

Critical Values Reporting: Practice Guidelines and Recommendations.

Dr. Samia Sobki, Consultant Chemical Pathologist, In-Charge Pathology TQM*
Mr. Shoukat Khan, Quality Improvement Specialist,
Department of Pathology, Riyadh Military Hospital, P.O. Box 7897, Riyadh 11159, Saudi Arabia.

Abstract:

Critical pathology laboratory tests results are any values/interpretations where delays in reporting will impact in serious adverse outcomes for patients. Reporting of laboratory critical values has become a recognized world-wide laboratory quality and patient safety goal. In fact, all accreditation standards i.e. CAP (College of American Pathologists), CPA UK (Clinical Pathology Accreditation), JCIA (Joint Commission International Accreditation) etc. all have made critical value reporting part of the accreditation requirements.

Originally defined by G.D. Lundberg in 1972, a critical value represents a pathophysiologic state at such variance with normal as to be life-threatening unless it is addressed promptly and for which corrective intervention action can be taken. Lundberg identified and coined the term “critical” (panic) values for remarkable results with life threatening abnormalities.

Critical values quality performance indicator monitoring format is: the percentage of critical values with documentation of successful clinician notification and is calculated as:

$$\frac{\text{Number of documented critical value notifications}}{\text{Total number of reportable critical values results}} \times 100$$

The Massachusetts Coalition for prevention of Medical Errors, a world-wide pioneer has fundamental recommendations on laboratory practice towards performance of critical pathology laboratory tests reporting, and they propose:

1. Identify **who** the results should go to
2. Identify **who** the results should go to when the ordering physician is not available
3. Define **what** test results require timely and reliable communication
4. Identify **when** test results should be actively reported to the ordering physician and establish explicit time frames for this process.
5. Identify **how** to notify the responsible physician(s) (what communication system works best)
6. Establish a shared policy for uniform communication of all types of tests results (laboratory, radiology, cardiology, pathology, etc.) to all recipients
7. Design reliability into the system
8. Support and maintain systems
9. Support infrastructure development

A recently described summation of the CAP Q-probes data (2006) from 623 institutions indicates that critical value lists vary widely for Hematology and Clinical Chemistry, nevertheless, a change in therapy resulted from 65% of reported critical values with 94.9% of physicians indicating that critical results are valuable for patient care in clinical practice.

*Presenting Author