

An Analysis on the Increased Rate of Thyroid Disorder in Staten Island

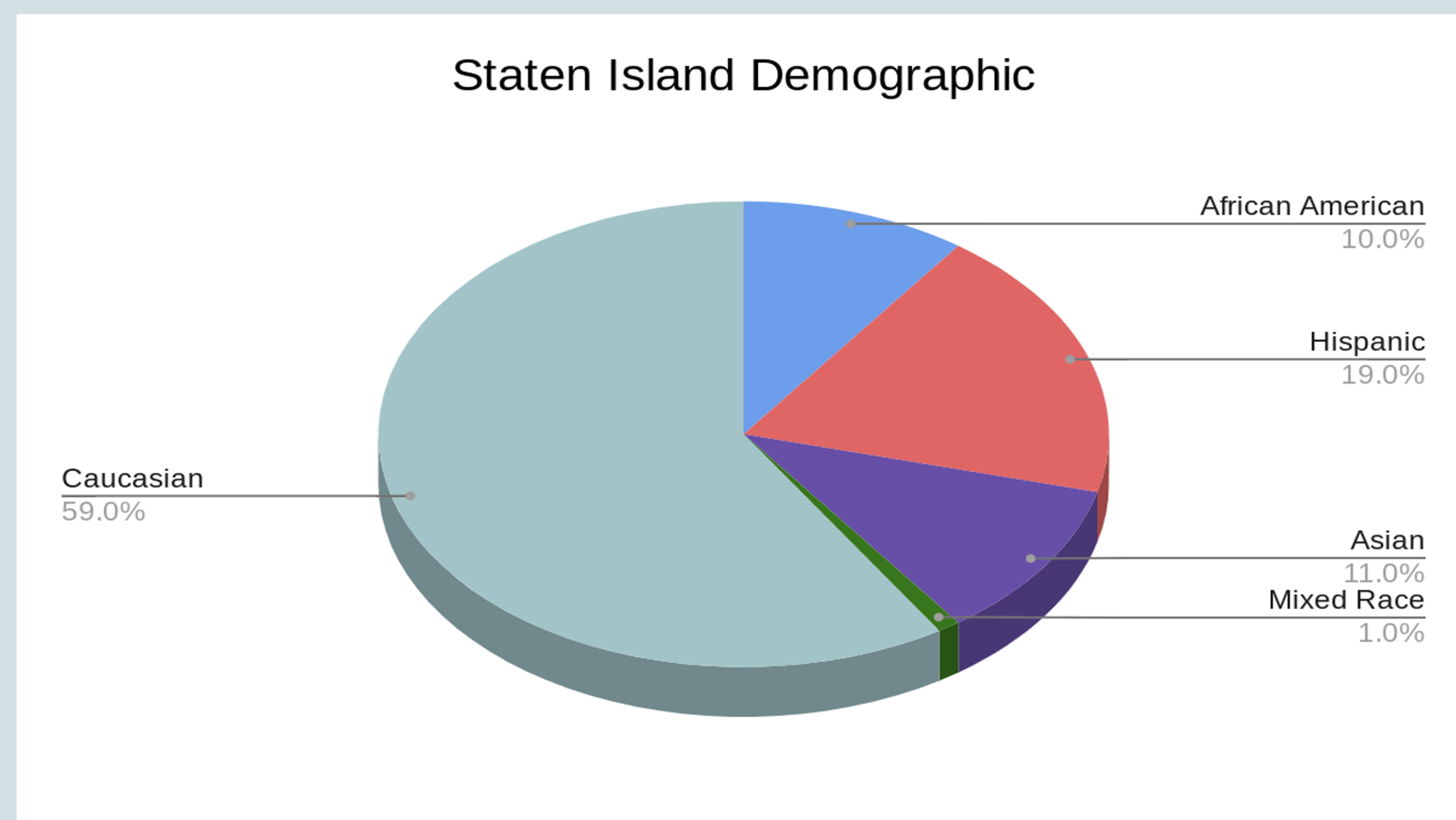


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Introduction

- Among middle age women living on Staten Island, does early detection of thyroid cancer through the My Thyroid initiative with health advertisements increase the rate of early detection and cancer diagnosis?
- Staten Island is the second smallest borough in the New York City region and it has the highest Thyroid cancer rate in the entire State.
- Staten Island has 66% of Thyroid cancer cases for both sexes in comparison with the other four boroughs. When compared to the State of New York excluding the four boroughs, Staten Island has 69% of the Thyroid cancer cases for both sexes.



Problem in the Community

- **Thyroid cancer** is the fifth most common cancer in women in the USA, and an estimated over 62,000 new cases occurred in men and women in 2015 (2).
- *The American Thyroid Association* estimates that 20 million US citizens are affected with a thyroid disorder.
- Thyroid cancer, a slow-progressing disease, occurs in the cells of the thyroid — a butterfly-shaped gland located at the base of the neck (3).
 - Nearly all spikes in thyroid cancer have been of the differentiated thyroid cancer type with the subtype, **papillary carcinoma**.
- The former Governor of New York, Andrew Cuomo, in his *Cancer Research Initiative (2017)* conducted local studies examining the increase in thyroid cancer rates across New York City and New York State (4).
 - Data shows that Staten Island, NY has thyroid cancer rates that are nearly 70 percent higher than the rest of New York State.
 - Thyroid cancer, primarily of the Papillary Carcinoma type, is the most common cancer among women aged 35-39 on Staten Island.
 - Between 1996 and 2015, thyroid tumors of the papillary type increased from 77% to 92% in Staten Island.
- The increase in thyroid cancer on Staten Island, NY corresponds to an increase in routine diagnostic imaging following the September 11th, 2001 attack of the World Trade Center (4).
 - Diagnostic testing included neck ultrasounds, cancer screenings and post-surgery diagnosis of thyroid cancer.
- According to **Healthy People 2030**, the U.S. Preventive Services Task Force recommends against thyroid cancer screening in the general population. Specific to those who (5):
 - Don't have a family history of thyroid cancer.
 - Don't have previous exposure.
 - Don't have certain inherited genetic cancer conditions.
 - Don't have symptoms.

Proposed Solution

- **“My Thyroid”** Health Program would be readily available on Staten Island and directed at women between the ages of 45-60 to improve the standard and quality of care for those with endocrine disorders of the thyroid.
- Our program will provide primary prevention through education of evidence based practice gathered by endocrinologists, nurses and data collection from organization such as American Cancer Society.
 - The research and data will help educate the public about signs and symptoms of thyroid disorders and risk factors of thyroid cancer.
- Our ultimate goal is to spread awareness to the Staten Island community on thyroid health and to decrease unnecessary diagnostic testing of thyroid disease for asymptomatic individuals.
- The solution is based on Nola Pender’s Health Promotion Model of Nursing Theory. This theory prioritizes primary prevention of illness and health promotion in which the nursing curriculum should be revised to reflect this emphasis (6).



Community Assessment and Analysis

- Staten Island has a population of 476,143 which is a 36% increase compared to 350,000 in the 1990s.
- The median household income is \$89,821 and it ranks as one of the least poverty stricken borough with the average poverty rate of 8.3%
- Employment grew by 13 percent since 2012 with a record of 97,000 new jobs in 2017. The largest employer is the healthcare field, followed the Retail and lastly the Construction industry (1).
- 20 years ago, Staten Island experienced the aftermath of 9/11 with the 1.5 million tons of debris from the explosion being transported into the Freshkills landfill, in the South Shore area. The landfill is currently being transformed into a park.
- The major health concerns in Staten Island are cancer, obesity, mental hygiene and alcoholism.
- Staten Island medical community is encouraging patients to get screened for thyroid cancers. The borough has invested in advertisements that educate and encourage residents to get screened as well as providing free screenings.

Year of Diagnosis	Incidence			
	Males		Females	
	Cases	Rate per 100,000 Males	Cases	Rate per 100,000 Females
2000	141	3.9	478	11.1
2001	168	4.7	523	11.9
2002	186	5.2	527	12.1
2003	144	3.9	535	12.1
2004	192	5.3	609	13.7
2005	252	6.9	815	18.5
2006	232	6.2	808	18.3
2007	250	6.6	911	20.6
2008	308	8.1	1104	24.5
2009	372	9.6	1210	26.8
2010	357	9.3	1232	27.1
2011	342	8.7	1282	27.8
2012	367	9.1	1345	29
2013	449	11.2	1501	32.3
2014	459	11.2	1466	31.2
2015	439	10.5	1446	30.9
2016	426	10.2	1442	30.6
2017	440	10.4	1322	27.8
2018	406	9.8	1312	28.2

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