

Number of diagnostic tests ordered by GPs rises more than threefold in 15 years

November 28 2018

GPs are ordering more than three times as many tests diagnostic for their patients as they were 15 years ago as they now provide more services previously provided by hospitals and monitor more patients with chronic diseases, shows a study published in *The BMJ* today.

The tests are costing the NHS in excess of £2.8bn a year and ordering and reviewing their results has increased workload pressure in general practice, the authors say.

Using a database of patients registered with general practices, researchers at the universities of Oxford, Bristol and Southampton looked at the change in the number of tests ordered by [general practices](#) between 1 April 2000 to 31 March 2016.

They found that between 2000/1 and 2015/16 the number of tests ordered per 10,000 person years increased 3.3 fold from 14,869 to 49,267. This represents an 8.5% increase per year.

"Patients in 2015/16 had on average five tests per year, compared with 1.5 in 2000/1," they say.

The increase in the number of tests ordered was slightly greater in men (3.4-fold increase) than in women (3.3-fold increase), and greatest in elderly patients (4.6-fold increase for patients aged over 85 years).

A total of 44 specific tests were looked at: 28 [laboratory tests](#); 11

imaging tests; and five miscellaneous tests, such as spirometry (a measure of lung function), cervical smears, and electrocardiography (to record the electrical activity of the heart).

Significant rises in the number of tests ordered were seen for 40 of the 44 individual tests and across all three different test groups (laboratory, imaging and miscellaneous).

The researchers suggest that the increased testing might be partly due to changes to NHS service provision.

For example, over the study period, GPs' ability to be able to order [diagnostic tests](#) (particularly imaging) expanded, many services were diverted from secondary to [primary care](#) requiring tests to be order by GPs rather than hospitals, and the Quality and Outcomes Framework, which incentivises GPs to monitor [chronic diseases](#) using laboratory tests, was introduced.

Increased testing could be a reflection of the increasing number and duration of consultations in general practice with tests being used for "strategic, non-medical reasons", such as to reassure patients and end consultations, they add.

It could also reflect a greater expectation among [patients](#) that they should be tested as they have become more informed and been encouraged to participate in decisions about their care.

They point out that this is an observational study, so no firm conclusions can be drawn about cause and effect, and inconsistency in coding and ordering of tests and their results, particularly in the early years before electronic systems were in place, may also have influenced the findings.

Nevertheless, they say whatever factors contribute to increased test use,

this has major implications for general practitioners' workload and the NHS budget.

Assuming it takes two or three minutes to review a test, the authors estimate that the average GP spent 1.5 to 2 hours reviewing test results each workday in 2015/16. This is a more than threefold increase from the estimated 2000/1 figure of 25 to 35 minutes daily.

Conservative estimates from the National Institute for Health and Care Excellence put the average cost of a laboratory test at £6, an imaging test at £29 and a miscellaneous test at £53. Based on these figures, the authors estimate that tests ordered by general practice cost £2.8bn in 2015/16 (£1.8bn for laboratory tests, £400,000 for imaging, and £600,000 for miscellaneous tests).

"These estimates are likely an underestimation of the true costs," they say. "Our estimates only account for the direct cost of tests and do not include the cost of general practitioners reviewing the result or the administration team processing the result."

While test use is an integral part of clinical decision making, this is the first large scale study to examine it, write Emma Wallace and Tom Fahey, of the Royal College of Surgeons in Dublin, Ireland in a linked editorial.

Overtesting has many drivers and while this study has shown a steep increase in [test](#) use in UK general practice, it was unable to examine why tests were ordered and whether they were clinically necessary, they say. "Future research should focus on why, both in terms of clinical indication and reasoning, but also patient beliefs and expectations about the purpose and accuracy of tests," they conclude.

More information: *BMJ* (2018).

www.bmj.com/content/363/bmj.k4666

BMJ (2018). www.bmj.com/content/363/bmj.k4895

Provided by British Medical Journal

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