

How can we best reduce inappropriate ordering of thyroid function tests?

What did we find?

- Behaviour change interventions were effective in reducing the number of Thyroid Function Tests (TFTs) ordered.
- Although effective it is unclear how long lasting these effects are.
- Although interventions were successful in changing the pattern of ordering and improving adherence to guidelines, changes in the appropriateness of test ordering were unclear as this was not often reported.
- The research suffered from poor quality and poor reporting making it difficult to reliably understand and interpret the results.

Why did we do this review?

Thyroid dysfunctions affect a large number of people in the population, in the UK 10 million Thyroid Function Tests (TFTs) are ordered at a cost of around £30million to the NHS each year. Despite guidelines for TFT use there is wide variation in the number of tests ordered which cannot be explained by the varied but increasing prevalence around the country.

Research suggests there is considerable inappropriate testing occurring which wastes resources and may result in further unnecessary testing for patients. We wanted to discover if behavioural interventions could help improve TFT ordering .

How did we do this review?

The research was a systematic review. This brings together all existing research on a particular question. To find studies that might help us to answer the question we searched the relevant academic literature.

We found 27 studies mainly conducted in the US but also in the UK, Australia, France, Canada, the Netherlands, Sweden and New Zealand. The studies were conducted across different settings including general and psychiatric hospitals, medical assessment units, emergency departments, primary care and community settings.

The most common types of intervention used were education based, or used guidelines/protocols or used audit and feedback methods to change TFT ordering behaviour. Other interventions included changes to funding, reminders and decision tool, and some interventions used a combination of some or all of these methods.



Quality of the research and cautionary notes

The quality of the evidence does not allow strong conclusions or recommendations to be made. The varying methods and study characteristics also means that the data could not be pooled to give an overall picture of effectiveness. The influence of other sources of bias from the publication of some studies and not others is unclear but there is some suggestion that more rigorous designs found less positive (and sometimes negative) results for intervention effectiveness (and results with negative findings are less likely to be published).

The lack of detailed information provided about the content and structure of the interventions creates difficulties in understanding which components might be useful or more effective than others which restricts our capacity to inform future policy and guidance for practice.

What next?

Further research is recommended to strengthen the evidence base and provide appropriate levels of intervention detail for implementation and policy or guideline development. Future research should fill in research gaps regarding cost effectiveness, computerised test ordering in primary care, maintaining long term impacts of interventions and the mechanisms behind specific behaviour modifications.

Interventions that raise awareness of test ordering guidelines and convert them into easy to use rules and decision aids could be successful but levels of communication and storage and retrieval of previous results are also important factors.



Contact details and further information about the published paper:

The PenCLAHRC EST is part of Evidence Synthesis and Modelling for Health Improvement (ESMI), at the University of Exeter Medical School. Further information about this research is available on the University of Exeter Medical School website: <http://medicine.exeter.ac.uk/esmi/workstreams/>

The full version of the systematic review of these findings are published in the journal BMJ Open. You can access the paper here: <http://bmjopen.bmj.com/content/6/6/e010065.full>

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