Guidelines on the performance of chemical pathology assays outside the laboratory

SIR,—There is a growing concern among laboratory staff responsible for providing the routine analytical service from clinical biochemistry, clinical chemistry, or chemical pathology laboratories that the purchase of instruments for performing analytical work in wards and side rooms may not be always in the best interests of the patient.

The assays under consideration are at present mainly those of blood gases, acid base balance, and serum sodium, potassium, and paracetamol; (a) automatic, push-button equipment for several other assays continue to be developed for use outside the main service laboratory. The siting of easy-to-use, automatic, push-button equipment in wards, clinics, and health centres provides the clinician with immediate results, but often requires the patient to be aware of the medicolegal implications. Training in the use of the instrument and monitoring of subsequent performance should be supervised by a member of the staff of the routine laboratory. Records should be kept for each assay and its operator. Reports should be correctly prepared and filed in the patients’ notes. They should be on a form recognisably different from the ordinary laboratory form. The system of units used should be agreed with the head of the routine laboratory.

(5) Quality control—Internal quality control should be conducted at regular intervals. Records kept and displayed as in the laboratory itself. An external quality assessment scheme should be used when practicable—for example, for potassium, sodium etc. This routine laboratory quality control officer should be responsible to the head of the department for checking the records and initiating remedial action, etc., when necessary. A similar policy should apply to patient-operated apparatus so far as possible. The performance and the manner of performance should be checked at appropriate intervals by both the laboratory and the clinician and the staff of the routine laboratory.

(6) Maintenance—The main routine laboratory should normally be responsible for (a) periodic checking of simple day-to-day maintenance tasks carried out by the users; (b) the more complex maintenance, weekly or monthly (procedures involving dismantling of the equipment, cleaning or replacing parts); (c) dealing with simple breakdowns; (d) service calls to the manufacturer. Patient-operated apparatus should be the responsibility of the patient. Routine laboratory support should be available for periodic checks on this type of equipment. Obviously routine service laboratory support is possible only if adequate information through consultation, as outlined in the above paragraphs, is available to the routine laboratory.

(7) Staffing—It may well be necessary to provide additional suitably qualified staff based on the routine service laboratory to meet these requirements. If possible the main operator of such equipment should be a member of the staff of the routine laboratory, which ensures continuity of methods of operation, maintains the service from a pool of the staff of the routine laboratory, and provides a career structure for the operator.

(8) General—It is essential that there should be full collaboration between medical and clinical staff outside the routine laboratory and the staff of the main routine laboratory, particularly in the supervision and training of personnel and the maintenance of equipment.

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