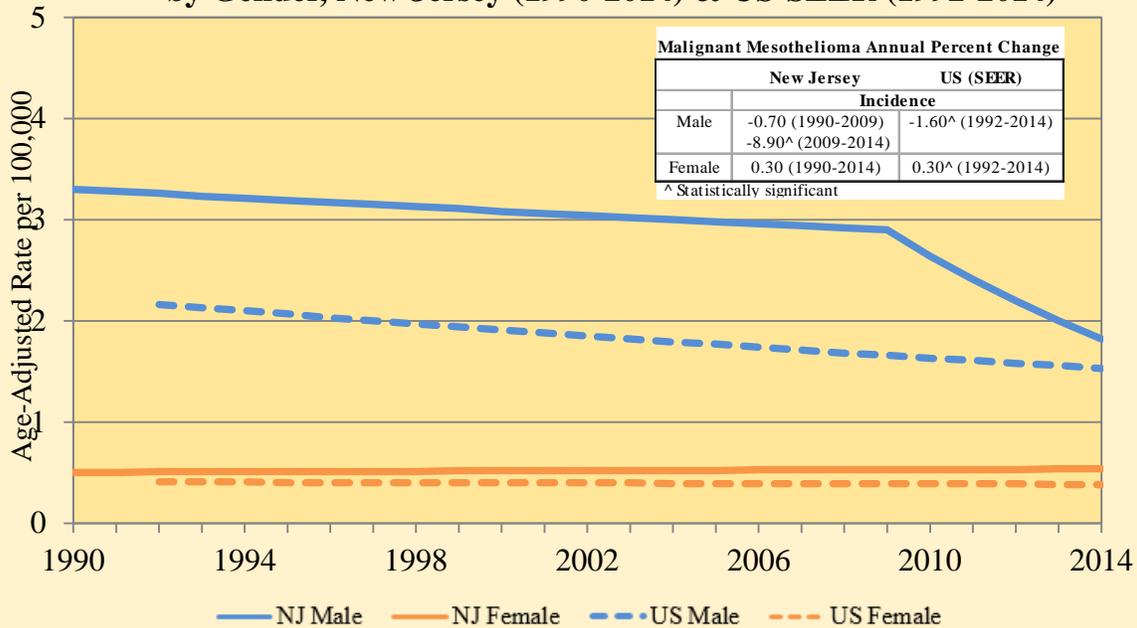


# New Jersey State Cancer Registry Data Brief – Mesothelioma

- Malignant mesothelioma is a rare, aggressive cancer. Each year, there are about 120 newly diagnosed cases of malignant mesothelioma in New Jersey residents.
- The predominant risk factor for malignant mesothelioma is asbestos exposure, although not everyone exposed to asbestos will go on to develop this disease.<sup>1</sup> Smokers who are also exposed to asbestos have a risk of developing malignant mesothelioma that is greater than the individual risks from asbestos and smoking added together.<sup>2,3</sup> Other possible risk factors include exposure to zeolite (minerals that are chemically similar to asbestos), radiation and simian virus 40 (SV40) infection.<sup>1</sup>
- According to the American Cancer Society, mesotheliomas related to asbestos exposure take a long time to develop. The time between first exposure to asbestos and diagnosis of mesothelioma is usually between 20 and 50 years.<sup>1</sup>
- Unfortunately, the survival rate for malignant mesothelioma is poor. The National Cancer Institute’s Surveillance, Epidemiology, and End Results (SEER) program estimates that the relative 5-year survival rate for this disease is between 5% and 10%.<sup>4</sup>
- Malignant mesothelioma has been more common among men, which is likely due to their increased exposure to asbestos in the occupational setting.

**Malignant Mesothelioma Incidence Trends  
by Gender, New Jersey (1990-2014) & US-SEER (1992-2014)**



- The NJ *incidence rates* for malignant mesothelioma were consistently higher among men compared to women from 1990-2014.
- NJ malignant mesothelioma *incidence rates* showed a statistically significant decline among men (Annual Percent Change, APC=-8.90<sup>^</sup>) from 2009-2014 to about half of what they were prior to 2009. Given the median length of latency for malignant mesothelioma is 34 years between exposure and diagnosis<sup>6</sup>, this decline correlates with reduced exposure to asbestos in New Jersey due to the implementation of safety regulations over the past several decades. Among US men, the *incidence rates*, which have been consistently lower, have declined steadily (APC=-1.60<sup>^</sup>) since 1992 at a slower pace compared to NJ men. Historically, New Jersey has had a higher concentration of asbestos related diseases compared to the national levels.
- Malignant mesothelioma *incidence rates* among US women increased slightly (APC=0.30<sup>^</sup>) since 1992. This may be due to slight increases in occupational exposures to asbestos among women over the past several decades. NJ women showed a similar increase, which was not statistically significant. Smaller counts in NJ compared to the US would make it more difficult to show statistical significance.



**Data sources:**

New Jersey: New Jersey State Cancer Registry December 2016 file, New Jersey Department of Health.

U.S.: Surveillance, Epidemiology, and End Results (SEER) Program ([www.seer.cancer.gov](http://www.seer.cancer.gov)) SEER\*Stat Database: SEER 13 Regs Research Data, Nov 2016 Sub (1992-2014) <Katrina/Rita Population Adjustment> - Linked To County Attributes - Total U.S., 1969-2015 Counties, National Cancer Institute, DCCPS, Surveillance Research Program, released April 2017, based on the November 2016 submission.

Rates are per 100,000 and age-adjusted to the 2000 US population standard. 2014 incidence rates are preliminary. Joinpoint analysis was used to calculate annual percent change (APC) in incidence rates to identify points in time when trends changed significantly.

^ APC significantly different from zero at  $\alpha = .05$ .

Mortality trends could not be produced for malignant mesothelioma because it is not represented in the cause of death (COD) coding.

**References:**

- <sup>1</sup> What Are the Risk Factors for Malignant Mesothelioma? American Cancer Society. Available at: <https://www.cancer.org/cancer/malignant-mesothelioma/causes-risks-prevention/risk-factors.html>. Accessed May 2017.
- <sup>2</sup> Asbestos Exposure and Cancer Risk, National Cancer Institute, Available at: <https://www.cancer.gov/about-cancer/causes-prevention/risk/substances/asbestos/asbestos-fact-sheet#q5> . Accessed May 2017.
- <sup>3</sup> Agency for Toxic Substances and Disease Registry. *Asbestos: Health Effects*. Retrieved May, 2017, from: [http://www.atsdr.cdc.gov/asbestos/asbestos/health\\_effects/index.html](http://www.atsdr.cdc.gov/asbestos/asbestos/health_effects/index.html).
- <sup>4</sup> SEER Cancer Statistics Review 1975-2014. 5-year Survival Rates, CSR 1975-2014 Available at [https://seer.cancer.gov/csr/1975\\_2014](https://seer.cancer.gov/csr/1975_2014). Accessed May 2017.
- <sup>5</sup> National Toxicology Program. Asbestos. In: *Report on Carcinogens. Eleventh Edition*. U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program, 2005.
- <sup>6</sup> Frost G. *The latency period of mesothelioma among a cohort of British asbestos workers (1978–2005)*. British Journal of Cancer. 2013;109(7):1965-1973. doi:10.1038/bjc.2013.514.