

HLA Match Likelihoods on the Be The Match Registry® in the Mismatched Donor Setting—Obtaining a Donor For All

WHY?

Not all patients in need of an unrelated donor allogeneic stem cell transplant (HCT) will have an 8/8 human leukocyte antigen (HLA) matched donor available. The likelihood of a match varies based on a patient's race/ethnicity, with ethnically diverse patients having a much lower likelihood of an 8/8 matched donor compared to white non-Hispanic patients. Novel HCT strategies, like the use of post-transplant cyclophosphamide graft vs host disease prophylaxis, can permit the safe and effective use of <8/8 matched unrelated donors. Understanding the likelihood of finding a mismatched unrelated donor is important to evaluate the impact of these novel HCT strategies for patients in need of HCT without an 8/8 donor available.



WHAT?

Observational study utilizing registry modeling techniques previously developed at the National Marrow Donor Program® (NMDP)/Be The Match®, the study team evaluated the likelihood of finding an 5/8 to 8/8 matched donor in the Be The Match Registry.

WHO?

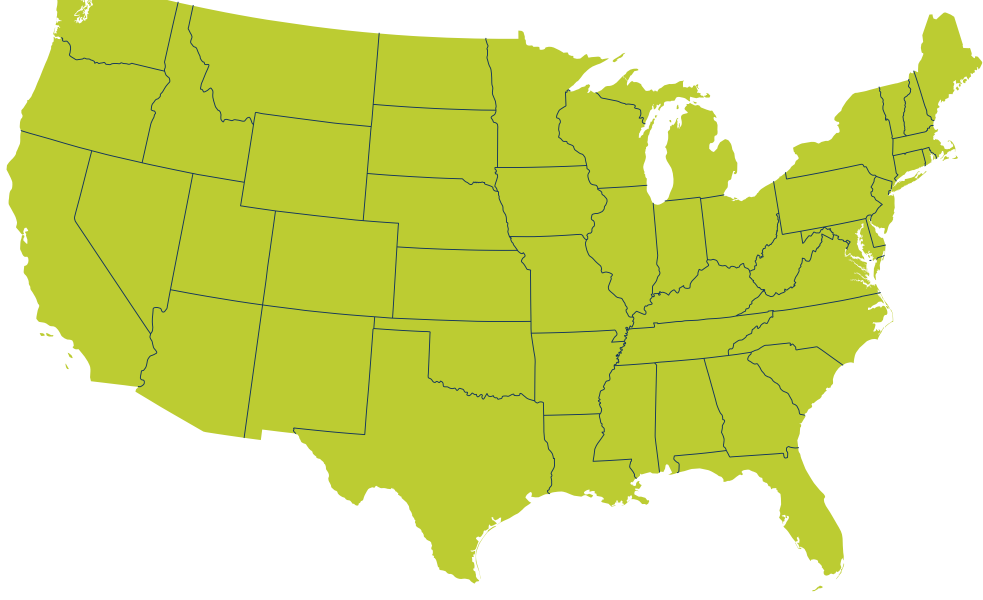
Simulated patients representing 21 detailed and 5 broad race/ethnic groups defined for the U.S. population.

RACE CODE	DETAILED RACE/ETHNIC DESCRIPTION	BROAD RACE CODE	RACE/ETHNIC DESCRIPTION
AAFA	African American	AFA	African American
AFB	African		
CARB	Caribbean Black		
SCAMB	Black—South or Central American		
AINDI	South Asian Indian	API	Asian or Pacific Islander
FILII	Filipino		
HAWI	Hawaiian or Other Pacific Islander		
JAPI	Japanese		
KORI	Korean		
NCHI	Chinese		
SCSEAI	Southeast Asian		
VIET	Vietnamese		
MENAF	Middle Eastern of N. Coast of Africa	CAU	Caucasian
EURCAU	European Causaian		
CARHIS	Caribbean Hispanic	HIS	Hispanic
MSWHIS	Mexican or Chicano		
SCAHIS	Hispanic—South or Central American		
AISC	American Indian—South or Central American	NAM	Native American
ALANAM	Alaska Native or Aleut		
AMIND	North American Indian		
CARIBI	Caribbean Indian		

WHEN?

Based on the composition of the Be The Match Registry in 2020

2020



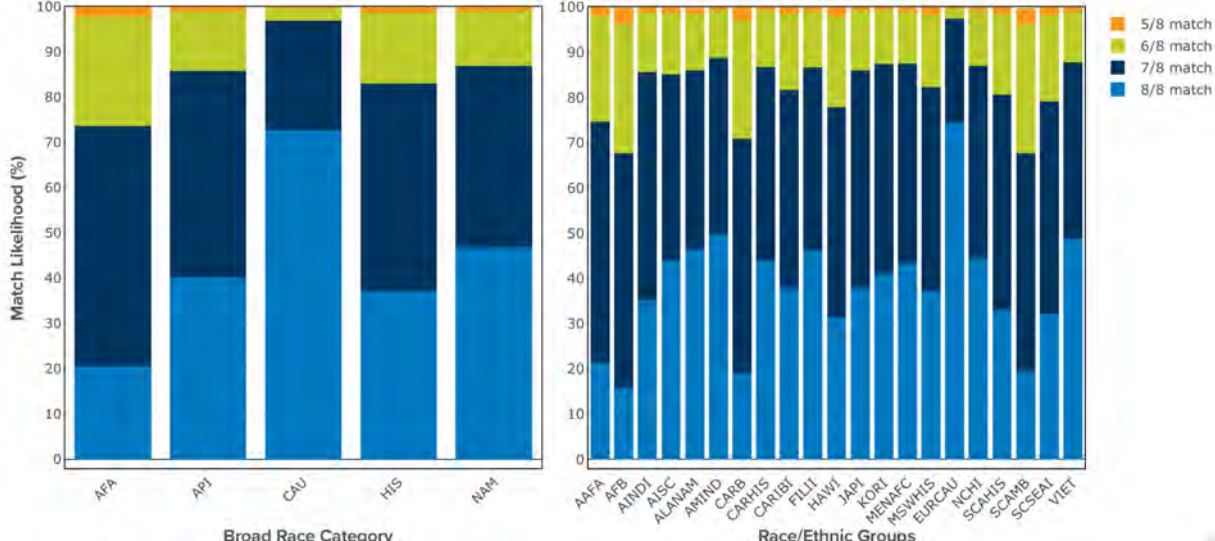
United States patient population

WHERE?

RESULTS

Likelihood of an 8/8 match ranges from 74% to as low as 16%; however, when allowing for HLA match levels down to 5/8, such availability becomes >99% for all race/ethnic groups even when restricting to donors ≤35 years old.

HLA match likelihoods (%) at 5/8–8/8 levels with donors of age ≤35 in 5 broad and 21 detailed race/ethnic groups



IMPACT/FINDINGS:

The potential to use mismatched unrelated donors eliminates the donor availability gap for all patients in need of transplant. Donor availability as a barrier to transplant is becoming a thing of the past thanks to advances in the strategies to prevent graft vs. host disease in the HLA mismatched setting.

The NMDP/Be The Match through the Center for International Blood and Marrow Research is committed to advancing this type of research to move us closer to that goal.

FROM THE EXPERTS

New advances in strategies to mitigate complications after transplant allow for increased access to cellular therapies for patients, especially in ethnically diverse populations that have historically been underserved. This increased access is due to the new potential to allow for different levels of matching at HLA loci, and the registry modeling in this work demonstrates how this allowance can impact diverse populations toward a Donor for All patients."



Yung-Tsi Bolon
Director, Bioinformatics and Immunobiology Research
CIBMTR

We will not be able to solve all the current gaps in access to a potentially lifesaving treatment by providing fully HLA-matched allografts. If we can safely perform mismatched unrelated donor transplants, as we are trying to determine through the ACCESS study, these data suggest we will be able to make significant progress in closing these gaps."



Steve Devine, MD
Chief Medical Officer
National Marrow Donor Program/Be The Match

World-wide unrelated donor registries continue to grow on an annual basis, yet many patients, especially those of ethnically diverse backgrounds, will not have an 8/8 match available. These data demonstrate that novel transplant strategies that allow for safe and effective use of mismatched donors (7/8–5/8 matched) can expand access to all patients in need."



Stephen Spellman
Vice President, Research
National Marrow Donor Program/Be The Match