Application Of Real-World Data Sources For Equity-Informed Evaluations Of Multiple Myeloma

RWD51

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Introduction

- Previous research suggests differences in disease biology and characteristics between White and Black patients with multiple myeloma (MM) exist. Despite a higher incidence rate among Black patients, their representation in MM clinical trials (CTs) remains notably low, with a median participation rate of only 4.5%.[1]
- Socio-demographic disparities in access to and receipt of (e.g., testing procedures, stem cell transplantation, and novel therapies) have also been documented.
- Real-world data may be an appropriate source of evidence to fill gaps in outcomes from CTs. Furthermore, it presents an opportunity to evaluate of MM interventions while concurrently capturing disparities in health outcomes at various levels in the continuum of care.

Objectives

- The primary objective of this study was to assess the capacity of real-world datasets (RWD) employed in published MM studies to perform equity-informed evaluations of MM treatments.
- The secondary objective was to determine the potential for studying disparities in MM using data from a local tumor registry.

Methods

- We identified RWD from published MM US-based studies (n=19) that contained race and ethnicity information and other socio-demographic data. The search was conducted in June 2023.
- RWD were organized into categories based on their key characteristics. From the publications, we also identified reported patient characteristic variables that can be employed in MM equity-informative studies.
- In parallel, we accessed the University of Maryland Greenebaum Comprehensive Cancer Center (UMGCCC) registry to assess its potential for investigating disparities, and examined the availability of health inequality-relevant variables.
- Additionally, we identified individuals in the registry who were newly diagnosed with MM between 2018 and 2022. We used descriptive statistics to characterize the UMGCCC cohort.

Results

- Patient race and ethnicity information was available in most RWD, except for some commercial claims databases. Among RWD studies including MM patients, The proportion of Black patients varied across the cohorts described, for example 18.9%-42.3% of single institutions, 15.0%-20.9% of SEER-Medicare cohorts, and 14.7%-28.2% of insurance claims cohorts, versus a median of 4.5% of patients in CTs[1].
- Place of residence identifiers were often available in studies using single institution data, SEER-Medicare and national registries, and allowed for linkage to area-level socio-demographics or indicators.
- Place of residence at the address and ZIP code level, marital status and race and ethnicity information were available in the UMGCCC registry. The cohort included a high proportion of Black patients (46%).

Table 1. RWD and patient-level characteristics reported

Data type			Data source	Data source example	Race^	% Black^	Place of residence level*	Marital status*	Other
Registry			National registry	Connect® MM, NCDB*	Yes	12.7-21.4	Census tract	No	Socio-economic indicators linked from place of residence
	Claims		Linked registry/Claims	SEER-Medicare	Yes	15-20.9	County	Yes	Socio-economic indicators linked from place of residence
			Commercial insurance claims	Optum® Clinformatics® Datamart	Sometimes	14.7-28.2	Census region	No	/
		EHR	EHR-derived	Flatiron Health EHR-derived	Yes	20.2	Census region	No	/
			Single institution	Academic medical centers	Yes	18.9-42.3	Exact address, census tract, ZIP code	Sometimes	Socio-economic indicators linked from place of residence

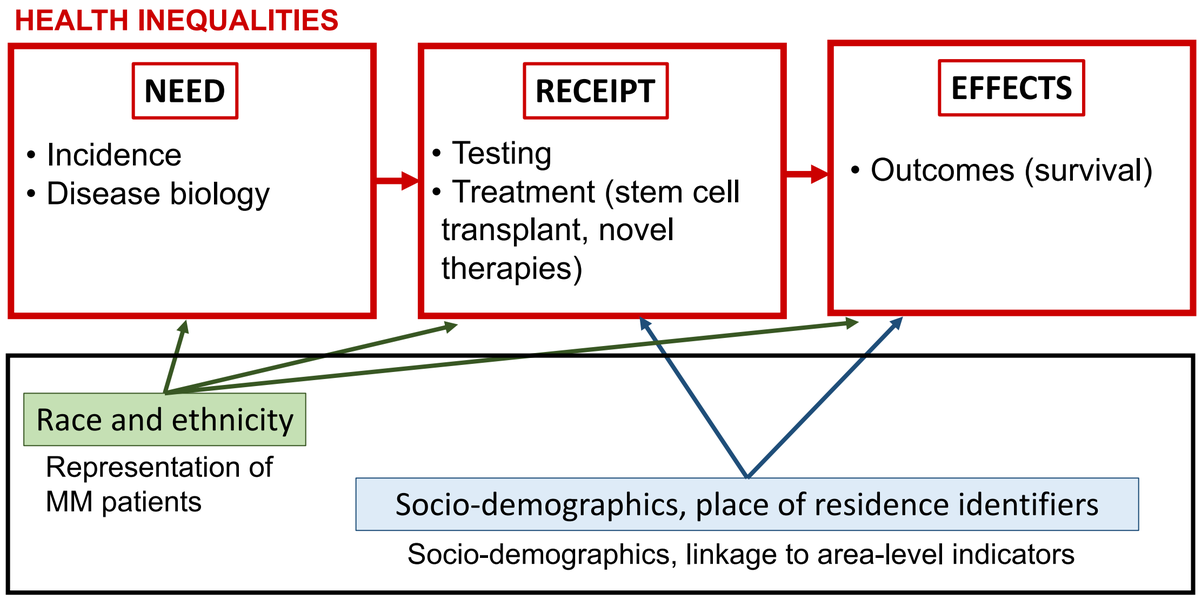
Abbreviations: EHR: electronic health records, NCDB: National Cancer Database
**Reported: information could be available in the dataset, but not utilized or reported for the identified studies. ^Reported frequencies for Black patients included in the cohort.*

Table 2. UMGCCC registry data and MM cohort patient characteristics

UMGCCC registry data		
Data source		Registry
Race and ethnicity		Yes
Place of residence		Exact address, ZIP code
Marital status		Yes
Patient characteristics (n=410)		
Median age at diagnosis (years)		61
Sex (n, %)	Male	227 (55)
	Female	183 (45)
Race and ethnicity (n, %)	Black	189 (46)
	White	198 (48)
	Other	23 (6)
Insurance type* (n, %)	Public	180 (44)
	Private	229 (56)

**Unknown: n=1*

Figure 1. Health inequality continuum in MM and health inequality-relevant variables in RWD



Conclusion

- Across various types of RWD, we found double-digit proportions of Black patients. Most included at least one geographic identifier to facilitate data linkages.
- Black individuals represented a high proportion of MM patients in the University of Maryland Greenebaum Comprehensive Cancer Center registry. Patient information available would allow for further linkages to clinical data (e.g., EHR, insurance claims) and geographic indicators.
- Combining diverse data sources, capitalizing on their distinctive strengths, emerges as a vital element for conducting equity-informative studies in multiple myeloma, capturing disparities and their impact along the continuum of MM-related health disparities. [Figure 1]

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Bibliography

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