

A Bayesian Approach in Calculating Community Mortality Rates

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Abstract

Mortality rates for a local community are desired in conjunction with the calculation of health-adjusted life expectancy (HALE), an indicator of population health. Current approaches for calculating the mortality rates include using raw community mortality data, state census data, or national census data. The raw community data may contain considerable variation due to the small sample, while community-level estimates may not be well-approximated using the state or national mortality experience. A Bayesian method combines the local data with regional data to create a smooth set of rates and retain the local flavor. Questions to be explored are the extension of the local community mortality table beyond the last age, as well as to create a feasible approach to update mortality rates over time.

