has been compared with the effectiveness of those spatulas used either alone or in combination with a cotton swab.²⁶⁻³¹ All the trials showed that the endocervical brush produced more smears with endocervical cells and concluded that double sampling was an improvement. The use of an endocervical brush on its own, however, is not recommended. One study, which did not control the method of sampling chosen by the smear takers, suggested that combining an endocervical brush with a modified Ayre spatula increased the rate of detection from 0.36% to 1.04%. The diagnosis of adenocarcinoma of the cervix, which may be missed in 40% of cases,³² was also improved. While finding dyskaryotic cells is more likely in smears containing endocervical cells, so too is atypia, particularly when an endocervical brush is used. Other workers quote a doubling of the proportion of atypical smears—from 7.3% to 14.9%—resulting in the need for more repeat smears.¹⁷

Recent trials of two new samplers, the Aylesbury spatula¹⁰ and the Cervex brush,³³ have shown that an increased yield of smears with abnormal cells may be achieved by taking only one sample. In a controlled study of 17 781 smears comparing the wooden Aylesbury spatula with the Ayre spatula—in which the experience of smear takers varied widely—22% more smears with dyskaryotic cells and fewer smears with borderline results were obtained with the Aylesbury spatula and the cellular quality was significantly improved.

Vooijs reported a smaller proportion of unsatisfactory smears from the Cervex sampler than the Aylesbury spatula (2.4% v 4.8%), but no mention was made of any difference in the proportion of smears with dyskaryotic cells obtained.¹⁴ A small study comparing the Cervex sampler with the Ayre spatula also showed that the Cervex sampler improved the quality of the smears and the yield of smears with atypical squamous cells.³³ A study comparing five methods of sampling found that the Cervex sampler improved the yield of smears containing endocervical cells and smears suggestive of cervical intraepithelial neoplasia grade III when compared with the modified Ayre spatula with or without a cotton swab. Best of all was the combination of the Ayre spatula and a cytobrush or the two ends of the cytopick.³⁴

Though the skill of the person taking a cervical smear is undoubtedly the most important factor influencing its accuracy, evidence exists that when compared with the Ayre spatula samplers such as the Aylesbury and the Cervex can improve the yield of abnormal cells when used by those who are less experienced. Two samples taken together are better still, but whether this is cost effective in a screening programme has yet to be shown. In the mean time more effort must be made to increase the skill of those who take smears. Though the ultimate responsibility for the adequacy of the

smear sample lies with the person taking it, all cervical smear reports should include a comment on whether the sample contained adequate cells, with particular reference to recognisable material from the transformation zone, where most cancers of the cervix originate. This will enable smear takers to monitor and try to improve their sampling ability.

MARGARET WOLFENDALE

Consultant Cytopathologist,
Stoke Mandeville Hospital,
Aylesbury HP21 8AL

- 1 Babes A. Diagnostic du cancer uterin per les frottis. *Presse Med* 1928;36:451-4.
- 2 Papanicolaou GN, Traut HF. The diagnostic value of vaginal smears in carcinoma of the uterus. *Am J Obstet Gynecol* 1941;42:193-205.
- 3 Ayre JE. A simple office test for uterine cancer diagnosis. *Can Med Assoc J* 1944;51:17-22.
- 4 Ayre JE. Selective cytology smear for diagnosis of cancer. *Am J Obstet Gynecol* 1947;53:609-17.
- 5 Richart RM, Vaillant HW. Influence of cell collection techniques upon cytological diagnosis. *Cancer* 1965;18:1474-8.
- 6 Bergeron C, Ferency A. Screening devices for cervical and endometrial C. *Technology Contemporary OB/GYN* 1987;55:66.
- 7 Bernstein A, Vitner S, Webber JM. Evaluation of a new tampon device for cytologic autocollection and mass screening of cervical cancer and its precursors. *Am J Obstet Gynecol* 1985;151:351-5.
- 8 Bourne R, Beilby JO. Trial of a new cervical spatula. *Lancet* 1976;ii:1330-1.
- 9 Colon VF, Lin LE. The extended tip spatula for cervical cytology. *J Fam Pract* 1981;13:37-41.
- 10 Wolfendale MR, Howe-Guest R, Usherwood MM, Draper GJ. Controlled trial of a new cervical spatula. *BMJ* 1987;293:33-5.
- 11 Pistofides GA, House FR, Shepherd JM, Vale JC. The multispatula: a new dimension in sampling the cervix. *Lancet* 1984;i:1214-5.
- 12 Rammou-Kinia R, Anagnostopoulou J, Goumasa M. Comparison of spatula and non-spatula methods of sampling. *Acta Cytol* 1991;35:69-75.
- 13 Ros E, Jimenez-Ayala M, Vilaplana E, et al. New technique for endocervical cytological sampling with Stormby's brush. Preliminary results. *Citologia* 1983;3:29-20.
- 14 Vooijs PG. Endocervical brush device. *Lancet* 1989;ii:784.
- 15 Wied GL, Bonfiglio TA, Cardin V, et al. Replies to questions of quality assurance measures in cytopathology. *Acta Cytol* 1988;32:913-39.
- 16 Cell content of cervical smears. Statement by BSCC and BSCCP. *Cytopathology* 1990;1:129-30.
- 17 Elias A, Linthorst G, Bekker B, Vooijs PG. The significance of endocervical cells in the diagnosis of cervical epithelial changes. *Acta Cytol* 1983;27:225-9.
- 18 Vooijs PG, Elias A, van der Graf Y, Veling S. Relationship between the diagnosis of epithelial abnormalities and the composition of cervical smears. *Acta Cytol* 1985;29:323-8.
- 19 Kivlahan C, Ingram E. Papanicolaou smears with endocervical cells: are they adequate? *Acta Cytol* 1986;30:258-60.
- 20 Woodman CBJ, Williams D, Yates M, Tomlinson K, Ward K, Luesley D. Indicators of effective cytological sampling of the uterine cervix. *Lancet* 1989;ii:88-90.
- 21 Giles JA, Hudson E, Crow J, Williams D, Walker P. Colposcopic assessment of the accuracy of cervical cytology screening. *BMJ* 1988;296:1099-102.
- 22 Goorney BP, Lacey CJN, Sutton J. Ayre v Aylesbury cervical spatula. *Genitourin Med* 1989;65:161-2.
- 23 Szarewski A, Cuzick J, Nayagan M, Thin RN. A comparison of four cytological sampling techniques in a genito-urinary medicine clinic. *Genitourin Med* 1990;66:439-43.
- 24 Sedlis A, Walters AT, Balin H, Hontz A, Sciuto LL. Evaluation of two simultaneously obtained cervical cytological smears. *Acta Cytol* 1974;18:291-6.
- 25 Beilby JOW, Bourne R, Guillebaud J, Steele ST. Paired cervical smears: a method of reducing the false-negative rate in population screening. *Obstet Gynecol* 1982;60:46-8.
- 26 Boon ME, Alons-van Kordelaar JJM, Rietveld-Scheffers PEM. Consequences of the introduction of combined spatula and cytobrush sampling for cervical cytology. *Acta Cytol* 1986;30:264-9.
- 27 Van Erp EJM, Blooshek-Lut CHM, Arentz NPW, Trimbois JB. Should the cytobrush be used in routine screening for cervical pathology? *Int J Gynaecol Obstet* 1989;30:139-44.
- 28 Murata PJ, Johnson RA, McNicoll KE. Controlled evaluation of implementing the cytobrush technique to improve Papanicolaou smear quality. *Obstet Gynecol* 1990;75:690-5.
- 29 Kirstensen GB, Holund B, Grinstead P. Efficacy of the cytobrush versus the cotton swab in the collection of endocervical cells. *Acta Cytol* 1989;33:849-51.
- 30 Taylor PT, Anderson WA, Barber SR, Covell JL, Smith EB, Underwood PB. The screening Papanicolaou smear: contribution of the endocervical brush. *Obstet Gynecol* 1987;70:734-8.
- 31 Alons-van Kordelaar JJM, Boon ME. Diagnostic accuracy of squamous cervical lesions studies in spatula-cytobrush smears. *Acta Cytol* 1988;32:801-4.
- 32 Mitchell H, Medley G, Drake M. Quality control measures for cervical cytology laboratories. *Acta Cytol* 1988;32:288-92.
- 33 Laverty CR, Farnsworth A, Thurlie JC, Bowditch RC. The importance of the cell sample in cervical cytology: a controlled trial of a new sampling device. *Med J Aust* 1989;150:433-6.
- 34 Boon ME, de Graaf Guilloud JC, Rietveld WJ. Analysis of five sampling methods for the preparation of cervical smears. *Acta Cytol* 1989;33:483-8.

Management in the NHS

Getting there, but the centre may need decimating

Napoleon said that the English were a nation of shopkeepers, but few grocers can have had as much influence on British public life as Sir Roy Griffiths, deputy chairman of the supermarket chain J Sainsbury, through his reports on management in the NHS and community care. His report on NHS management was produced seven years ago, and earlier this month he had an opportunity to reflect on how his reforms had turned out when the Audit Commission asked

him to deliver its third annual lecture. Overall, he was upbeat, but he also had much to criticise.

Doctors have understandably viewed the growth of NHS management with deep suspicion. More managers and more computers inevitably, they think, mean fewer resources for direct patient care in a system with long waiting lists and much unmet need. Doctors also see deep differences between the NHS and the business world whence Sir Roy and his

like have come, and they have been disturbed by an influx of managers who don't know a cholecystectomy from a colposcopy. There is a deep cultural divide between doctors and managers not only in countries like Britain that are snobbish about commerce but also in entrepreneurial countries like the US. The language of managers is incomprehensible to doctors and sounds to them wildly inflated, almost surreal.

Moreover, and despite the proliferation of business schools, managers seem hopelessly unscientific; they've never heard of controlled trials, and hardly a p value is to be glimpsed in the *Harvard Business Review*. Management seems even more beholden to fashion than medicine, and managers are much inclined just to jump in with their reforms—the current NHS changes seeming to be a classic example. Doctors are also concerned by the shift of power to managers. A decade ago no hospital administrator would have stood in the way of eminent consultants, but now they are chided for being late for their outpatient clinic and told that they cannot operate on Thursdays.

Sir Roy has sympathy for many of these anxieties. He has always believed that clinicians have to participate in management, particularly in making decisions about priorities and use of resources, and, he said, "I did not intend that the result [of introducing general management] should be yet another profession in the NHS to work in parallel with other professions." He added: "It is clear from the report that I did not believe in bringing in large numbers of people from outside. . . . It is unforgivable to build up such staff without evincing at the same time that there is a proper system of manpower control in all areas and that every job is scrutinised for its contribution to the overall aim." He has been disappointed too by failures of communication, with managers not recognising the importance of welding hospital teams together. The politicisation of reforms in the NHS and the consequent necessity to rush them have particularly disappointed him.

"Managerial timescales and emphases," he said, "are often different from political timescales and emphases, which tend to be governed by the next election. . . . Politicians are not very excited by the management process. As with top civil servants the adrenalin flows in bringing out new policy documents, getting them to number 10, and through the Houses of Parliament, whereas the process of implementation is long and laborious." Commenting on the NHS review, he said, "Because it was Mrs Thatcher's review even the simplest management concepts were imbued, indeed saturated, with political overtones. The truth is that it is not a particularly political document."

Despite the criticisms Sir Roy was generally pleased with the progress that has been made with management in the NHS. The truth is that the methods of business are essential in the NHS not because they are the methods of making profits but because they are the methods of running large organisations. Oboists might like to think that an orchestra can run itself so long as they play sweetly, just as surgeons might think that minimal administration is necessary within the NHS. But somebody must decide whether to play Stravinsky or Verdi, make the orchestra play as one, fill the concert halls, find resources within an ever more competitive world, and make sure that the diva is in place and the piano tuned, on stage, and ready to play at 7 30.

The rudiments of a successful organisation are an explicit purpose and direction, leadership, a strong management structure, motivated staff, sound economics, a cost effective information system, targets that are regularly monitored, good communication, and a commitment to quality. Before 1983 the NHS lacked many of these. It has always had an implicit purpose and motivated staff (although they kept behind their professional barriers), but most of the other necessities were lacking. Now they are beginning to fall into place, although with many the rhetoric is stronger than the reality.

Sir Roy has contributed more than anybody else to turning the NHS into a body likely to survive into the next century, and we should be grateful to him. We should, however, reconsider one of the central principles of his 1984 management inquiry. He said: "As a coherent management process is developed [in the NHS] of planning, implementation, and control, the Department of Health and Social Security [as it then was] should rigorously prune many of its existing activities." This hasn't happened. In 1986 the Department of Health employed 7800 people plus 3000 who worked in special hospitals and who were transferred to the NHS in April 1990. The department currently employs 7100, and the number is expected to increase next year to 7500. The business world is hard on top heavy organisations where the plush corporate headquarters is overstaffed with people who do not "add value": their share price declines and they become ripe for takeover. Lord Hanson and his ilk make much of their money by taking over top heavy organisations, pruning the centre, and running the organisations with a tiny central staff. Lord Hanson would not be interested in the Department of Health, but the active part of the NHS is not the only part that should be shaken up. The centre may need to be decimated.

RICHARD SMITH

Editor, *BMJ*