

Identifying Mortality Rates of Cervical Cancer Using Geographical Information Systems, 2004-2008

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Objective

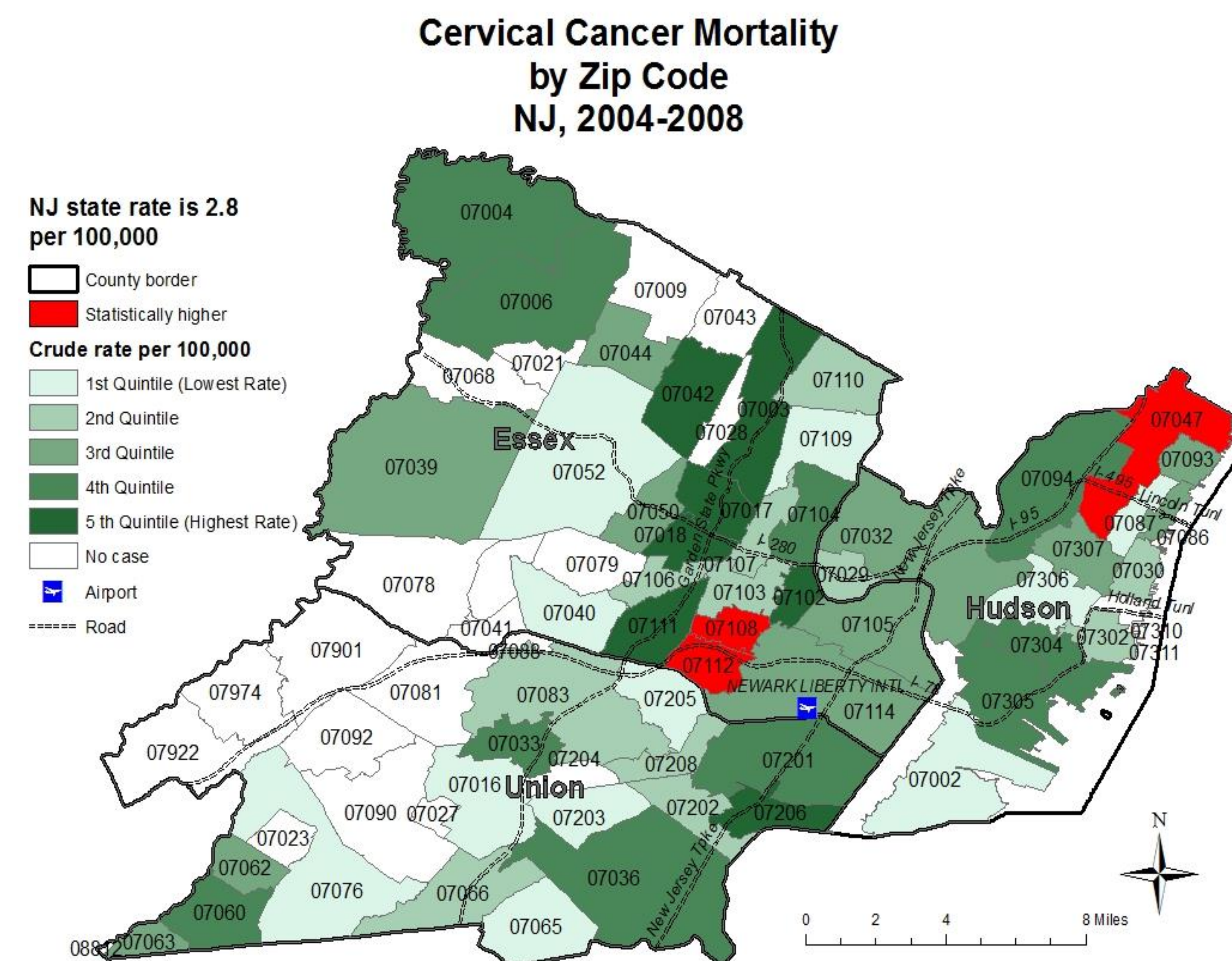
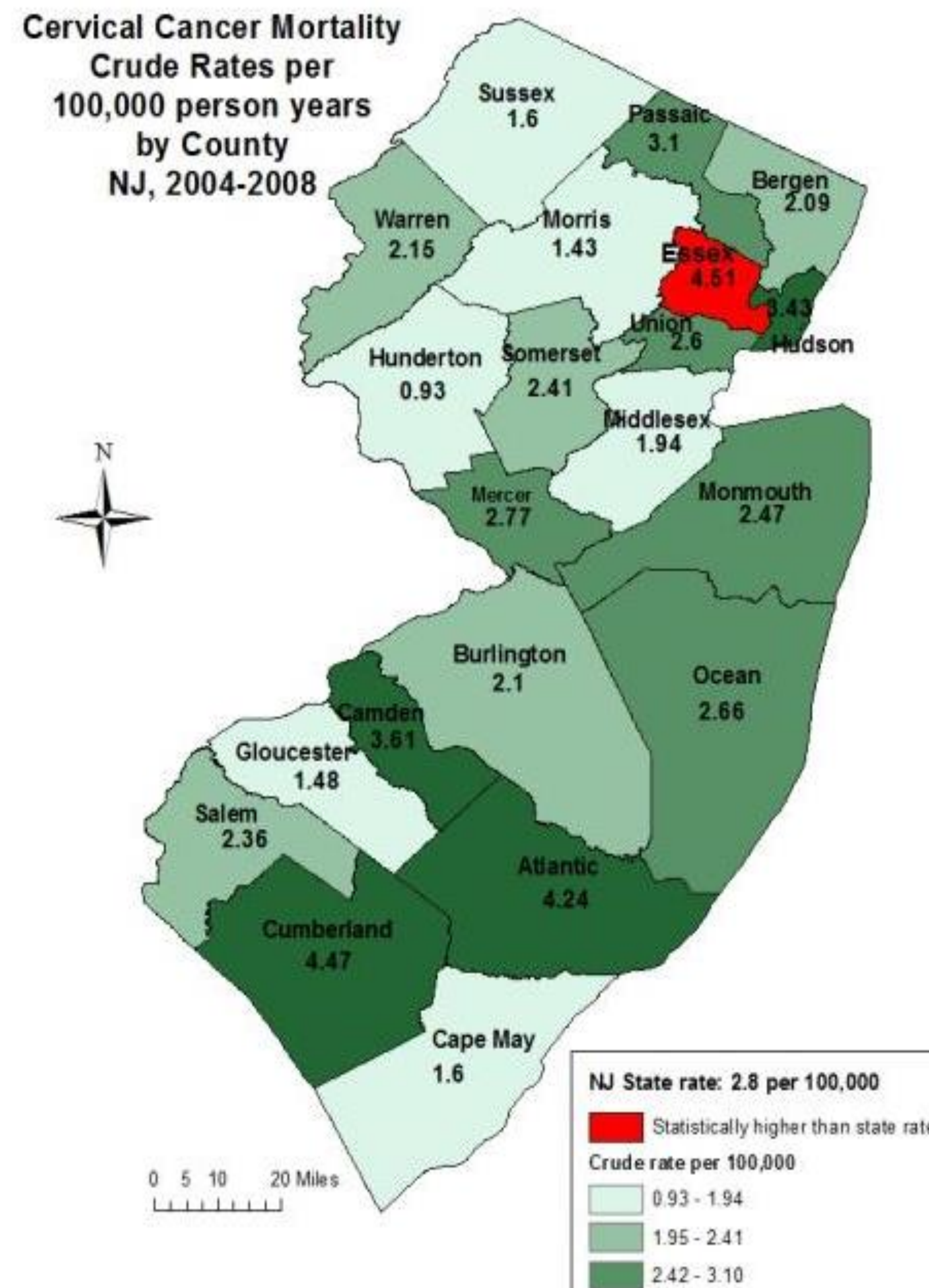
The objective in this project was to generate maps for cervical cancer mortality in order to identify populations at substantially high risk

Introduction

- Cervical cancer mortality can be markedly reduced through clinical preventive medicine and population health efforts
- Focus of clinical preventive medicine is the provision of optimal primary, secondary, and tertiary preventive services to the individual patient.
- Population health efforts in addition should focus on groups of people who share risk factors for cervical cancer mortality. Geographic targeting of preventive efforts
 - Usually use county rates which are an average of more divergent rates for smaller populations groups such as zip code, municipality, census tract etc.
- Cervical cancer still takes lives of women in the U.S. each year. The achievements in reducing cervical cancer mortality rates have not been uniform across the population in NJ.

Methods

- Cervical cancer mortality data provided by the NJ Dept of Health, Office of Vital Statistics and Registry
- Data included:
 - All of the NJ female residents whose reported cause of death was cervical cancer with ICD-10 C53
 - Patients' age at the time of death
 - Race/ethnicity
 - Patients' zip codes
 - Census tracts
 - Counties
 - Municipalities at the time of death 1/1/04 – 12/31/08
- Calculated and mapped cervical cancer mortality for the state of NJ by census tract, zip code, municipally and county
- Health departments with the most excessive rates were contacted to review the results



Results

- Cervical cancer mortality were not uniformly distributed throughout NJ
- Significantly high mortality rates compared to New Jersey's rate at:
 - County level: Essex County
 - Municipality level: East Orange (Essex County), Newark (Essex County) and North Bergen (Hudson County)
 - Three zip-code levels

Conclusion

- Risk for cervical cancer mortality was not homogenous across state
- Mapping at various levels from county to census tract identified geographic areas with significant increases
- Clinicians tailor their therapeutic plans based on detailed information about the individual patient. The challenge is to tailor services for populations that are at unusual risk.
- To be effective and efficient, identification of level of risk in New Jersey should be targeted to geographic areas smaller than county but not to areas with so few people as to generate unstable rates.

