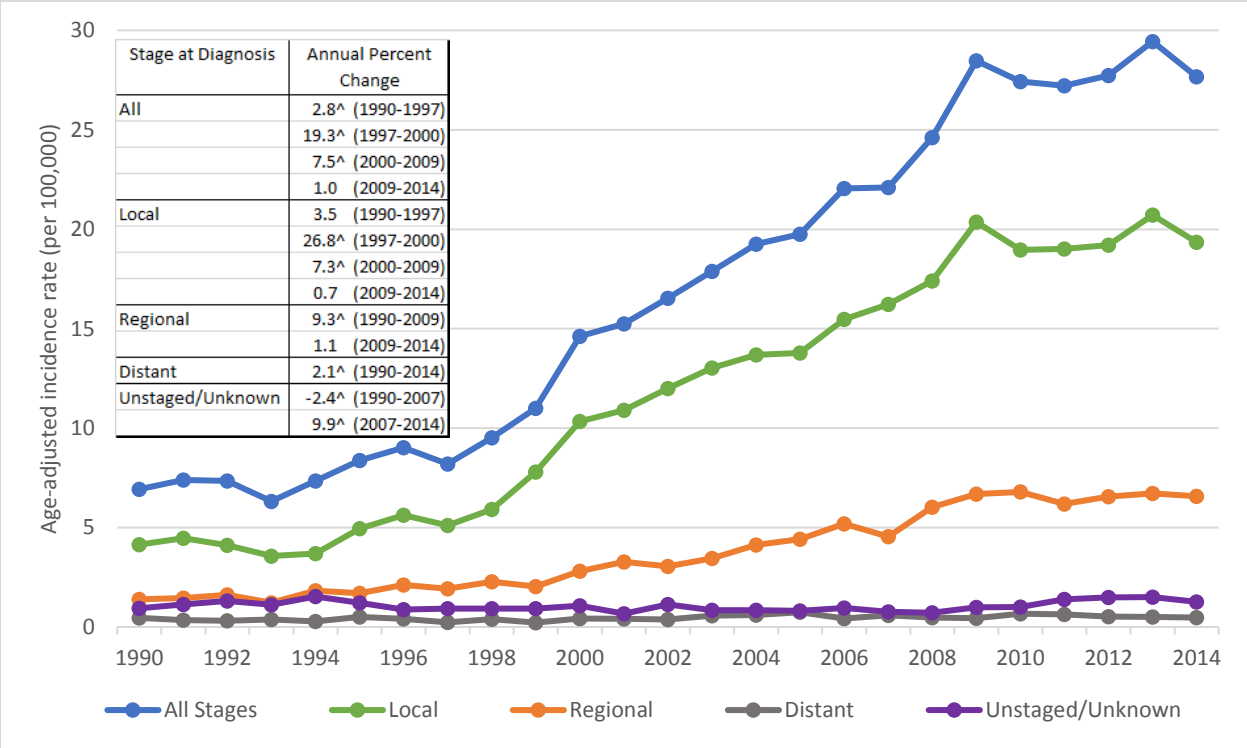
New Jersey State Cancer Registry Data Brief – Thyroid Cancer

- Each year, there are approximately 1,820 cases of thyroid cancer diagnosed in New Jersey residents and 50 deaths due to the disease. Most (66%) thyroid cancers in New Jersey are diagnosed at local stage. Survival rates for thyroid cancer are better than most other types of cancer, with an estimated relative survival rate of 98% at five years after diagnosis.[1]
- Thyroid cancer incidence has increased in New Jersey and the United States since 1990. The increase has been attributed to the use of thyroid ultrasound, better diagnostic methods, and overdiagnosis of small thyroid nodules that would not have been detected in the past.[2] However, the rise in incidence of regional- and distant-stage thyroid cancer in New Jersey women and men suggests that some of the increase may be explained by factors other than overdiagnosis.
- Thyroid cancer incidence is about three times higher in women than in men. Other risk factors for thyroid cancer include exposure to ionizing radiation, especially head and neck radiation treatments in childhood, a diet low in iodine, and certain hereditary conditions.[2]

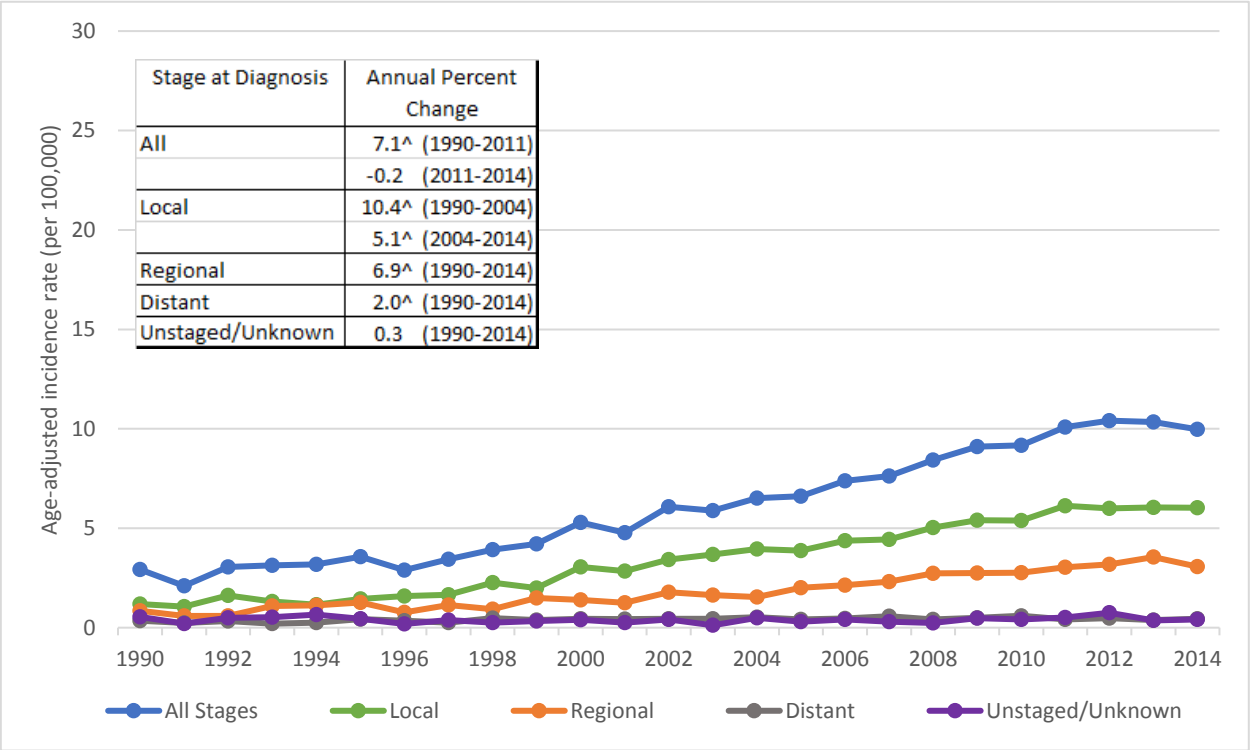
Female Thyroid Cancer Incidence Trends by Stage at Diagnosis, New Jersey, 1990-2014



Stage at Diagnosis	Annual Percent Change
All	2.8^ (1990-1997)
	19.3^ (1997-2000)
	7.5^ (2000-2009)
	1.0 (2009-2014)
Local	3.5 (1990-1997)
	26.8^ (1997-2000)
	7.3^ (2000-2009)
	0.7 (2009-2014)
Regional	9.3^ (1990-2009)
	1.1 (2009-2014)
Distant	2.1^ (1990-2014)
Unstaged/Unknown	-2.4^ (1990-2007)
	9.9^ (2007-2014)

- Thyroid cancer incidence rates increased significantly in New Jersey women from 1990-1997 (annual percent change, APC=2.8), 1997-2000 (APC=19.3), and 2000-2009 (APC=7.5), and then plateaued after 2009. Much of this pattern was driven by the incidence of local stage thyroid cancer.
- Although lower than local- or regional-stage thyroid cancer incidence, the incidence of distant-stage thyroid cancer also increased in women from 1990-2014 (APC=2.1). Regional-stage thyroid cancer incidence increased from 1990-2009 (APC=9.3).

Male Thyroid Cancer Incidence Trends by Stage at Diagnosis, New Jersey, 1990-2014



Stage at Diagnosis	Annual Percent Change
All	7.1^ (1990-2011)
	-0.2 (2011-2014)
Local	10.4^ (1990-2004)
	5.1^ (2004-2014)
Regional	6.9^ (1990-2014)
Distant	2.0^ (1990-2014)
Unstaged/Unknown	0.3 (1990-2014)

- Although the incidence of thyroid cancer in men is much lower than that in women, trends in thyroid cancer incidence in New Jersey men were similar to those in women, with a significant increase from 1990-2011 (APC=7.1), followed by little change in incidence after 2011.
- In New Jersey men, the incidence of local-stage thyroid cancer increased significantly from 1990-2004 (APC=10.4) and from 2004-2014 (APC=5.1).
- Regional-stage (APC=6.9) and distant-stage (APC=2.0) thyroid cancer incidence also increased in New Jersey men from 1990-2014.

Data Source: New Jersey State Cancer Registry March 2017 file, New Jersey Department of Health. Rates are per 100,000 and age-adjusted to the 2000 US population standard. Joinpoint analysis was used to calculate annual percent changes (APC) in incidence rates and identify points in time when incidence trends changed significantly.
^APC is significantly different from zero at alpha = 0.05.

References:

[1]Howlader N, Noone AM, Krapcho M, Miller D, Bishop K, et al. (eds). SEER Cancer Statistics Review, 1975-2014, National Cancer Institute. Bethesda, MD, https://seer.cancer.gov/csr/1975_2014/, based on November 2016 SEER data submission, posted to the SEER web site, April 2017.
[2]American Cancer Society. Thyroid Cancer. https://www.cancer.org/cancer/thyroid-cancer.html , accessed 8/9/17.

Prepared by Karen Pawlish, Sc.D, MPH
October 2017