

# Racial and Ethnic Disparities in Multiple Myeloma: Moving Towards Inclusion or at a Standstill?

Allison Brackley\*<sup>1</sup>, Mihaela Musat<sup>1</sup>, Priyadharshini Ramakrishnan<sup>1</sup>, Shilpa Chennakrishnaiah<sup>1</sup>, Elizabeth Hubscher<sup>1</sup>

1. Cytel, Inc., Waltham, MA, USA

Email: [allison.brackley@cytel.com](mailto:allison.brackley@cytel.com)

## Background

Despite therapeutic advances, multiple myeloma (MM) remains a fatal and incurable malignancy, with multiple relapses (relapsed and refractory MM, RRMM).<sup>1</sup> In the US, over 30,000 new cases of MM are diagnosed annually, with a large racial disparity in its incidence and mortality rates.<sup>2,3</sup> Black individuals are more than two times more likely to be diagnosed with MM compared to White individuals, and twice as likely to die from the disease.<sup>3</sup> These disparities in MM survival appear to arise from low enrollment rates of minority patients in clinical trials (CTs) and their reduced access to systemic therapy, rather than underlying pathogenesis.<sup>1,4</sup>

Adequate representation of minority groups in CTs is critical to improve data and ameliorate outcomes; however, little is known about the progress toward this goal in MM.

## Objective

We conducted this study to explore patterns of reporting and representation in CTs compared to the regulatory and health technology assessment (HTA) agency guidance, in order to understand the current state of inclusion in clinical development in RRMM.

## Research Questions

1. Is race regularly reported in clinical trials for RRMM?
2. What is the proportion of representation across racial categories in RRMM CTs?
3. What regulatory and HTA guidance exists for racial inclusion in CTs?
4. Has the reporting of race or inclusion of minorities improved since regulatory and HTA guidance was published?

## Methods

- We conducted a targeted literature search to identify guidance issued by prominent HTA bodies regarding policies and guidance addressing racial diversity and equal representation in CTs
- We conducted a systematic literature review to identify CTs in RRMM published from 2010 to 2020 across Medline, Embase, and Cochrane databases; relevant congress abstracts published between 2018 and 2020 were also reviewed
- The number of unique studies was tabulated, as well as the proportion that reported the race of study participants
- Within studies that reported the number of participants by race, we calculated the inclusion of participants in each racial category as their proportion of each study's total patient set (averaged for studies with >2 arms)
- We examined temporal trends in study inclusivity and compared them to the identified regulatory guidance

## Findings

### 1 Is race regularly reported in clinical trials for RRMM?

There were 65 studies that matched our initial qualifications for data extraction, with an average study size of 197 participants. Of the 65 studies, 28 (43%) reported the race of participants (Figure 1). Most studies (n=26) reported a range of racial categories, while two solely presented percentage of White participants. Within the studies that reported the race of participants, approximately 3.1% of participants did not disclose their race.

### 2 What is the proportion of representation across racial categories in RRMM CTs?

The category with the highest mean percent of inclusion was White participants (72.1%), followed by Asian participants (16.4%) and Black participants (6.97%) (Table 1). Hispanic, Asian Pacific Islander, and Pacific Islander participants all had less than 1% mean inclusion (0.134%, 0.081%, and 0.172%, respectively).

Table 1. The percentage of inclusion for each racial category

Racial category	Mean percent of patient set (range)	Racial category	Mean percent of patient set (range)
American Indian	0.176% (0 - 40%)	Hispanic	0.134% (0 - 3.76%)
Asian	16.4% (0 - 100%)	White	72.1% (0 - 100%)
Asian Pacific Islander	0.081% (0 - 2.26%)	Multi-racial	0.385% (0 - 6.56%)
Pacific Islander	0.172% (0 - 2.17%)	Other	0.948% (0 - 6.21%)
Black	6.97% (0 - 40.9%)	Undisclosed	2.72% (0 - 19.4%)

Figure 2. The percentage of inclusion for each racial category by year

The proportion inclusion by year of study publication was mapped for each of the nine racial categories. Zero values are not shown.

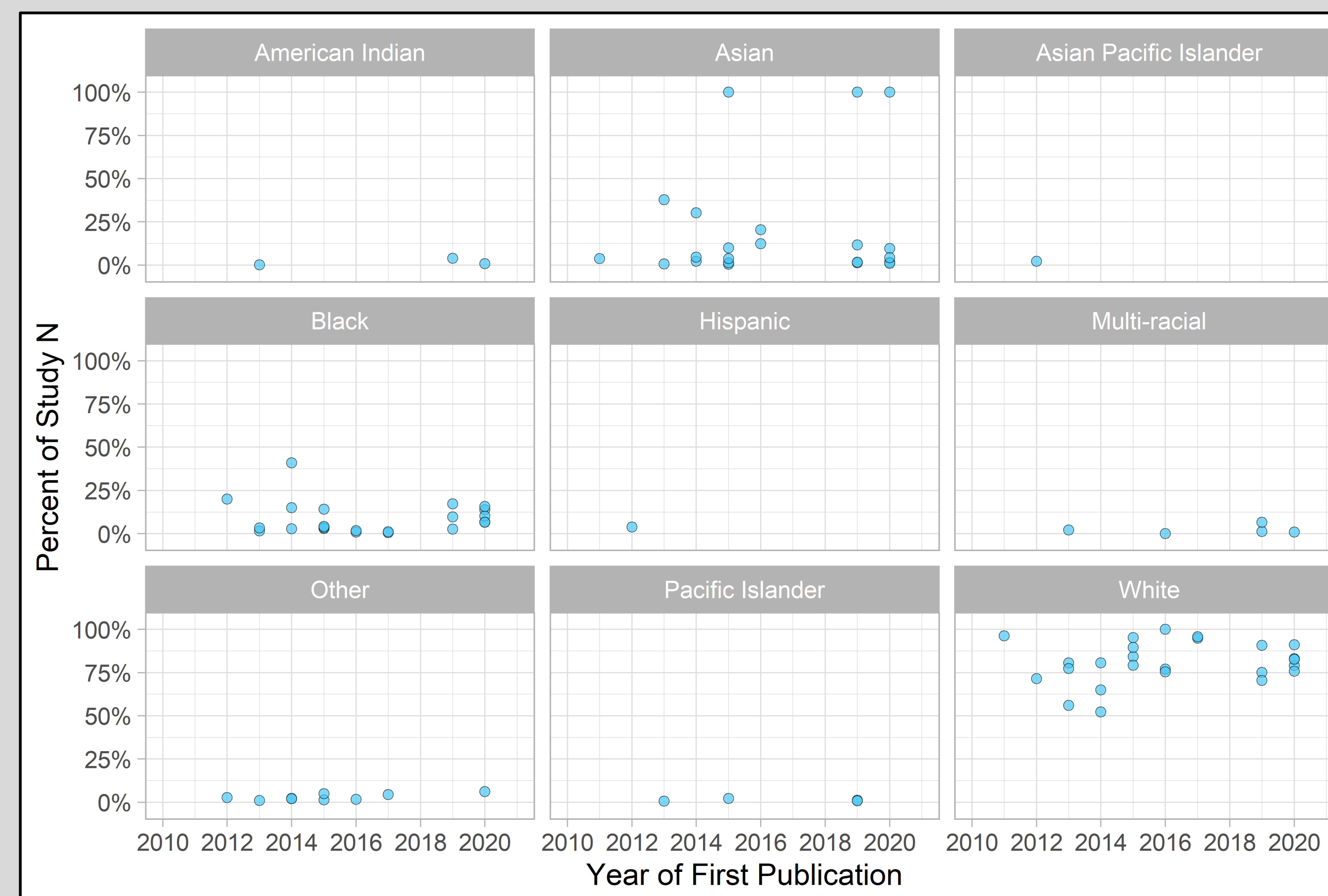
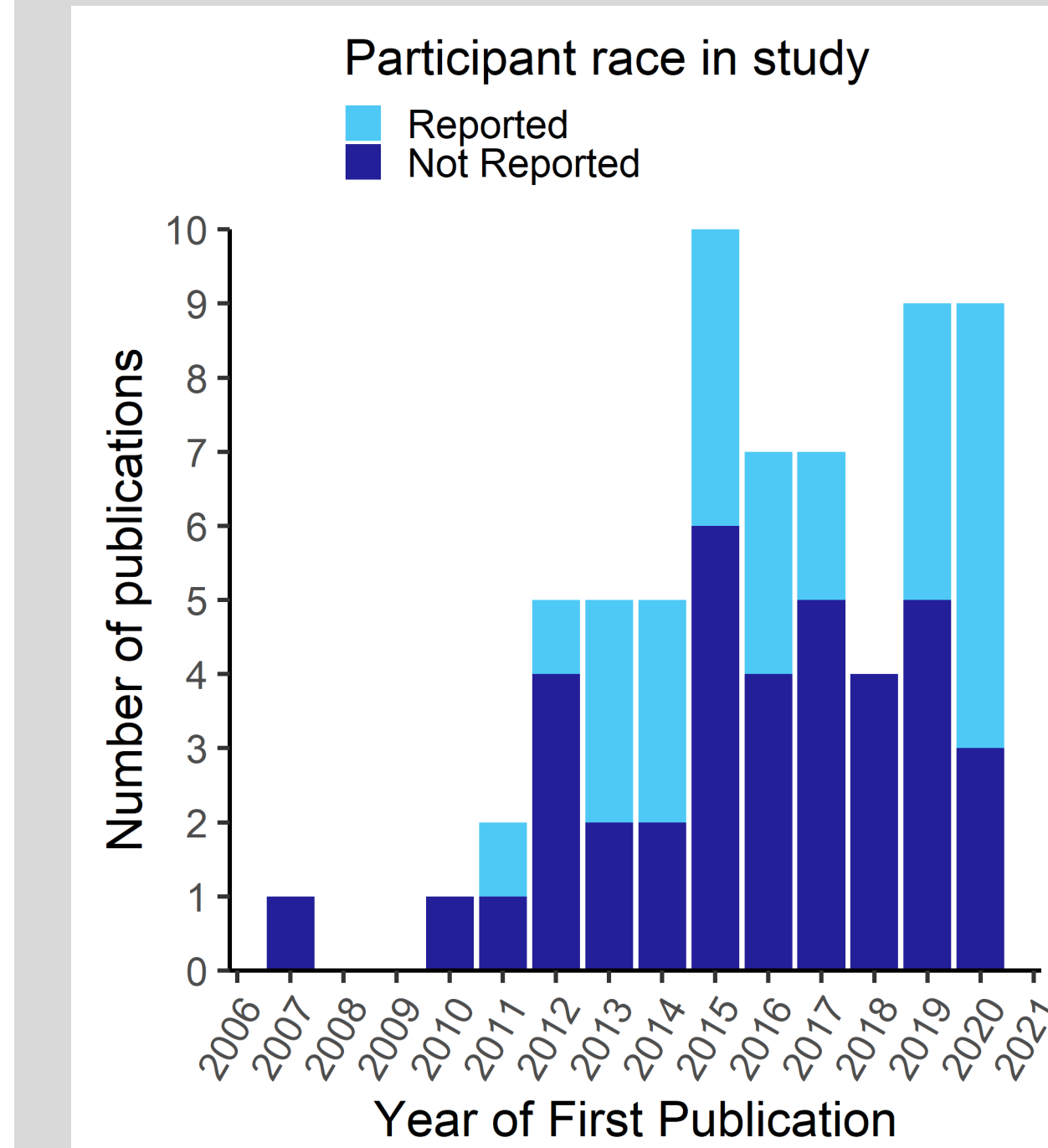


Figure 1. RRMM studies by year and reporting status



### 3 What regulatory and HTA guidance exists for racial inclusion in clinical trials?

The US Food and Drug Administration (FDA) and American Society of Clinical Oncology (ASCO) recommend inclusion and sub-group analyses of clinically relevant racial and ethnic minorities in CTs and encourage cost mitigation strategies to encourage participation from underrepresented populations.<sup>5,6</sup> HTA bodies such as the Institute for Quality and Efficiency in Health Care (IQWiG) and the Institute for Clinical and Economic Review (ICER) incorporate clinically or economically relevant subgroups from CTs and RWE in their analyses to account for heterogeneity and identify patient groups who might experience differential treatment outcomes (beneficial or harmful), while NICE encourages the HTA review process to consider disparity issues.<sup>7,8,9</sup>

### 4 Has the reporting of race or inclusion of minorities improved since regulatory and HTA guidance was published?

There was no clear trend of increased or decreased reporting over time (Figure 1). There were no obvious temporal trends in racial inclusion that could be detected across the 28 studies that reported race (Figure 2).

## Conclusions

Efforts to include racial and ethnic minorities in RRMM research is at a veritable standstill, despite clear and prescient guidance from regulators and HTA bodies. While HTA bodies pledge to reduce health disparities, lack of data and diversity in CTs remain a major limiting factor in incorporating health disparities in value assessments.

## Limitations

- RRMM CT data were extracted for studies that reported specific endpoints (overall response rate, complete response, stringent complete response, or minimum residual disease and median progression-free survival).
- The conclusions regarding percentage racial inclusion are limited by the small number of studies that reported racial distribution.

## Abbreviations

ASCO, American Society of Clinical Oncology; CT, clinical trial; FDA, Food and Drug Administration; HTA, health technology assessment; ICER, Institute for Clinical and Economic Review; IQWiG, Institute for Quality and Efficiency in Healthcare; NICE, National Institute for Health and Care Excellence; RCT, randomized clinical trial; RRMM, relapsed and refractory multiple myeloma

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