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May 16th, 1:45 PM

## Trends in Cause of Death among Puerto Rican and United States Multiple Myeloma Patients

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Castaneda-Avila M, Ortiz-Ortiz KJ, Torres-Cintrón CR, Epstein MM. (2017). Trends in Cause of Death among Puerto Rican and United States Multiple Myeloma Patients. UMass Center for Clinical and Translational Science Research Retreat. Retrieved from [https://escholarship.umassmed.edu/cts\\_retreat/2017/posters/14](https://escholarship.umassmed.edu/cts_retreat/2017/posters/14)

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## TRENDS IN CAUSE OF DEATH AMONG PUERTO RICAN AND UNITED STATES MULTIPLE MYELOMA PATIENTS

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**Background/Objective:** Multiple myeloma (MM) is an incurable, yet treatable, cancer of plasma cells. Due to recent improvements in treatment, people diagnosed with MM have been living longer, and other co-morbid conditions may be of increasing importance. This study examines temporal trends in specific causes of death among MM patients in Puerto Rico (PR) and United States (US).

**Methods:** We analyzed primary cause of death among all incident MM cancer cases recorded in the Puerto Rico Central Cancer Registry (PRCCR) (n=3,018) and the US Surveillance, Epidemiology, and End Results Program (SEER) (n=67,733) between 1987-2013, overall and by follow-up time, age, and sex. We calculated the cumulative incidence of death due to seven selected causes and analyzed age-adjusted mortality trends by MM and other causes using joinpoint regression.

**Results:** MM accounted for 71.7% and 71.3% of all reported deaths in PR and US, respectively, among people diagnosed with MM. In PR, the proportion of patients that died from MM decreased with increasing follow-up time since diagnosis (72.3% of deaths with  $\leq 2$  years vs 65.6% with  $> 5$  years of follow-up) and the proportion of patients who died from circulatory (4.6% vs 9.0%) and respiratory system (3.7% vs 5.0%) diseases increased slightly. A similar trend of decreasing MM deaths with follow-up time was observed in the US (73.2% of deaths with  $\leq 2$  years vs 66.5% with  $> 5$  years of follow-up). Joinpoint regression showed a decreasing trend in MM mortality in the US ( $APC_{1987-2007} = -2.8\%$ , and  $APC_{2007-2013} = -18.4\%$ ) and a similar, though somewhat weaker, trend in PR ( $APC_{1987-2013} = -2.73$ ).

**Conclusion:** In both PR and the US, people diagnosed with MM are still more likely to die from MM than from another cause. However, a decrease in MM mortality is evident, particularly in more recent years, but this decrease is lower in Puerto Rico.

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