International Journal of Healthcare Sciences ISSN 2348-5728 (Online)
Vol. 5, Issue 2, pp: (620-622), Month: October 2017 - March 2018, Available at: www.researchpublish.com

The Use of Tracer Methodology in a Hospital based Medical Laboratory

Lakshmi Vaswani[1], Rupali Parikh[2]

Assistant Pathologist [1] Associate Pathologist [2], Department of Pathology, Bhatia Hospital, Tardeo, Mumbai, India

Abstract: **Tracer Methodology can be used to give valuable insight into the practical applications of an organization's processes. The adoption of a laboratory tracer, whether in a mock audit in preparation for accreditation or in a bid to improve processes, gives a holistic and comprehensive view of a department's protocols as well as the efficacy of its communication and collaboration with other departments in the hospital. The laboratory is the nexus of a multi-specialty tertiary care urban hospital. This paper aims to provide an idea about how the laboratory tracer is to be implemented and to show the advantages to the laboratory and the hospital staff as it will help to showcase lacunae in processes, which can help to improve the quality of care given to patients.**

Keywords: **Laboratory tracer, audit, medical laboratory, accreditation, hospital.**

I. INTRODUCTION

With accreditation being the order of the day, hospitals and laboratories are attempting to align their processes to national or international standards. The advantages of accreditation are many and well documented. In order to obtain the coveted accreditation however, the organization has to undergo months of preparation. Internal audits have served organizations well in this time. Preparing and learning from regular internal audits, helps the workers in the organization to be better prepared for the coming evaluation, as well as gives them the opportunity to learn from the audit observations and improve their efficiency. While in one aspect, abiding by the standard can increase documentation and paperwork, the far more advantageous side effect of regular auditing is the insight that is obtained into the functioning of the departments and the scope to improve efficacy in day to day functioning.

While the most commonly used method of internal auditing is the method by checklists, divided by processes or departments or areas of work, the implementation of a Tracer Method, used by the Joint Commission International as regular practice for their audit procedures, could be tried in order to get a more holistic view of the areas being audited. Tracer methodology is an effective evaluation method that is used to assess an organization’s performance of care and services provided as viewed or experienced by the patient. It requires tracers to select active patients and trace their care through the departments or services of the hospital. They can evaluate how well a hospital has implemented its policies and procedures and how well the people of the organization take care of patients. It conducts a complete system analysis on integration and co-ordination of care processes, as well as how well individual departments work with each other. This enables them to identify strengths and weaknesses and potential concerns in the relevant processes. . The novelty of the tracer method lies in the fact that it aims to highlight the efficiency of processes that link one aspect of the department functioning to another, instead of dealing with them as individual or isolated procedures. There are two types of tracer methods, a patient tracer and a system tracer.

The clinical laboratory in a hospital set up is a department that is largely dependent on other departments and requires good co-ordination and team work in order to ensure a smooth work flow. The idea of using tracer methodology within the laboratory as well as outside the laboratory, taking it through the entire work flow, from pre-analytical, analytical and post analytical stages, serves to highlight many lacunae that could be present within the processes, and increases the scope for improvement.

A LABORATORY TRACER would start with the test result, and then the surveyor will follow the entire testing process for that patient from pre analytic to post analytic processes. The surveyor may visit all areas of the laboratory that affect the delivery of service, including areas where orders are written or recorded, specimens are collected and processed, testing is performed, and results are documented and communicated. It could also focus on issues of particular of

particular concern for laboratories (such as patient identification, quality control, and communication of critical test results) and process interfaces with clinical staff.

II. DISCUSSION

Conducting a Mock Tracer in a Hospital based Clinical Laboratory:

Choosing a starting point -The end product of a clinical laboratory workflow is the printed and finalized report.

The laboratory's past testing activity could be taken as a starting point, particularly if a pattern of near-miss reports or quality control problems with a particular test have been observed or a medical record of a patient who received multiple laboratory tests, which will allow a look at multiple processes within the laboratory at one time. The assessor could choose a patient who has had to deal with various departments in the hospital for example, a patient who has been admitted in the ICU or is a walk in patient in the casualty department.

Instead of one person conducting the tracer, a group of individuals walking through the process has been more fruitful. Having an informal group discussion, while verbally tracing" through a closed medical record can help laboratory staff to better understand tracers. This is also a good opportunity to discuss possible "workarounds" or other potential problems that could result in a negative outcome. The beginning and end of a process, should be considered, not just the outcome, that is while tracking a specimen, ensure that the work done by staff to both collect and then test that specimen is followed.

Other things that can be considered as starting points are areas that have been identified as problem areas by the staff themselves or through customer complaints; for example, complaints about delayed turnaround times or delayed report dispatch, or an increase in incidents of delayed or failed critical value notifications. Focusing on a particular area of interest would increase the efficacy of the tracer used.

Other points of interest could be tests with low volume, tests performed by manual or semi automatic methods, newer tests or analyzers in use.

Scenario: A 40 year old male patient was brought to the casualty department with complaints of chest pain and was advised a complete blood count, D-Dimer and cardiac marker panel (which included CPK, CK-MB, LDH, and SGOT). The samples were sent to the lab for urgent processing. The patient was then transferred to the ICU. He was stabilized and his treating physician recommended a 2D echo test, 2 hours later, for which the patient was transported to the Radiology department and then brought back to the ICU.

In choosing this particular patient's medical records as a tracer, the surveyor could start with the process of patient identification and sample collection in the casualty department. He could ask the doctors and the nurses who attended the patient, about their protocol for patient identification in case a patient is unresponsive or unattended, as well as their protocols for blood collection, precautions taken, awareness of biomedical waste disposal post collection activities, as well as determine how the sample was transported from the casualty department to the laboratory, on a different floor. In absence of a vacuum transport system, what are the protocols for urgent sample transport, and have provisions in terms of personnel or responsibility allocated for a person to deliver the sample personally to the laboratory, to prevent delays. The surveyor could also determine if the samples were transported in the transport containers, and whether the Test Requisition forms were filled completely and accurately. This questioning may lead to determination in communication gaps between the casualty department and the laboratory, as an area to be focused on.

In following the patients sample to the laboratory, the surveyor can now determine how the sample has been received in the laboratory accession centre. Leading with the sample acceptance and rejection criteria, the surveyor can also determine if the personnel assigned to accept samples is aware of the protocols and is following the protocols correctly. During the course of discussion, the surveyor could ask what the protocol would be if the samples had been wrongly labeled, if there were mistakes in the test requisition form and if the sample had been inadequate for testing. This could gauge the staff awareness and compliance to set processes.

Analytical processes can be evaluated by checking whether internal quality controls were run that day, previous quality control records could be checked, as well as external quality control programs or peer reviews done. Proficiency training records could also be checked at this stage. Annual and preventive maintenance records, detailed equipment cards, machine breakdown protocols, machine downtime records and analysis, as well as validation and verification records can also be checked.

Discussion with the laboratory technician who ran the samples could lead to checking the staff's credentials, vaccination records, training, orientation or induction records and performance evaluations. The staff's awareness about the biomedical waste disposal protocols to be followed, during sample handling and processing can also be determined at this time.

Further discussion could lead the surveyor to determine adherence to post analytical processes. The tests requested for this particular patient were urgent and life saving. Hence, the surveyor could ask, if there is a set protocol for notification of urgent or critical values and subsequent documentation for the same, as well as whether a read back policy was used at the time. Documentation either electronic or manual in a department register can be checked for documentation of the communication.

The final printed report as well the authorised electronic report can also be checked for the overall turnaround time , authorised signatories , with names and designations, normal ranges . Following the printed final report to the patient's location in the ICU, the surveyor could ask the ICU staff when they received the final report , and whether there was documentation for receipt of the same,. Further discussion could determine the frequency of the physical report dispatch and whether delays are common. While in the ICU, the surveyor could ask about this particular patient's critical values, whether the ICU staff received a call from the laboratory regarding the values, whether the value has been documented in the patient's file along with the name and the employee code of the laboratory staff as well as the time at which the value was informed. Was the name of the staff that received the value also documented and was a read back policy used while taking down the values?

Since the patient was then transported to the Radiology department for a 2D echo test, the surveyor could ask whether the staff in radiology was aware of the patient's status, and whether his lab reports were communicated to them before testing. Any documentation regarding this communication could also be determined, from the patient's files.

Through this patient tracer, the surveyor can determine the actual processes followed, as well the awareness and compliance of the various levels of hospital staff to the set protocols. Lacunae or gaps in communication that could lead to potential errors can be identified and root cause identified, with the implementation of corrective and preventive actions. This leads to refinements and honing of the processes to provide better patient care. Even though the focus during this tracer method was the interaction of the laboratory with different departments in a hospital set up, during the course of the survey and the discussions that occur, a surveyor is able to observe firsthand the actual practical aspects of the protocols determined as well their efficacy in a clinical setting. Observations can also include, when in the casualty, ICU or radiology departments, awareness of the hospital staff to International Patient Safety goals, like: Correct Patient Identification, effective communication with the patient, hand hygiene precautions to prevent spread of infections, as well as measures for fall prevention.

III. CONCLUSION

The tracer method has shown itself to be a successful tool, both for mock audits, as well as for accreditation from external agencies. As an organizational tool it helps to highlight gaps or potential missteps in processes. It is more beneficial to conduct the survey in groups with people from varied departments, so that healthy discussion can be encouraged. This is also a good opportunity to discuss possible "workarounds" or other potential problems that could result in a negative outcome.

While using the tracer method in the laboratory, specific issues that are of concern to the laboratory (eg: patient identification, turnaround time or critical value notification), as well as the laboratory's previous testing history should be considered when choosing a starting point. In choosing a patient with a long hospital stay, and has had interactions with several departments in the hospital, can also highlight lapses in intradepartmental communication and processes.

ACKNOWLEDGMENTS

The authors did not receive funding for the cost of publishing in open access.

Conflict of Interest:

The authors declare no conflict of interest.

REFERENCES

[1] The Joint Commission: The Source, Joint Commission on Accreditation of Health Care Organizations; September 2010, Volume 8, Issue 9

[2] Understand the Tracer Methodology, HIM-HIPPA Insider; January 2006.