Correspondence

Successful demand management in histopathology: a model using sputum cytology

The elimination of outdated, redundant, and unnecessary work is important because it can significantly improve standards in work, which is necessary.[1] Although important steps in demand management have been taken in other aspects of laboratory medicine,[2] there has been little coordinated effort to reduce redundancy in surgical pathology.[3] We have developed a model for demand management, which has been highly successful in controlling requests for sputum cytology and is potentially widely applicable. The key features, described in more detail below, are accurately targeting redundant work, gathering local evidence to support the claim of redundancy, implementing change sensitively with the help of key user groups, and instituting ongoing feedback.

We tested our model in the context of sputum cytology. In recent years, cytological examination of sputum has mainly been used as one of several investigations to assist in the diagnosis of bronchopulmonary malignancy. However, the introduction of the flexible bronchoscope, which allows visual inspection and biopsy, together with washings and brushings, has greatly reduced the need for sputum cytology in all but the frailest patients.

To validate and quantify our impression that unselected sputum cytology has a minimal diagnostic yield, we reviewed all 119 cases received in our department over a one year period. Of the 119 cases, 97% were reported as negative or unsatisfactory. The breakdown of cases was: 76 (64.0%) normal/negative, 29 (24.4%) unsatisfactory, eight (6.7%) inflammatory, one (0.8%) blood, and one (0.8%) aspergillus. Three cases (2.5%) were regarded as suspicious of malignancy. Only one diagnosis of malignancy was given, and because it was not possible to type the tumour, a biopsy was recommended. Fifty six specimens were received from 31 referring consultants, whereas 63 specimens were received from five referring consultants. The two respiratory physicians in the unit referred 27 specimens.

Having demonstrated the negligible diagnostic value of this test, we restricted its use using a three stage process. First, on the basis of the evidence gathered, we agreed some ground rules with our respiratory physicians. Namely that: Sputum cytology is indicated only occasionally, when other more appropriate methods of investigation such as bronchoscopy are unavailable or contraindicated. Any case where sputum cytology is proposed must first be discussed with the respiratory physicians. Full clinical details, including evidence of discussion, must be provided on the request form by the referring clinician.

Second, we then wrote to all consultants in the hospital summarising the above decisions and indicating that samples received without the required information would be discarded.

Third, we instituted a feedback system whereby an explanatory letter is sent to the referring clinician every time a sample is discarded.

After the introduction of this system, intermittent complaints were received from one referring consultant over a six month period, after which universal acceptance was achieved. In the 18 months after the introduction of our system, we received an average of 15 cases each year, usually for non-malignant disease. This represents an 87% reduction of the sputum cytology workload.

We have demonstrated that, with careful targeting and planning, successful demand management of redundant specimens can be introduced with minimum fuss. Instituting a feedback loop is essential to the long term success of this type of demand management because it copes with regular staff turnover without the need for repeated verbal explanation. The rare instances when there is an apparently inappropriate referral by a member of the respiratory teams (usually a new recruit) are dealt with by discussion.

There are clearly many other areas of surgical pathology that would benefit from similar weeding of unnecessary samples. In areas where "discard" would sound too draconian to achieve consensus, a useful modification is to suggest "shelve for two to three months followed by discard if no clinical need for reporting has arisen". We hope that our experience will encourage others to institute measures to reduce redundancy in their practice and free up energy for more worthwhile work.

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1 Gambino SR. The problem of outdated, redundant or unnecessary laboratory tests: laboratory triage, a suggested solution. *Can J Med Technol* 1969;**31**:5–8.
2 Divinagracia RM, Harkin TJ, Bonk S, *et al*. Screening by specialists to reduce unnecessary test ordering in patients evaluated for tuberculosis. *Chest* 1998;**114**:681–4.
3 Plebani M. The clinical importance of laboratory reasoning. *Clin Chem Acta* 1999;**280**:35–45.

Calendar of events

Full details of events to be included should be sent to Maggie Butler, Technical Editor JCP, The Cedars, 36 Queen Street, Castle Hedingham, Essex CO9 3HA, UK; email: maggiebutler@pilotree.prestel.co.uk

5th International Course on Bone Marrow Biopsy Pathology
Palermo, 3–6 November 2001
Further details: Vito Franco, Istituto di Anatomia Patologica, Università di Palermo, Italy. (Tel +39 091 6553534; fax +39 091 6553521; email: vfranco@unipa.it; website: www.unipa.it/bmcourse)

Current Concepts in Surgical Pathology
12–16 November 2001, The Four Seasons Hotel, Boston, Massachusetts, USA
Further details: Department of Continuing Education, Harvard Medical School, PO Box 825, Boston, MA02117-0825, USA. (Tel +1 617 432 1525; Fax +1 617 432 1562; email hms-cme@harvard.edu; web page http://www.med.harvard.edu/conted/)

41st St Andrew's Day Festival Symposium on Therapeutics
6–7 December 2001, Royal College of Physicians, Edinburgh, UK
Further details: Eileen Strawn, Symposium Coordinator. (Tel +44 0131 225 7324; fax +44 0131 220 4393; email 2.strawn@rcpe.ac.uk; website www.rcpe.ac.uk)

Urological Surgical Pathology for the Practising Pathologist
18–21 January 2002, Doubletree La Posada Resort, Scottsdale, Arizona, USA
Further details: Department of Continuing Education, Harvard Medical School, PO Box 825, Boston, MA02117-0825, USA. (Tel +1 617 384 8600; Fax +1 617 384 8686; email hms-cme@hms.harvard.edu)

British Association of Ophthalmic Pathology
21–22 March 2002, Dunchurch Conference Centre, Dunchurch, Rugby, UK
Further details: Dr D Snead, Pathology Department, University Hospitals of Coventry and Warwickshire, Coventry CV2 2DX, UK. (Tel +44 (0) 2476 538855; Fax +44 (0) 2476 538715; email david.snead@wh-tr.wmids.nhs.uk)

Surgical Pathology for the Practising Pathologist: Selected Topics
22–25 March 2002, Sanibel Harbour Resort and Spa, Fort Myers, Florida, USA
Further details: Department of Continuing Education, Harvard Medical School, PO Box 825, Boston, MA02117-0825, USA. (Tel +1 617 384 8600; Fax +1 617 384 8686; email hms-cme@hms.harvard.edu)