



# Chapter 3

## Thyroid investigations and treatments

### At a glance



#### Thyroid function testing

Measuring thyroid stimulating hormone (TSH) is recommended as the single first-line test for possible thyroid dysfunction. More comprehensive tests of thyroid function – TSH plus free tri-iodothyronine (T3) and/or free thyroxine (T4) – are recommended only if TSH is abnormal or for investigation of certain conditions. The rate of thyroid function testing has increased in Australia, faster than the rate of population growth. The fast growth and high rate of thyroid testing in Australia suggest that there is over-testing.

The Atlas found that, in 2016–17, 5.5 million TSH tests and 2.3 million thyroid function tests (TSH plus T3 and/or T4 ) were ordered in Australia. This is likely to be an underestimate of testing rates, because of the way data are captured.

Improved policies for collecting Medicare Benefits Schedule data would allow a better understanding of publicly funded thyroid function testing across Australia.

#### Neck ultrasound and thyroidectomy

Neck ultrasound can be used to investigate suspected disease of the thyroid gland, including the examination of thyroid nodules (or lumps) for possible cancer. One of the reasons for thyroidectomy (removal of the thyroid) is to treat malignant thyroid nodules. Some small thyroid cancers (thyroid papillary microcarcinomas) have a very low risk of harm if left untreated. The benefit to patients of detecting and managing these is unclear.

The Atlas found that the rate of neck ultrasound varies up to six-fold, and the rate of thyroidectomy varies up to five-fold, between local areas in Australia. Underlying patterns of disease are unlikely to fully explain the variations seen.

Australia and other developed countries have seen a substantial rise in thyroid cancer incidence in the past three decades. In some developed countries, this rise has been clearly driven by increased detection and investigation of small, low-risk thyroid cancers, which has led to a rise in thyroidectomy. Although detection of more small, low-risk thyroid cancers does not fully explain the rising incidence of thyroid cancer in Australia, experiences from other countries highlight the importance of ensuring appropriate use of ultrasound for investigating the thyroid, and thyroidectomy.

## Recommendations

### Thyroid function tests

3a. The Medicare Benefits Schedule (MBS) Review Taskforce to advise on how the data collected by the MBS could provide clinically meaningful information to allow regular audit and feedback to clinicians on the appropriateness of use of tests, as well as accurate public reporting on use of healthcare resources. In relation to thyroid function tests, the taskforce could advise on:

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- i Changes to rules related to data suppression due to provider confidentiality and changes to reporting of episode coning\*
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- ii Creating an MBS item specific for ultrasound investigation of the thyroid.
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### Neck ultrasound

3b. Relevant colleges and clinical societies to agree on a nationally consistent approach to providing standardised, high-quality thyroid ultrasound reports, such as using the ATA (American Thyroid Association) guidelines or the TI-RADS (Thyroid Imaging Reporting and Data System) score to support general practitioner decision-making and help reduce unnecessary repeat ultrasounds.

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\* Episode coning in the MBS means that when more than three tests are requested by a general practitioner (GP) per patient attendance, benefits are paid only for the three tests with the highest fees. If a GP requests a test with three other more expensive tests, it is 'coned out' and may not be included in the MBS dataset.