2020	1537 (18.7)

Supplemental Table 2: Search Prognosis distribution in the Adult HRD HCT cohort by race/ethnic group.

Population	SP Good N (%)	SP Fair N (%)	SP Poor N (%)
African American (n=1507)	68 (4.51%)	1053 (69.87%)	386 (25.61%)
Asian and Pacific Islander (n=446)	50 (11.21%)	224 (50.22%)	172 (38.57%)
Non-Hispanic White (n=4725)	1291 (27.32%)	1977 (41.84%)	1457 (30.84%)
Hispanic (n=1220)	106 (8.69%)	808 (66.23%)	306 (25.08%)
Multiple Race (n=100)	5 (5.00%)	61 (61.00%)	34 (34.00%)
Native American (n=23)	5 (21.74%)	12 (52.17%)	6 (26.09%)
Unknown (n=191)	14 (7.33%)	99 (51.83%)	78 (40.84%)

Supplemental Table 3a. Percentage of Adult HRD patients who have at least 1 8/8 or 7/8 on the registry considering donors of all ages and ≤ 35 years old by race/ethnic group.

Population	≥ 1 8/8 N (%)	≥ 1 Young 8/8 N (%)	≥ 1 7/8 N (%)	≥ 1 Young 7/8 N (%)
African American (n=1507)	225 (14.9%)	94 (6.2%)	1051 (69.7%)	730 (48.4%)
Asian and Pacific Islander (n=446)	94 (21.1%)	41 (9.2%)	347 (77.8%)	254 (57%)
Non-Hispanic White (n=4725)	2188 (46.3%)	1575 (33.3%)	4371 (92.5%)	4026 (85.2%)
Hispanic (n=1220)	293 (24%)	169 (13.9%)	979 (80.2%)	789 (64.7%)
Multiple Race (n=100)	16 (16%)	7 (7%)	72 (72%)	53 (53%)
Native American (n=23)	8 (34.8%)	5 (21.7%)	22 (95.7%)	18 (78.3%)
Unknown (n=191)	43 (22.5%)	29 (15.2%)	140 (73.3%)	115 (60.2%)

Supplemental Table 3b. Percentage of Adult HRD patients who have at least 5 8/8 or 7/8 unrelated donor on the registry considering donors of all ages and ≤ 35 years old by race/ethnic group.

Population	≥ 5 8/8 N (%)	≥ 5 Young 8/8 N (%)	≥ 5 7/8 N (%)	≥ 5 Young 7/8 N (%)
African American (n=1507)	38 (2.5%)	13 (0.9%)	647 (42.9%)	258 (17.1%)
Asian and Pacific Islander (n=446)	24 (5.4%)	7 (1.6%)	218 (48.9%)	103 (23.1%)
Non-Hispanic White (n=4725)	1326 (28.1%)	904 (19.1%)	3918 (82.9%)	3194 (67.6%)
Hispanic (n=1220)	86 (7%)	33 (2.7%)	719 (58.9%)	407 (33.4%)
Multiple Race (n=100)	1 (1%)	1 (1%)	40 (40%)	18 (18%)
Native American (n=23)	4 (17.4%)	1 (4.3%)	17 (73.9%)	12 (52.2%)
Unknown (n=191)	15 (7.9%)	9 (4.7%)	112 (58.6%)	69 (36.1%)

Supplemental Table 4. Percentage of Adult patients receiving HCT from an older HRD (>35 years old) who have at least 1 young (≤ 35 years old) 8/8 or 7/8 unrelated donor on the registry by race/ethnic group.

Population	≥ 1 Young 8/8 N (%)	≥ 5 Young 8/8 N (%)	≥ 1 Young 7/8 N (%)	≥ 5 Young 7/8 N (%)
African American (n=769)	56 (7.3%)	7 (0.9%)	386 (50.2%)	154 (20%)
Asian and Pacific Islander (n=185)	18 (9.7%)	5 (2.7%)	110 (59.5%)	45 (24.3%)
Non-Hispanic White (n=2544)	839 (33%)	505 (19.9%)	2152 (84.6%)	1687 (66.3%)
Hispanic (n=574)	83 (14.5%)	16 (2.8%)	372 (64.8%)	193 (33.6%)
Multiple Race (n=40)	1 (2.5%)	0 (0%)	24 (60%)	10 (25%)
Native American (n=11)	1 (9.1%)	0 (0%)	9 (81.8%)	6 (54.5%)
Unknown (n=92)	11 (12%)	2 (2.2%)	58 (63%)	34 (37%)

Supplemental Table 5. Percent of Adult patients with a probable search ID at Be The Match and Search Prognosis Score Distributions at the highest volume HRD centers.

Center ID	% Ran Search	% SP Good	% SP Fair	% SP Poor
A	46.7	39.6	37.3	23.1
B	84.9	29	53.4	17.6
C	95.7	33.7	39.6	26.7
D	96.6	25.6	39.8	34.7
F	71.7	11.5	60.7	27.8
G	94.8	10.3	62.6	27
H	95	6.8	61.5	31.7
I	64.3	3.5	56.1	40.4
J	97	1.7	57.6	40.7

Supplemental Table 6. Search Prognosis distribution in the HRD HCT cohort with MatchSource Search IDs by race/ethnic group.

Population	SP Good N (%)	SP Fair N (%)	SP Poor N (%)
African American (n=1543)	67 (4.3%)	1087 (70.4%)	389 (25.3%)
Asian and Pacific Islander (n=450)	45 (10%)	231 (51.3%)	174 (38.7%)
Non-Hispanic White (n=4192)	970 (23.1%)	1849 (44.1%)	1373 (32.8%)
Hispanic (n=1397)	121 (8.7%)	911 (65.2%)	365 (26.1%)
Multiple Race (n=156)	9 (5.8%)	93 (59.6%)	54 (34.6%)
Native American (n=36)	4 (11.1%)	19 (52.8%)	13 (36.1%)
Unknown (n=221)	17 (7.7%)	110 (49.8%)	94 (42.5%)

Supplemental Table 7. Count of HRD HCT cohort with 6-5/8 Donors.

Category	HRD HCT Patients N (%)
≥ 1 Young (18-35) 6/8 Donors	9323 (96.2%)
≥ 1 6/8 Donors	9565 (98.6%)
≥ 5 Young (18-35) 6/8 Donors	8543 (88.1%)
≥ 5 6/8 Donors	9279 (95.7%)
≥ 1 Young (18-35) 5/8 Donors	9677 (99.8%)
≥ 1 5/8 Donors	9690 (99.9%)
≥ 5 Young (18-35) 5/8 Donors	9596 (99%)
≥ 5 5/8 Donors	9673 (99.8%)

Supplemental Table 8. Count of HRD HCT cohort with Class restricted mismatches for 7/8 or 6/8.

Category	HRD HCT Patients N (%)
≥ 1 7/8 Class I MM Donors	7349 (75.8%)
≥ 1 7/8 Class II MM Donors	6913 (71.3%)
≥ 5 7/8 Class I MM Donors	5413 (55.8%)
≥ 5 7/8 Class II MM Donors	4988 (51.4%)
≥ 1 6/8 Class I MM Donors	9137 (94.2%)
≥ 1 6/8 Class II MM Donors	7538 (77.7%)
≥ 5 6/8 Class I MM Donors	8410 (86.7%)
≥ 5 6/8 Class II MM Donors	5999 (61.9%)

Supplemental Table 9. Count of HRD HCT cohort with CMV +/- donors at 8-6/8

Category	HRD HCT Patients N (%)
≥ 1 8/8 CMV- Donors	2074 (21.4%)
≥ 1 8/8 CMV+ Donors	1994 (20.6%)
≥ 5 8/8 CMV- Donors	1091 (11.3%)
≥ 5 8/8 CMV+ Donors	975 (10.1%)
≥ 1 7/8 CMV- Donors	6413 (66.1%)
≥ 1 7/8 CMV+ Donors	6431 (66.3%)
≥ 5 7/8 CMV- Donors	4132 (42.6%)
≥ 5 7/8 CMV+ Donors	4022 (41.5%)
≥ 1 6/8 CMV- Donors	9095 (93.8%)
≥ 1 6/8 CMV+ Donors	9157 (94.4%)
≥ 5 6/8 CMV- Donors	7950 (82%)
≥ 5 6/8 CMV+ Donors	8045 (83%)