Perceptions of a medical microbiology service: a survey of laboratory users

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Abstract

Aim—To ascertain the perception of laboratory users regarding the quality of the medical microbiology services in a district general hospital.

Methods—Detailed questionnaires were circulated to all clinicians in the locality, with headings covering the quality of medical advice provided, the availability of information on specimen collection, format of request forms, specimen transport arrangements, turnaround times, the quality and need for interpretative advice, and the overall impression of the quality of the services provided.

Results—Two hundred and thirty five replies were received, giving a response rate of 69%. Transportation of specimens and communication of reports were identified as priority areas for improvement. The overall quality of the service was perceived as satisfactory, although areas were identified where substantial improvements could be made, some at little or no cost to the laboratory.

Conclusions—The survey focused clinicians' attention on the service, raised the profile of the laboratory, and resulted in improved communications and a better understanding of customer needs. Overall, the exercise was felt to be extremely useful, and worthwhile repeating to gauge the effect of the changes instituted as a result. (J Clin Pathol 1995;48:915-918)

Keywords: Quality microbiology service, survey.

In the current customer orientated climate in the NHS the service provided by laboratories is under greater scrutiny. This study was carried out to gauge the perception of laboratory users regarding the quality of the medical microbiology services provided in a district general hospital.

Methods

Two major customer groups, namely general practitioners and hospital doctors, were surveyed in February 1992. The questionnaires differed slightly between these groups due to differences in specimen transport arrangements and patient populations. Questionnaires were sent to all clinicians who submitted specimens for microbiological examination, giving a total of 340 (128 hospital doctors and 212 general practitioners).

Information and views were sought on the format of request forms, the transportation and processing of specimens, reporting procedures, and the accessibility and quality of the medical microbiology service as a whole. Clinicians were asked about their current and future requirements from the medical microbiology service.

Results

Two hundred and thirty five completed questionnaires suitable for analysis were received, giving a response rate of 69%. Four questionnaires were excluded because they had been partially completed, or completed by nursing staff. Six per cent (six of 100) of the hospital doctors and 14% (14/135) of the general practitioners chose to remain anonymous.

REQUEST FORMS

The request forms in use at the time of the survey were no carbon required (NCR) forms. Sections for patient details and a box for clinical details together occupied 40% of the total area of the form. Virology and general bacteriology forms were similar, although forms for urinalysis were larger and yellow in colour. After processing, the top copy of the NCR forms with handwritten results was returned to the requesting clinician.

Ninety five per cent (128/135) of general practitioners and 89% (89/100) of hospital doctors found the request forms easy to complete, although 15% (18/135) of general practitioners and 28% (28/100) of hospital doctors reported that the format was unsatisfactory. One doctor commented that the forms were "more allied to the laboratory than busy clinicians".

Sixty four per cent (86/135) of general practitioners and 56% (56/100) of hospital doctors felt the introduction of different coloured forms for different specimen types would be useful to aid their rapid differentiation of reports. The majority of doctors wanted more space to write clinical details, including one who found it "very difficult to write in boxes". Three consultants (3% of hospital doctors) and two general practitioners felt that forms should all have spaces for affixing sticky labels with pre-printed patient details. One per cent of respondents would have liked a universal pathology form, applicable to all disciplines. A minority (24%; 56/235) of clinicians allowed very few specimen requests to be instigated by their nursing staff, and then only as part of ward protocols/diagnostic work ups.

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Table 1 The proportion of request forms that clinicians reported were completed by nursing staff or receptionists (all figures given as percentages)

Proportion of forms completed by nurses or receptionists	General practitioners	Hospital doctors
Very few	16	17
Some	64	56
Majority	18	23
All	2	1

The majority (76%; 179/235) of clinicians occasionally allowed their nursing staff to instigate specimen requests. Clinicians often delegated the completion of request forms to their nursing staff or receptionists (table 1).

COLLECTION AND TRANSPORTATION OF SPECIMENS

The pathology courier service was under the control of the hospital management, not the laboratory. Specimens were collected from designated collection points at set times, along five main routes that incorporated city and rural collections from local hospitals, health centres and general practices. In addition, the courier routinely transported pathology and pharmacy supplies, and hospital mail.

Fifteen per cent (20/135) of general practitioners were dissatisfied with the courier service, especially those in outlying rural areas. Complaints of constantly changing collection and delivery times, and inadequacy of collection days were noted. Three surgeries had collections twice a week, and one surgery had a weekly collection. One practice nurse was delivering specimens to the laboratory herself, because of an ongoing dispute between the hospital courier and the general practitioner over collection points. Fifty six per cent (76/135) of general practitioners wanted an additional evening collection of specimens to be introduced. Twenty five per cent (34/135) of general practitioners and 28% of hospital doctors wanted extended laboratory hours, the latter in order to obtain results in the evenings. The difficulty of transporting specimens between the hospitals within Exeter was highlighted, with 65% (65/100) of hospital doctors reporting difficulties, especially after hours. There was one unsubstantiated comment that "a lot of specimens seem to get lost". Several doctors complained that occasionally samples waited for hours because a porter was unavailable, or that delays arose due to difficulties in contacting the hospital porters for collection of specimens.

SPECIMEN PROCESSING

The turnaround time was felt to be satisfactory by 92% (216/235) of respondents, and 87% (117/135) of general practitioners and 19% (19/100) of hospital doctors wanted lists of turnaround times they could normally expect. Twenty seven per cent (27/100) of hospital doctors felt that the laboratory occasionally failed to report sensitivities requested, whereas 92% (124/135) of general practitioners and 64% (64/100) of hospital doctors felt this

happened rarely. Eleven per cent (15/135) of general practitioners and 13% (13/100) of hospital doctors would have liked to increase the repertoire and numbers of tests requested "if financial constraints were removed". Examples cited included hepatitis A immunisation status and more routine testing for chlamydia on genital specimens.

FORMAT AND DELIVERY OF REPORTS

Comments were added on an ad hoc basis to final results by the authorising medical microbiologist. Ninety nine per cent (134/135) of general practitioners found reports usually/always legible.

Surprisingly, only 19% (26/135) of general practitioners and 35% (35/100) of hospital doctors would have preferred computed reports, although direct access to the results via computer was thought necessary by 84% (84/100) of the hospital doctors. In the absence of a computer link 72% (97/135) of general practitioners requested facsimile reports. Faxing results had been considered as an alternative mode of reporting results, but was rejected because of difficulties in ensuring that confidentiality was maintained.

Of the general practitioners, 7.5% (10/135) were unaware of the direct dial number bypassing the hospital switchboard when telephoning for results. Ninety nine per cent (134/135) of general practitioners and 91% (91/100) of hospital doctors were satisfied with the laboratory routine whereby a medical microbiologist telephoned the clinician directly with any interim results that were thought to be important. One consultant complained that telephoning results to his junior staff resulted in a change of management instigated without his knowledge, and he preferred to be telephoned personally.

Ninety eight per cent (132/135) of general practitioners said that they read the reports returned on their patient specimens, compared with 59% (59/100) of hospital doctors. Of the general practitioners and hospital doctors, 1.5% and 4%, respectively, felt that they usually failed to receive the results of investigations that they had instigated. On further investigation, this was found to be because they failed to include the ward/consultant destination on the request forms.

ADDITIONAL COMMENTS AND INTERPRETATION OF REPORTS

The restricted reporting of antibiotic sensitivities was approved by 93% (126/135) of general practitioners and 92% (92/100) of hospital doctors. Seventy per cent (95/135) of general practitioners and 72% (72/100) of hospital doctors requested more interpretation of test results, while 64% (87/135) and 89% (89/100), respectively, requested the routine inclusion of more reference values, such as therapeutic ranges for antibiotics, on the reports. The addition of unsolicited comments or advice to reports was thought to be useful by 97% (131/135) of general practitioners and 97% (97/100) of hospital doctors, and irritating or

Table 2 *How do you find the on-call MLSO (technical staff)?*

Impression	General practitioners	Hospital doctors
Surly	1	1
Hostile	1	3
All right	13	24
Helpful	56	52
Very helpful	17	6

Table 3 *When you telephone for results, how do you find the staff?*

Impression	General practitioners	Hospital doctors
Surly	0	2
Hostile	0	0
All right	10	18
Helpful	63	63
Very helpful	27	13

Table 4 *How easy is it to obtain microbiological advice?*

Degree of difficulty	General practitioners	Hospital doctors
Very difficult	0	1
Difficult	1	0
Reasonable	37	20
Easy	60	76
Very easy	2	0

Table 5 *How would you rate the quality of the medical microbiological advice obtained?*

Rating	General practitioners	Hospital doctors
Very poor	0	0
Poor	0	0
Fair	1	0
Adequate	8	5
Good	43	39
Very good	47	54

Table 6 *How would you rate the quality of the medical microbiology service as a whole?*

Rating	General practitioners	Hospital doctors
Very poor	0	0
Poor	1	0
Fair	1	2
Adequate	7	10
Good	61	53
Very good	30	35

Table 7 *Additional services that would be seen as helpful*

	General practitioners	Hospital doctors
Regular update meetings	79	59
Regular updates on current sensitivities	95	85
Newsletter	88	59
Regular audits of the use of the service	89	65
Visit to the laboratory	52	29
List of tests available and their costs	95	71
Antibiotic guidelines	95	N/A

interfering by one general practitioner and three hospital doctors, all of the latter being consultants.

IMPRESSIONS OF MICROBIOLOGY PERSONNEL AND QUALITY OF SERVICES PROVIDED
Of hospital doctors and general practitioners,

84% (84/100) and 99% (134/135), respectively, felt that urgent specimens were dealt with quickly enough.

Some clinicians had never spoken to MLSOs or office staff and declined to comment. No further details were forthcoming about the impressions of hostility and surliness (tables 2 and 3).

THE MEDICAL MICROBIOLOGY SERVICE OF THE FUTURE

Forty four per cent (44/100) of hospital doctors wanted the medical microbiologists to be more clinically involved. There was considerable demand for the supply of more information to the clinicians (tables 5–7).

As a hospital formulary was already in existence, the question was not included in the hospital doctor questionnaire. Twenty five per cent (34/135) of general practitioners wanted to be able to refer patients for specimen taking, especially paediatric patients. One general practitioner requested the provision of algorithms for the microbiological investigation and management of different infections.

Discussion

The survey provided an opportunity to examine the service supplied, probe customer needs and identify potential areas where improvements could be made. The need to ensure that the laboratory was seen to be fulfilling customer expectations had been given further impetus when contracts from two fundholding practices were lost to a private veterinary laboratory. The dictionary definition of quality as a "degree or standard of excellence" and other definitions used in industrial settings such as "fitness for use"¹ are insufficient, and what constitutes a quality microbiological service is difficult to define. Perhaps an acceptable definition of quality applicable to a microbiology service would be "... a continuous effort by all members of an organisation to meet the needs and expectations of patients and other customers".² Quality is a subjective impression and is "what the customer perceives it to be, not what an engineer, a marketer or a general manager says it is".³

Hence, the main aim of this survey was to ascertain the laboratory customers' perception of the quality of the microbiological services. Analysis of the services actually delivered to the customers revealed some surprises.

The transport of specimens was identified as a particular problem area. Prior to the survey, no one had been aware of the inequalities of the courier service provided to outlying practices. Overall, specimen processing and turnaround time was satisfactory for the majority of doctors, exceptions being for specimens sent to reference laboratories. The communication skills and telephone manner of laboratory personnel were of considerable importance in contributing to the overall image of the laboratory, and clinicians often telephone the laboratory for interim results (5% of specimens may generate a telephone call⁴).

The most easily implemented improvements were the addition of therapeutic levels of antibiotics to appropriate reports, and increasing the amount of clinical interpretation and clinical guidance given. The quality of medical microbiological advice was highly regarded, easily obtained and was a service that competing local private laboratories could not offer. Communication of reports via computer was identified as a priority area for future development, with access to authorised reports requested by 84% of hospital doctors. Hand-written reports failed to reach the requesting clinician for two reasons. Some were retained in the laboratory because the request form had no stated ward or destination, and following completion of the survey, the author identified a black hole of unfilled reports in a set of cardboard boxes in the hospital Medical Records department. Some of the reports were six months old and the accumulation was attributed to staff shortages. Once noted, the situation was quickly resolved.

Good communications between laboratory staff and clinicians, regular updates on new developments, sensitivity trends and test costs were basic requirements of the service. These areas, where better communications and relations between the laboratory and its customers could be developed, reflect the findings of previous surveys.⁵⁻⁷

In addition, clinicians wanted a service geared more to their working practices, with convenient specimen collections, timely reporting and interpretation of results, with an easily accessible clinical advice service. It was reassuring that the quality of the microbiology laboratory services at Exeter was perceived as more than satisfactory. Since the completion of the survey, clinical interpretation of results

and normal therapeutic values have been added to the computed reports. The information supplied to clinicians has increased considerably, and one fundholding practice has returned to the fold.

In conclusion, the survey was felt to be well worthwhile. As a public relations exercise alone, the survey was successful, raising the profile of the laboratory, stimulating numerous requests for visits to general practices for discussions, and improving communications. Most of the areas identified for improvement had negligible cost implications, but potentially large benefits for the laboratory. In the prevailing competitive market for the provision of pathology services, it is essential that a laboratory service not only fulfils customer expectations, but that the quality of that service is seen to be higher than that of competitors. Follow up surveys of customer views need to be done, not only to gauge the effect of the changes instituted as a result of the survey, but to ensure that the service provided by the laboratory continues to be responsive to "the needs and expectations of the customers".²

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