Higher-Risk Myelodysplastic Syndromes Patient Characteristics in a Large, Integrated United States Healthcare System

MDS-401

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Key Findings

Median time from first symptom to Higher-Risk Myelodysplastic Syndromes (HR-MDS) diagnosis date was 10.3 months; median time from first diagnostic measure to HR-MDS diagnosis date was similar at 10.1 months, with blood cell counts occurring earlier than other diagnostic measures.

A significant portion of patients are likely to experience moderate to high levels of unmet needs for social determinants of health, including related to social isolation and transportation access (38% each).

Conclusions

The timing of the appearance of first symptom and first diagnostic measure suggested time to diagnosis could take at least 6 months, and nearly a year for half of the HR-MDS patients.

Findings from this study suggest there are HR-MDS patients with unmet needs around social determinants of health (SDoH) measures whose quality of life could be improved with programs that address these needs.

Transportation and social isolation represent potential targets to design interventions focused on facilitating access to care as they might be the most modifiable.

Understanding the patient perspective during the diagnosis process could also identify important barriers in access to care and develop programs to aid in timely management of disease.

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2.Quan H, Li B, Couris CM, Fushimi K, Graham P, Hider P, Januel JM, Sundararajan V. Updating and validating the Charlson comorbidity index and score for risk adjustment in hospital discharge abstracts using data from 6 countries. Am J Epidemiology. 2011; 173(6): 676-82.

Acknowledgments: This study was funded by Gilead Sciences, Inc., Foster City, CA, USA.
Disclosures: **PM**, **JB**, **TJ**, **MW**, and **CG** are employees of Gilead Sciences, Inc. **KJM**, **NEN**, **KA**, and **CL** are employees and shareholders of Optum. Optum received funding from Gilead to conduct this study.

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Introduction

- MDS are a group of myeloid neoplasms characterized by peripheral cytopenias and varying propensity for leukemia transformation.
- Patients present with nonspecific signs and symptoms, such as infection, fatigue, bruising and bleeding.
- Median survival for HR-MDS patients can be as short as 1-2 years[1] so it is important that diagnoses happen in a timely manner and patients receive appropriate treatment and disease management.
- Demographic, socioeconomic, and social determinants of health (SDoH) have been shown to be important factors in cancer etiology and survival outcomes for a number of cancers.

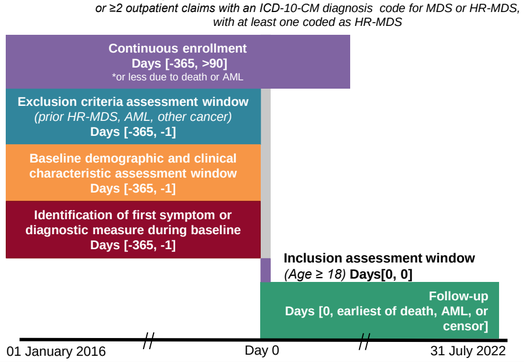
Objective

- To evaluate clinical characteristics and SDoH of patients with HR-MDS and anticipate potential implications for healthcare.

Methods

- A descriptive retrospective cohort study of HR-MDS patients using administrative claims data in the Optum Research Database linked to socioeconomic status and SDoH data. SDoH measures are model-based patient-level measures that use individual (e.g. claims, consumer data) and group level data (e.g. US Census data).
- Patients were required to have at least 12 months of continuous enrollment prior to the HR-MDS diagnosis date to facilitate a look-back period for the symptoms and diagnostic measures. Patients also had at least 90 days of continuous enrollment (or less due to death or AML diagnosis) after the HR-MDS diagnosis date.

Figure 1. Study design



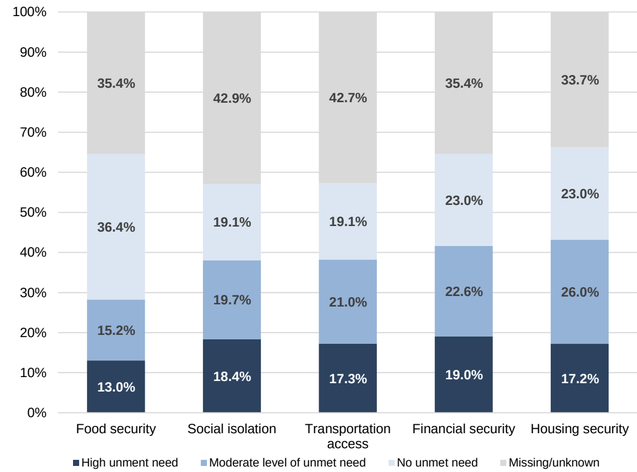
Results

Table 1. Patient Demographics and Clinical Characteristics

Demographics	Total (N=1,710)	No Previous MDS Diagnosis (N=1,044)	Previous MDS Diagnosis (N=666)
Age, mean (SD)	76.2 (9.4)	76.0 (9.6)	76.6 (9.1)
Gender, %			
Male	58.5	58.8	58.0
Insurance type, %			
Commercial	14.3	14.6	14.0
Medicare Advantage	85.7	85.4	86.0
Insurance plan type, %			
Exclusive Provider Organization	0.8	0.8	0.8
Health Maintenance Organization	5.6	5.8	5.1
Point of Service	9.5	9.5	9.5
Preferred Provider Organization	8.7	8.9	8.4
Indemnity Health Plan	2.8	2.8	2.9
Other/unknown*	72.7	72.2	73.4
Region, %			
Northeast	16.3	14.4	19.2
Midwest	31.2	31.2	31.1
South	42.8	44.7	39.8
West	9.8	9.7	9.9
Baseline Charlson comorbidity score[2], %			
0	24.2	27.1	19.7
1-2	36.1	37.2	34.4
3+	39.7	35.7	46.0

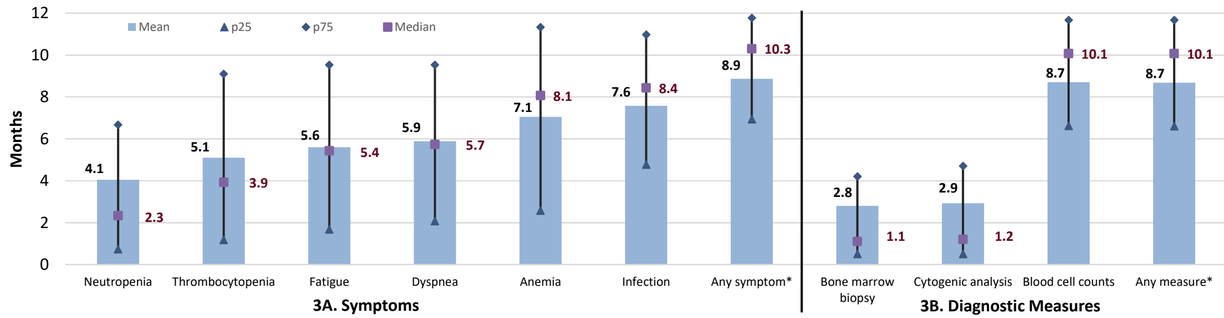
*The majority of Medicare Advantage patients (85%) have unknown plan type; those with known plan type fall into either PPO (10%) or HMO (5%) plans.

Figure 2. Patient Social Determinant of Health Indices*



*The SDOH indices are scored 0-9 based on models derived from patient and group level data (see Methods) and then divided into tertiles.

Figure 3. Mean, Median, IQR Time from First Occurrence of Symptoms to Diagnosis (3A) and First Diagnostic Measure to Diagnosis (3B)



*Symptoms not reported in the figure include bleeding, bruising, and sweet syndrome; diagnostic measures not reported in the figure include flow cytometry, immunohistochemistry, gene sequencing or HLA. These symptoms/diagnostic measures were used in calculating time to any measure, which was defined as time to the earliest measure.

Presented at the 11th Society of Hematologic Oncology (SOHO) Annual Meeting; September 6-9, 2023; Houston, Texas