Economic Burden and Healthcare Resource Use in Medicare Beneficiaries with Myelodysplastic Syndromes

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INTRODUCTION

- Myelodysplastic syndromes (MDS) are a heterogeneous group of disorders characterized by aberrant hematopoiesis and progressive cytopenia, diagnosed at a median age of around 70 years.[1]
- Prevalence of MDS in the US is estimated to be between 60,000 - 170,000 patients – this number varies widely due to variation in criteria for diagnosis, possible underdiagnosis and underreporting.[2]
- Treatment is highly personalized according to patient disease severity, with significant economic and quality of life burden associated with high-risk patients needing transfusions and other active treatments.

OBJECTIVES

- The objective of this study was to assess the economic and healthcare resource use (HCRU) burden of Medicare beneficiaries with MDS.

METHODOLOGY

- A retrospective cross-sectional analysis was conducted using Medicare Limited Data Set (LDS) Part A/B claims (01/2019–09/2020).
- Eligible patients were present in the 5% random sample (carrier file) and identified via ICD-10-CM* MDS diagnosis codes across the carrier, inpatient, and outpatient files. Patients had ≥12 months of continuous enrollment and were ≥65 years of age.**
- Medicare annualized cost of care for inpatient, outpatient, and physician office (carrier) services were calculated in US dollars.
- Rates of all-cause inpatient admissions, red blood cell (RBC) transfusions, hematopoietic stem cell transplants (HSCT), and use of hypomethylating agents (HMAs) were reported for a one-year time-interval following patients' first observed MDS claim in the study period.

*MDS patients were defined as those with ≥1 inpatient OR ≥1 outpatient OR ≥2 carrier claims with an ICD-10-CM diagnosis code (D469, D460, D464, D46Z, D4620, D46A, D461, D46C, D4622, D4621, D46B, D46, and D462) between January 2019 - September 2020
**Patients with ≥12 months continuous enrollment defined as patients with ≥12 months between their first observable MDS claim and last observable claim.

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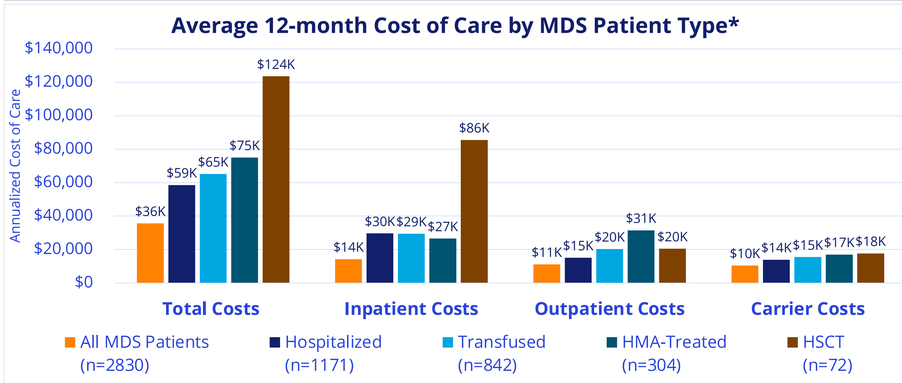
RESULTS

Patient Demographics

Included MDS Patients	
Sample N	2,830
% Female	49.0%
Age Distribution	**N**
65-69	251
70-74	541
75-79	598
80-84	625
>84	815
Race/Ethnicity	**%**
White	86.2%
Black	6.9%
Asian	2.0%
Hispanic	1.4%
Other	2.0%
Unknown	1.6%

Mean Annual Cost of Care by Setting



*annualized

Admission Characteristics

Population	% Admitted	Inpatient as % of Costs	Mean Length of Stay (days)
All MDS	41%	40%	5.9
Hospitalized	100%	51%	5.9
Transfused	67%	45%	6.4
HMA-Treated	52%	35%	6.9
HSCT	>85%**	69%	11.6

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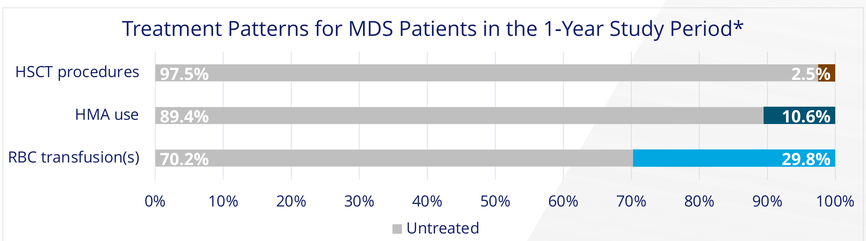
- In our identified cohort of 2,830 MDS patients, within one-year following patients' first observed claim for MDS, 41.4% of patients had >1 inpatient admission with an average length of stay of 5.9 days.
- In all MDS patients, annualized inpatient costs were the highest at $14,150, followed by $11,095 in outpatient, and $10,400 in the physician office setting costs.
- Hospitalization, transfusion (mean of 7 transfusions and a median of 4), hypomethylating agent (HMA) therapy, or hematopoietic stem cell transplantation (HSCT) in the year following first MDS claim resulted in higher cost of care and longer mean length of stay.
- 67% of all inpatient admissions were in the emergency setting, with the most common reasons for admission being sepsis, heart failure, kidney disease or MDS.

Rates of Healthcare Resource Utilization



*1-year period following first MDS claim

CONCLUSION

- In this single-cohort analysis of Medicare LDS Part A/B claims, MDS patients incurred substantial healthcare expenditures to the Medicare program – with HSCT recipients incurring the highest direct costs.
- Although the current analysis did not directly compare costs to the general Medicare population, in 2019, spending on traditional Medicare Part A/B beneficiaries was 3 times lower ($11,665 per enrollee with utilization) than the average cost per MDS patient.[3]
- Further investigations are needed to assess the underlying drivers of costs, particularly in transfusion dependency and MDS risk category.

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