Small tumor diagnostic tools, ultrasonograph-guided fine-needle aspiration (US-guided FNA) and computed tomography, could be causing rising and racially/ethnically different thyroid cancer incidence rates due to variable overdiagnosis of indolent tumors. Thyroid cancer tumors believed to be overdiaosed with US-guided FNA have papillary histologies and sizes ≤20mm at diagnosis. Age-adjusted incidence ratios (AIRs) 2007-2014 were calculated for race/ethnicity (White, Hispanic, African American, Native American) by patient tumor characteristics for microscopically confirmed malignant thyroid cancer cases in SEER 11 (N=93,224). Multivariate analysis determined odds ratios (OR) of diagnosis with papillary carcinoma or small (≤20mm) tumor thyroid cancer. ORs of diagnosis with papillary carcinoma or ≤20mm tumor thyroid cancer differed significantly by race, gender, age, insurance coverage, tumor histology, stage, size, sequence. Thyroid cancer AAIRs increased variably by race/ethnicity for tumors ≥20mm and ≤20mm and for histologies of papillary carcinoma and non-papillary carcinoma. Non-White (vs. White) were associated with larger tumors (OR tumor ≤20mm=0.77, 95% confidence interval (CI)=0.56-0.99; all P<0.001). Medical/uninsured patients (vs. insured) were less associated with papillary carcinoma and non-papillary carcinoma. Non-White patients (vs. insured) were less associated with papillary carcinoma (OR=0.78, 95% CI=0.78-0.82) and tumors (OR=0.80, 95% CI=0.74-0.84). AAIRs increased variably by race/ethnicity for tumors that would be (papillary and ≤20mm) and would not be (non-papillary and >20mm) overdiagnosed by US-guided FNA suggesting overdiagnosis is not the sole reason for increasing incidence of thyroid cancer. Being non-White effects tumor characteristics at diagnosis leading non-Whites to have more advanced stage/histology size thyroid tumors. Race/ethnicity AAIR trends depended on insurance coverage, where privately insured patients had the smallest tumors.

**RESULTS**

AAIRs by race/ethnicity and odds ratios (ORs) of diagnosis with papillary carcinoma (vs. other histologies) or ≤20mm tumor thyroid cancer (vs. >20mm) differed significantly by gender, age, insurance coverage, tumor history, papillary, follicular, medullary, tumor stage (I-IV), tumor size (0-40mm), and tumor sequence.

Thyroid cancer AAIRs increased variably by race/ethnicity for tumors ≤20mm and >20mm and for histologies of papillary carcinoma and non-papillary carcinoma.

Non-White (vs. White) were associated with larger tumors (ORs tumor ≤20mm=0.67-0.77, 95% confidence interval (CI)= 0.56-0.82; all P<0.001)

Medical/uninsured patients (vs. insured) were less associated with papillary carcinoma (OR=0.78, 95% CI=0.78-0.82) and tumors (OR=0.80, 95% CI=0.74-0.84). AAIRs increased variably by race/ethnicity for tumors that would be (papillary and ≤20mm) and would not be (non-papillary and >20mm) overdiagnosed by US-guided FNA suggesting overdiagnosis is not the sole reason for increasing incidence of thyroid cancer. Being non-White effects tumor characteristics at diagnosis leading non-Whites to have more advanced stage/histology size thyroid tumors. Race/ethnicity AAIR trends depended on insurance coverage, where privately insured patients had the smallest tumors.

**Objective**

To investigate recent age-adjusted incidence ratios (AAIRs) by race/ethnicity across tumor and patient characteristics to determine their likely relationship to diagnostic technology.

**Methods**

SEER 18 (Surveillance Epidemiology End Result of the National Cancer Institute Registry) was used to calculate AAIRs from 2007-2014 for five races/ethnicities.

SAS (Statistical Analysis System) was used to develop logistic regression model to examine association between race/ethnicity and tumor size/histology at diagnosis.

**Inclusion**

microscopically confirmed malignant thyroid cancer with known ages were included (N=93,224).

**Exposure Interest**

White, African American, Native American, Asian, Hispanic. 

**Covariates**

gender, age, insurance coverage, histology (ICD-O-3), tumor size at diagnosis (AJCC), tumor stage at diagnosis (AJCC), tumor sequence, county level poverty and education.

**Conclusion**

AAIRs increased variably by race/ethnicity for tumors that would be (papillary and ≤20mm) and should not be (>20mm and non-papillary) overdiagnosed by US-guided FNA.

- This suggests overdiagnosis is not the sole reason for increasing incidence of thyroid cancer.

Insurance coverage affected stage/histology at diagnosis and AAIR trends. 
Within each race, those privately insured have a 5 to 13-fold greater AAIR than Medicaid, and a 15 to 40-fold greater thyroid incidence than Medicaid.

- Privately insured, Whites had the highest AAIR and African Americans had the lowest. Conversely, Medicaid/uninsured, Whites had the lowest AAIR.

Non-White race is associated with more advanced tumors than Whites.

- May be a difference in health care access or a delay in seeking treatment.