

Thyroid Cancer Epidemic, 2017 Perspective

Thyroid cancer incidence and mortality trends have been identified as being consistent with overdiagnosis, and several recent efforts have been made to this problem.

- **The rate of thyroid cancer increased because of overdiagnosis**, and around 70-80% of cases are asymptomatic lesions that would have gone undetected during a patient's lifetime if ultrasound and other imaging studies were not available.
- Also mortality rate increased as a result of the increase in incidence due to overdiagnosis (attribution bias), however there is potentially also a true increase in papillary thyroid cancer incidence, which the authors hypothesized may be due to environmental factor.
- **Attribution bias**: is when the cause of death in a patient's medical record is incorrectly labeled as due to the cancer, when in fact it was due to other causes

Efforts to decrease overdiagnosis and overtreatment of thyroid cancer

Major guidelines for thyroid nodule management recommend **against general biopsy of nodules <1 cm in size**

Active surveillance of low risk thyroid cancers. This includes patients with very low risk tumors (e.g. papillary microcarcinomas), patients at high surgical risk because of comorbidities, patients with an expected short remaining life span, or patients with concurrent medical or surgical issues that are more pressing than thyroid surgery

Reclassification of some thyroid cancers to Non-Invasive Follicular Thyroid Neoplasm with Papillary-like Nuclear Features (NIFTP)

instead of encapsulated follicular variant papillary thyroid cancer. Which they hypothesized would "affect a large population of patients worldwide and result in a **significant reduction in psychological and clinical consequences** associated with the diagnosis of cancer

United States Preventative Services Taskforce (USPSTF) gave thyroid cancer screening in asymptomatic individuals a grade of "D," which means a recommendation against screening because screening in people without symptoms has no net benefit or that the harms outweigh the benefits. **also result in a significant reduction in psychological and clinical consequences** associated with the diagnosis of cancer

Modeling of thyroid cancer care costs by management strategy

The cost and benefit of monitoring (active surveillance) rather than

immediately treating low risk papillary thyroid cancers, the most common type, has been examined in three recent studies. Two concluded that monitoring was superior to surgery from a **value perspective**, while the third argued that cost effectiveness depends on variability in a patient's **perspective on quality of life**.

Conclusion

The incidence of thyroid cancer has increased dramatically in recent decades due in large part to identification subclinical disease. The rate of increase may be plateauing (little or no change in incidence), perhaps due to efforts to discourage behaviors that lead to their detection, such as **aggressively biopsying small nodules** and **performing extensive surgeries**. For people who are identified with low risk papillary thyroid cancer, the new management strategy of active surveillance holds promise as a potential path to avoid the harms of aggressive treatment while remaining cost effective. Additional research is needed to examine long term outcomes of the active surveillance approach, including oncologic, quality of life, and financial and opportunity costs.

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