

Relevance of a laboratory physician's report to patient care in a tertiary health center

E Ayinbuomwan, EO Onovughakpo-Sakpa¹

Department of Chemical Pathology, University of Benin Teaching Hospital, ¹Department of Chemical Pathology, University of Benin, Benin City, Edo State, Nigeria

Abstract

Introduction: Investigation results traditionally are given in two parts: Investigation results and report. When both are provided for a test done, reports offer in depth information, explanation and clarification of results. This trend has been lost over time as results are the only documentation routinely given currently in conventional hospital practice except reports are specially requested for although the service is obtainable at no extra cost to the patient or attending physician.

Aim: To access the necessity of laboratory report as part of investigation results and reasons for non utilization of laboratory report services by physicians.

Method: A descriptive cross-sectional study was conducted amongst doctors of varying cadres in 3 specialties (Physician, Surgeon, Gender practitioners) at the University of Benin Teaching Hospital, Benin City, Nigeria. Data was collected from 121 participating doctors using a structured 19 item self administered questionnaire. The data was analyzed using IBM-SPSS Version 20.0.

Results: Most respondents agreed that the investigation results currently obtained from the laboratory were useful but would be better if laboratory reports accompanied them. Over 70% of the doctors noted that the above sometimes held true only sometimes and not always as stated by 28.1% of doctors. More than 90% of the doctors have knowledge of the difference between laboratory results and report; the necessity of a lab physician's report for every investigation requested for and its potential benefits such an investigation reporting system will have on patient management. Although most doctors (81.8%) discuss laboratory results with lab physicians, they do not routinely consult them to achieve the improved value of investigation results until a critical period of necessity arises.

Conclusion: Laboratory investigations would offer doctors more information, which translates to enhanced patient care if investigation results are mandatorily accompanied by a laboratory report.

Key words: Laboratory investigation, laboratory report, laboratory result

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Address for correspondence:

Dr. EO Onovughakpo-Sakpa,
Department of Chemical Pathology, University of Benin,
Benin City, Edo State, Nigeria.
E-mail: sakpaoe@yahoo.com

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Introduction

Quality can be defined as the ability of a product or service to satisfy the needs and expectations of the customer.^[1] Clinicians are interested in service quality, which encompasses precision and accuracy, availability, cost, relevance, and timeliness.^[2] Clinicians desire a rapid, reliable and efficient service delivered at low cost,^[3] and this might be the reason why some clinicians are prepared to sacrifice analytical quality for faster turnaround time.^[2] However, the pathologist (laboratory physician) may disagree with such priority, arguing that unless preanalytical quality is achieved, none of the other characteristics matter.^[4] Patient's require comprehensive clinical pathology and laboratory medicine services appropriate to their illnesses and level of care provided. In a tertiary institution, it is necessary that results of laboratory investigations are not just sent out but must be interpreted. It is the interpretation of the results that is relevant to patient care and outcome of treatment.

Laboratory physicians are medical specialists who have considerable skills which enable them to contribute significantly to the provision of high quality efficient and effective health care. The skills, they develop as a consequence of training first as a medical practitioner and then as a laboratory physician, enable them to understand clinical disease processes and their diagnosis. The laboratory physician also communicates with the clinicians treating patients to provide clear and unambiguous laboratory result interpretation to discuss the implications of testing and further methods of testing available to assist in the diagnosis and management of patients.^[5]

The typical duties of a laboratory physician are to assure accurate test results and to evaluate clinical data and review abnormal results.^[6] This is what laboratory report is about. Hence, what is the difference between a laboratory result and a laboratory report? Why do some clinicians prefer to work with the result when a laboratory physician is nearby? This study intends to answer these questions. There seems to be the reluctance of some clinicians to consult the laboratory physician even when it is necessary. This work intends to find out the reasons for this reluctance.

Materials and Methods

A cross-sectional descriptive research design was employed in this study. Data were collected from a 120 doctors in various specialties (internal medicine, pediatrics, surgery, and family medicine) in the University of Benin Teaching Hospital using a standard 19 item self-administered questionnaire. Data was analyzed using International Business Machines- Statistical Product and Service Solutions (IBM-SPSS) version 16.0 Chicago IL.

Results

This study was carried out on 120 doctors of three categories namely, physicians (42.5%), surgeons (45.8%), and general practitioners (11.7%). Sixty-five (54.2%) of the respondents had practiced medicine for a period of 6–10 years while 25 (20.8%) have been in medical practice for a period of 1–5 years and seventeen (14.2%)

Table 1: Sociodemographic characteristics of respondents

| | Frequency n (%) |
|--------------------------------------|-----------------|
| Category of respondents | |
| Surgeons | 51 (42.5) |
| Physicians | 55 (45.8) |
| General practitioners | 14 (11.7) |
| Duration of medical practice (years) | |
| 1-5 | 25 (20.8) |
| 6-10 | 65 (54.2) |
| 11-15 | 65 (54.2) |
| 16-20 | 3 (2.5) |
| >20 | 10 (8.3) |

Table 2: Assessment of respondents knowledge and attitude (n=120)

| Characteristics | Frequency n (%) |
|--|-----------------|
| Knowledge of difference between laboratory result and report | |
| Is there a difference between laboratory report and result | |
| Yes | 105 (87.5) |
| No | 15 (12.5) |
| What is the difference between laboratory result and report | |
| Correct response | 89 (84.8) |
| Incorrect response | 10 (9.5) |
| Attitude towards consulting the lab physician | |
| Do you inform the laboratory physician when requesting a test that needs interpretation of results | |
| Yes | 75 (62.5) |
| No | 45 (37.5) |
| Do you consult a laboratory physician when in dilemma as to the diagnosis of a clinical case | |
| Yes | 107 (89.2) |
| No | 13 (10.8) |
| Do you invite the laboratory physician when you have a challenging case on the ward | |
| Yes | 101 (84.2) |
| No | 19 (15.8) |
| Do you feel satisfied about improvement in patient's response following consultation of the laboratory physician | |
| Yes | 92 (76.0) |
| No | 13 (10.7) |
| Would you rather have a laboratory physician's report attached to your patient's test result | |
| Yes | 115 (95.8) |
| No | 5 (4.2) |

respondents have practiced medicine for a period of 11–15 years. Three (2.5%) of the respondents have practiced medicine for between 16 and 20 years. Only 10 (8.3%) respondents had been in medical practice for over 20 years [Table 1].

All the respondents gave a reply of affirmation that the laboratory is useful in patient care. However, only 27.5%

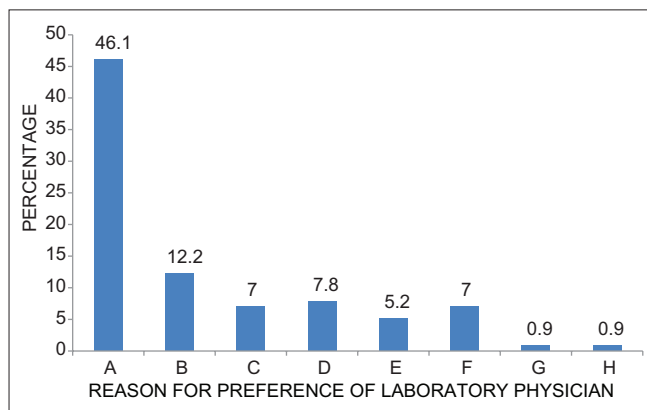


Figure 1: Reason for preference of laboratory physician by respondents. A: Makes the patient management better. B: The laboratory physician is more professional. C: Confidence in the laboratory physicians report. D: The laboratory physician is more explicit. E: Their report serves as a guide to accurate diagnosis/management. F: The laboratory physician gives an improved quality report. G: The laboratory physician report is a medical conclusion. H: Easier to integrate into treatment plan. [115 (95.8%) respondents would rather have a laboratory physicians report attached to their patient's test result for the above reasons (Table 2)]

Table 3: Attitude to unsatisfactory laboratory result

| | Frequency n (%) |
|---|--------------------|
| When dissatisfied with laboratory results in your hospital, what do you do? | |
| Go to private laboratory | 20 (16.6) |
| Consult the laboratory physician in the hospital | 74 (61.7) |
| Both responses above | 14 (11.7) |
| Others | 9 (7.5) |
| Repeat the test | 6 (5.0) |
| Use their clinical acumen | 2 (1.7) |
| Report to the scientist | 1 (0.8) |
| No response | 3 (2.5) |
| When dissatisfied with laboratory result, from whom do you seek advice? | |
| Laboratory scientist | 10 (8.3) |
| Laboratory physician | 91 (75.8) |
| Both laboratory physician and scientist | 7 (5.8) |
| Others | 6 (5.0) |
| Cross check with another laboratory outside | 2 (1.7) |
| Use their clinical acumen/treat empirically | 2 (1.7) |
| Report to consultant in charge | 1 (0.8) |
| Send for a repeat | 1 (0.8) |
| No response | 6 (5.0) |

always requests for laboratory investigations. Most of the respondents (70.8%) make a laboratory request sometimes.

The most important tool to most respondents (41.7%) in making a diagnosis is history while clinical features are the most important to 39.2% of the respondents. The next in rank is laboratory result which was indicated by only 3.3%.

One hundred and five (87.5%) of the respondents are on the affirmative that there is a difference between a laboratory result and a laboratory report. Those who were correct in differentiating the two entities were 89 (84.8%). Ten (9.5%) were incorrect. The other respondents could not state a difference between the two entities. Sixty-three respondents defined a laboratory report as an interpretation of laboratory results with consideration of patient's clinical features. Three of the respondents defined a laboratory report as a laboratory result endorsed by a pathologist. The other respondents gave various definitions.

Having a laboratory physicians report attached to test results is most appropriate for 95.5% of the respondents. Five (4.2%) respondents would rather not have a laboratory physician's report attached to their patient's test result [Table 2]. When asked to give reasons for their preference of the laboratory physicians report; 46.1% required the report because it made patient management better. Another reason given by 12.2% of the respondents was the fact that the laboratory physician is more professional, and 7.8% of the respondents stated that the laboratory physician is more explicit [Table 2 and Figure 1].

On the attitude of doctors toward consulting the laboratory physician, 62.5% of the respondents do so when requesting for a test which requires interpretation of the results. Most respondent's (89.2%) do so when in a dilemma as regards the making of a clinical diagnosis. Among these doctors who consulted the laboratory physician 76% were satisfied and had improved patient response as a result of such consultations [Table 2].

Some doctors have reasons for their refusal to utilize the services of the laboratory physicians. Top on the list is the fact that the laboratory physician is said not to be available for consultations. Hence, what do these doctors resort to when faced with unsatisfactory laboratory results? At this point, 61.7% consult the laboratory physician. Another set of these doctors (16.6%) goes to private laboratories. Others either repeat the test, use their clinical acumen, or report to the laboratory scientist [Table 3].

The respondents in this study have suggested various ways they think the laboratory physicians can improve general patient management.

Discussion

This study investigated the relevance of the laboratory report which is given by a laboratory physician to patient management in a tertiary health center. It is clear that all the respondents to whom laboratory services are rendered agree that these services are useful in patient care. However, not every one of them avail themselves of these services. Whatever tool the doctor deems most important to him/her in making a diagnosis should be accompanied by a laboratory report and not just the laboratory result. It is important to note that most acute care decisions and key early steps in the acutely ill patient's journey require immediately available laboratory services and interpretive advice, for example, coagulation testing, blood transfusion, cytology, electrolytes, renal and liver function, blood gases, drug screening, and toxicology and microbiology for infection control and antimicrobial advice.^[7]

The laboratory physician's report is not just useful in making a diagnosis; it is also relevant in monitoring patient's response to treatment. It is estimated that 70% of all health care decisions affecting diagnosis and treatment and the monitoring of response to treatment, often depend on a range of pathology based tests and investigations.^[8]

It is noteworthy from the study that some doctors do not know the difference between a laboratory result and a laboratory report. Some items included in laboratory reports deal with administrative or clerical information such as patient name, address, identification number while other elements of the report deal with the specimen that was collected and the test itself such as specimen source, date and time of collection, name of test, test result, critical results, units of measurement, reference ranges, and interpretation of results.^[9] Some of these parameters are best interpreted by the laboratory physician who endorses the report.

There are various reasons to consult a laboratory physician in a tertiary institution. The laboratory physician knows the appropriate test to be performed in a specific clinical

situation (the right test at the right time for the right patient). The laboratory physician possesses better knowledge of the interpretation of individual and groups of tests results and is better trained to determine the effect of these results on patient management. The effect of disease and therapy on laboratory result can be expertly interpreted by the laboratory physician.

Conclusion

Due to the paucity of laboratory physicians in the past, it was assumed that they were not available for consultation. In recent times, the number has increased greatly and the laboratory physician is readily available for consultation. Furthermore, to improve patient care, it is important that all laboratory physicians consider and implement the suggestions made by the respondents.

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Conflicts of interest

There are no conflicts of interest.

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