MM-455

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Rising Terminal Nutritional-Frailty Vulnerability Despite Declining Overall Multiple Myeloma Mortality: National Trends, Co-Occurring Vulnerability Markers, Place-of-Death Patterns, and Disparities in the United States

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BACKGROUND & METHODS

Background

Multiple myeloma outcomes have improved, but national end-of-life nutritional decline patterns remain less defined.

Aim

Examine malnutrition, cachexia, weight loss, and dysphagia-associated mortality among MM decedents, including demographic and place-of-death patterns.

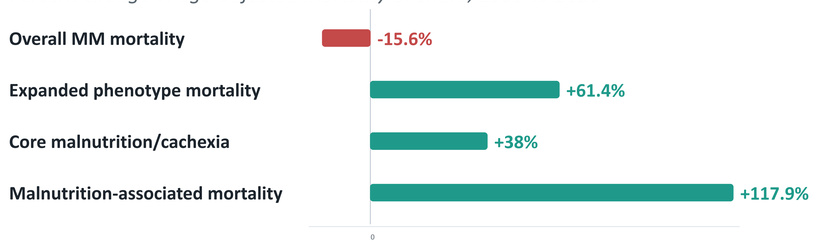
Data & definitions

CDC WONDER Multiple Cause of Death data
Long-term trends: 1999-2020 bridged-race data
Contemporary patterns: 2018-2024 single-race data
MM: ICD-10 C90.0
Core phenotype: protein-energy malnutrition or cachexia (E40-E46, R64)
Expanded phenotype: core phenotype plus abnormal weight loss or dysphagia (R63.4, R13)

NATIONAL TRENDS, 1999-2020

4.5051 to 3.8011	0.0552 to 0.0891	1.23% to 2.47%
Overall MM AAMR	**Expanded phenotype AAMR**	**Phenotype share of MM deaths**
-15.6% per 100,000	+61.4% per 100,000	proportion doubled

Percent change in age-adjusted mortality or share, 1999 to 2020



Interpretation

The greatest relative increase was seen for malnutrition-associated mortality (+117.9%), whereas cachexia-associated mortality decreased.

Core malnutrition/cachexia-associated AAMR rose from 0.0476 to 0.0657 per 100,000 (+38.0%).

CO-OCCURRING CONDITIONS

Among MM-as-underlying-cause deaths with the expanded phenotype, the most frequent co-occurring conditions were:

Exploratory analysis restricted to MM as the underlying cause.

The South had the largest absolute number of phenotype-associated deaths; the West had the highest proportional burden (3.90%).

KEY FINDINGS

Divergent mortality pattern

While overall MM age-adjusted mortality declined from 1999 to 2020, mortality involving nutritional-frailty markers increased.

Clinical implication

Malnutrition and related frailty markers may identify patients who could benefit from earlier supportive-care assessment.

Phenotype burden was highest in long-term care settings and increased with age.

CONTEMPORARY BURDEN, 2018-2024

106,937	3,282	4.83%
MM deaths identified	**Expanded phenotype deaths**	**Highest place-of-death burden**
2018-2024	3.07% of MM deaths	nursing home/LTC

Phenotype involvement increased with age and was highest among nursing home/long-term care deaths.

CONCLUSIONS

Overall MM mortality declined, yet nutritional-frailty-associated mortality increased substantially.
Malnutrition was the main driver of rising terminal nutritional vulnerability.
Burden was higher in older decedents and long-term care deaths.
Earlier nutrition, swallowing, renal, infection, and supportive-care assessment may help identify vulnerable patients near the end of life.

Takeaway

Improved survival does not eliminate end-of-life nutritional decline; terminal frailty markers may need earlier recognition in MM care pathways.

Data source: CDC WONDER Multiple Cause of Death data, 1999-2024.