AN OVERVIEW NURSES AND CLINICAL LABORATORY FOLLOWING UP THE CRITICAL RESULT

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Abstract:
When it comes to providing quality patient care, the reporting and management of key laboratory values are absolutely necessary. In the context of a small community hospital, the objective of this study was to determine the percentage of essential laboratory values that were not reported by the nurse to the physician or that were not correctly documented. In the case of patients who had crucial laboratory findings, the amount of time that passed before a suitable therapy was prescribed was cut down by an automated alerting system. There is a possibility that the quality of treatment might be improved by information technologies that make it easier to transmit vital patient data.

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Introduction:

As a result of the publishing of a study by George Lundberg in the 1970s titled "When to worry over abnormal results," there has been a growing concern regarding the problems that are associated with improving the efficiency of clinical laboratory critical values notification. Laboratory critical values are characterized by a pathophysiological condition that is so vastly different from the usual state that it poses a significant risk to the individual's life if prompt action is not taken, and for which it is possible to take an effective measure [2]. According to the test findings, it is necessary to proactively identify critical values and communicate them in a timely manner while maintaining accuracy. This is necessary in order to facilitate efficient clinical decision-making. There will be a clear correlation between the efficiency of clinical laboratory critical values notification and the safety of patients, as well as an impact on the level of happiness that customers have with laboratory services. Meanwhile, accreditation institutions, such as ISO 15189, College of American Pathologists (CAP), and Joint Commission International (JCI), established the mandatory requirement for laboratory critical values management, including the identification, notification, handling, documentation, auditing, and quality indicators monitoring of laboratory critical values [3].

The reporting of crucial values has been the subject of consideration in an increasing number of publications. After the completion of testing, a research that was funded by the Center for Advanced Practice (CAP) and included 121 institutions found that it took a total of seven minutes for a technician to tell doctors about a key result. The annual reporting of thousands of key values by laboratories required a significant amount of time in order to complete. On the other side, a research conducted by CAP Q-Probes at 623 institutions revealed that around 5% of critical value telephone calls were abandoned, with the highest percentage of abandoned calls being for outpatients. It was found that there were certain issues with the efficiency of the notifications about critical value [4,5].

Reviw:

In the past, the notification of laboratory critical values was frequently carried out through the use of telephone and read-back. In addition to being more time-consuming, it was also simple to have reports that were either missing or even incorrect. When it comes to crucial numbers, the percentage of mistakes that were made via telephone calls was reported to be 3.5% by one research and 5.0% by another. Another study had clearly proven that the implementation of a closed-loop electronic laboratory critical value notification system, which combined with human information systems (HIS), mobile phone short messages, and phone calls, was an effective intervention to enhance the critical values initiative notification. It is imperative that hospitals build a comprehensive critical value notification and response strategy in order to guarantee the delivery of medical services that are both safe and of high quality. This particular study, which is being presented here, was a retrospective observational report on laboratory critical values notice that was conducted five years following the implementation of the electronic closed-loop notification system [6].

The failure to provide notification may result in a delay or absence of diagnosis or treatment, which can have a detrimental effect on the health of the patient. Additionally, the healthcare system and the professionals involved may face potential legal concerns as a result of this failure [7]. Our clinical laboratory has revealed that the incidence of failure notifications is within the acceptable range that has been stated previously (0.1-10%) [7]. Despite the fact that electronic flags were used for the evaluation, there is a significant number of crucial outcomes that were not alerted anywhere in the literature. It is predicted that this percentage might reach up to 10.2%. In order to achieve the goal of having zero failures, it is necessary to establish a number of attempts and a period of time. This is done so that the laboratory's routine functioning is not disrupted. However, it has been reported in the past that the average time it takes for communication efforts to be abandoned is 20.2 minutes for inpatients and 46.3 minutes for outpatients. Although there is a lack of information surrounding this topic, it has been widely reported among laboratories in the United States. [7].

When it came to the use of indicators in our research, it was absolutely impossible to put into practice a few of the ones that were suggested by the IFCC LEPS. In our protocol, there is no specification on turnaround time, and results are validated after notifying them (rather than in advance, as suggested by the indicator). For example, the percentage: number of notifications in the established turnaround time (time from result validation until notification)/total number of notifications. This is because our protocol does not specify turnaround time. On the other hand, according to the CLSI GP47 guideline, the time-to-action (TAT) for routine testing is considered to be "acceptable," while notifications from the

statistical laboratory are regarded as "timely." However, other sources have established that the acceptable time between the detection of the critical risk result and its notification is between 15 and 45 minutes [8]. Through this observation, the many notification channels that are currently in existence are brought to light. A greater harmonization is still required, and some corrective actions should be established, such as timeframes for notification or avoiding the repetition of critical risk results before reporting them, as it has been reported that repetition of assays does not contribute to patient safety [9]. Despite the fact that communication is adequate in all of them and in accordance with the literature, there is still a need for a greater harmonization.

A critical patient safety issue has been highlighted as inadequate handling of test results, according to the World Health Organization and the World Alliance for Patient Safety together. Inadequate follow-up of test results can have significant repercussions for the quality of treatment provided, including the failure to identify patients and result in less-than-ideal outcomes for patients. The results of a root cause analysis conducted on the compiled data from a national incident management information system in Australia revealed that problems with test follow-up were the cause of 11% (3/27) of clinical incidents that resulted in a serious outcome (such as the death of a patient) and 32% (24/75) of clinical incidents that had major consequences related to patients. It is acknowledged by clinicians themselves that the strategies they use for test management are ineffective [10].

The provision of pathology and medical imaging services plays a significant part in the delivery of patient care. These services ensure that findings that are trustworthy and accurate are supplied in a timely manner in order to provide clinical management with appropriate information [11]. The post-analytic phase of the testing process, which occurs after a report or test result has been delivered to the doctor who requested it, is the source of one of the most common mistakes that are connected with delayed follow-up of pathology and medical imaging results. Failures in this phase are connected to a lack of clarity regarding where and with whom responsibility for test result follow-up should sit, as well as clear definitions of what constitutes crucial, unexpected, or considerably abnormal results. There is also a lack of agreement across laboratories, medical imaging departments, hospitals, and other health care settings about the timeframe within which these anomalous results should be reported [12]. The findings of a survey conducted in 2012 on the management of test results in labs located throughout Australasia found significant disparities in the manner in which crucial results are managed, as well as the inability of laboratories to consistently adhere to globally recognized criteria. Ninety-seven percent of the 58 participating laboratories in Hong Kong, New Zealand, and Australia included critical findings in their critical limit list, and eighty-one percent included very abnormal results in their critical limit list. In spite of the fact that this is a prerequisite for certification that is defined by the ISO 15189 quality management system standard for medical labs, only 41% of laboratories claimed that they prepared their list in conjunction with doctors. In this particular piece of writing, the authors also mentioned that the generation of critical limit lists had a subjective component, and that this was one of the factors that contributed to the significant disparity in the range of values that existed between different institutions [13]. There were also inconsistencies in the policies that were in place between laboratories with regard to the procedures for notifying critical results. These procedures included the identification of critical results, the timeliness of reporting critical results, the manner in which critical results are notified, the individuals to whom the result is notified, and the acknowledgment of the receipt of the results [13].

The recommendations that are based on evidence in this area emphasize the significance of having clear definitions of essential terminology, as well as the requirement for agreed-upon warning levels and timelines, as well as specific protocols for fail-safe transmission of test findings that represent a critical or major danger to the safety of patients. There are a lot of doctors who think that the current mechanisms for managing test results are wasteful and disorganized. It is a significant problem that is encountered by medical imaging and pathology departments all over the world, and it necessitates the adoption of standardized pathology information structures and terminologies in order to enhance the recording, decision support, and transmission of laboratory information.

The participation of patients in their own medical treatment is a topic that is receiving significant attention in Australia and across the world. An growing number of people are coming to the realization that the advantages of enhanced consumer participation include improved health care practices that are safer and of higher quality. Due to the fact that failing to inform patients of test findings has been defined as legally indefensible in malpractice claims, consumer engagement is

particularly crucial when it comes to the management of test results. It is possible to employ electronic medical records (EMRs) at hospitals to offer patients with online access to information through the use of a protected electronic patient portal. This portal not only enables patients to access their own clinical information and appointment details, including test results, but it also makes it easier for patients to communicate with medical professionals [14].

Patients have frequently communicated their desire to be informed of their test findings, regardless of whether they are abnormal or normal, and to participate in the process of making decisions regarding their medical care. It has also been proposed that the process of laboratory testing may be made more efficient and successful by encouraging patients to take responsibility for their own follow-up and by encouraging patients to share information with one another. However, there are significant barriers that prevent consumers from actively participating in test follow-up. These barriers include a lack of access to clinical information as well as tools and checklists that assist consumers in comprehending and participating in their own treatment. Clinical uneasiness may also be connected to the influence that direct patient access to test findings has on the conventional physician function and authority as the information gatekeeper [15]. Clinicians may not agree on the degree of access that consumers should have to their test results and the timing at which they should have access to those results. The opinions of physicians concerning the practice of directly notifying patients of their test results have been mixed due to concerns over the fear and perplexity of patients, as well as a lack of knowledge in accurately interpreting the findings of their tests. This stands in contrast to the findings of a quasi-experimental pilot of a patient portal in primary care practices across three regions in the United States. The pilot study discovered that only a very small proportion of patients (ranging from 1% to 8%) experienced confusion or worry when directly accessing their electronic notes. Furthermore, 77% to 87% of patients across all three sites reported that Open Notes assisted them in feeling more in control of their care. Moreover, every single physician who took part in the study said that they would be ready to continue using the portal. However, the generalizability of the study was restricted due to the presence of sample bias. This was due to the fact that all of the participants were volunteers who, before to the study, provided favorable responses on their views and expectations regarding the patient portal [16].

Due to the fact that patient portals are a relatively new technology and the health care community has only recently began to comprehend how they might interact with this innovation to enhance care delivery, outcomes, and patient engagement, the evidence of patient portal use and impact has been, in general, sparse and inconclusive. Despite the fact that patient outcomes and satisfaction appeared to be positive when portals were integrated within a larger case management program, a recent systematic review that examined the effect of patient portals on clinical care came to the conclusion that there was insufficient evidence to determine whether patient portals had a positive, negative, or neutral impact. In addition to highlighting significant gaps in the existing body of research, the study advocated further studies that investigate the aspects of context and implementation. The usage of a portal may be affected by factors such as the patient's race and ethnicity, level of education or literacy, and the severity of concomitant diseases. During the course of the review, inequalities were found between patients who use portals and those who do not, and examples of inadequate patient perceptions toward their own value were highlighted. It is suggested that in order to achieve a higher level of adoption, it will be necessary to focus on overcoming these differences and addressing usability and patient-perceived value in order to engage particular demographics that are not readily adopting personal health record systems [17].

Conclsuion:

The failure to follow up on the findings of laboratory tests is a major cause for concern and requires immediate attention as a patient safety risk. There are several dimensions to the problem of missing test results, and it involves a variety of linked problems that span both the practices of test result management and the systems that are engaged in the process. In the post-analytic laboratory testing phase, there is a lack of consistency in the management of test results, as revealed by an examination of the existing research. This lack of consistency includes variations and ambiguity in policies regarding result notification procedures, identification of critical results, timeliness of results reporting, and acknowledgement of result receipt. The evidence that information technology has had an influence on enhancing the safety of the process of managing test results has also been uneven, with just a few reviews having been published to this point. There are still problems with integration and information silos in hospitals that have not been resolved by electronic systems. On the other hand, incomplete

adoption of electronic medical records has led to hybrid paper and electronic systems, which may increase the likelihood of missing test findings.

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