Appropriateness and safety in laboratory medicine

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Introduction

Pathology tests are not optimally used. Referring back to an editorial he had written in the Journal of the American Medical Association (JAMA) in 1984, Professor George Lundberg then President of the American Medical Association asked the question in a further 1998 JAMA editorial: ….. have we had advances in the field of best practice (in Pathology)? "Sadly, the answer in 1998 is that we still don't know, not even in a research mode. We not only haven't gotten to first base, we haven't even picked up our bat.".

Background

Laboratory medicine testing is increasing at around 6-10% annually[1]. In the UK, changes in National Health Service contracting will mean that increased pathology expenditure must ultimately be paid for by reducing clinical activity. Regardless of country, unnecessary testing carries a large financial burden.

Around 30% of laboratory tests are estimated to be inappropriate[2,3].

Large inequalities exist in testing activity between different general practices and between hospital laboratories These are not explained by patient or practice factors (number of practitioners, age, sex distribution of patient list, deprivation index etc.) [4]. An example is shown in Figure 1.

Inappropriate use of tests leads to unnecessary expenditure, avoidable further investigation and referrals, and conversely, underuse of certain tests leaves patients with suboptimal management and potentially missed diagnoses[5]. Failure to act appropriately on the result of a test also has serious potential repercussions on patient management.

The need for a better evidence base, and for improvement in use of pathology tests has been recognised for 20 years[6] although little progress has been made. This has been the subject of several recent reviews There is good evidence that practice behaviour can be changed by a combination of educational and facilitating mechanisms[7], although these must begin with knowledge of what is best practice, followed by interventions to introduce this knowledge into practice. There is good evidence for example that outreach visits can help in this area.

There has to date been no concerted attempt to collate all of the available evidence and guidance for pathology tests in a form supported by all of the relevant professional association. The mismatch between resource used to develop and study new tests and everyday guidance for users has left many users uncertain as to the best use of tests.

Current progress

A multi-disciplinary UK group has been established with representation from the Associations across the different disciplines in Laboratory medicine. The work of the group from 2002-6 has:

- established a common methodology for conducting literature searches on a range of primary care pathology questions designed to identify evidence-based, guidance and consensus documents[8];
- constructed a list of 'common questions' which arise in use of pathology in the diagnosis and monitoring of disease;
- produced a series of clinical reviews summarising best practice in around 100 clinical scenarios involving laboratory medicine (see[9] for references);
- is working with the UK Department of Health to construct means of disseminating this information electronically and via the Web to primary care physicians.

Conclusion

The task facing us now is how to introduce the knowledge we have into clinical care to reduce adverse effects of inappropriate testing and the actions following on, and optimise the care that good use of tests can bring.

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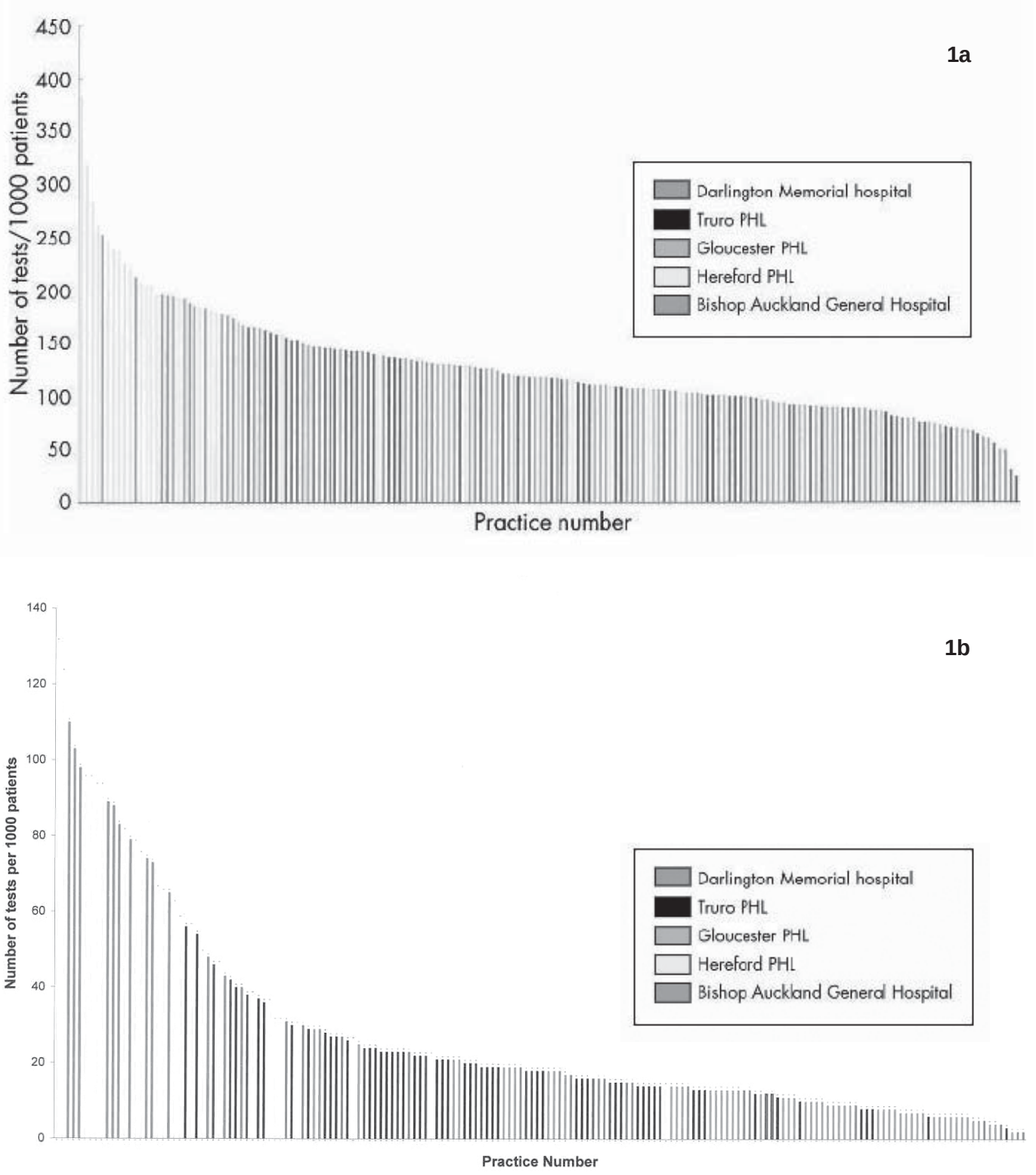

Figure 1. Standardised **a.** urine microscopy and culture requests, and **b.** wound/ulcer swab culture requests by 174 general practices served by 5 hospitals across the South West and North East regions. Tests were performed by 5 laboratories shown in different colours. Each bar represents one practice and is expressed as tests per 1000 list patients per year during the period 1 April 1999 to 31 March 2000[10].

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