



### E21 Accreditation vs. Total Quality Management: Do We Need Either? Do We Need Both?

John R. Nixon, BEng, MBA\*, Athena Research & Consulting, PO Box 66, Bippus, IN 46713

After attending this presentation, attendees will learn what accreditation and Total Quality Management (TQM) are, and how they may be implemented in laboratory environments. Additionally, attendees will be presented with an overview of the pros and cons of using each system in a laboratory / legal environment, and the possible benefits and pitfalls of implementing an organizational strategy that combines both techniques.

This presentation will impact the forensic community and/or humanity by demonstrating how there is increasing concern among criminal justice professionals, and society at large, that laboratory accreditation leaves much to be desired. This paper reviews the pros and cons of accreditation, and presents alternative solutions.

**Hypothesis & Proposition:** Is it true that accreditation improves the quality and reliability of the laboratory end product? Would a total quality management approach be an improvement over accreditation or, in an ideal world, should the two be combined?

**Synopsis:** In their quest to improve customer service, and the scientific product, some laboratories have embraced ISO 9000 accreditation and many crime laboratories have opted for the American Society of Crime Laboratory Directors (ASCLD) accreditation scheme. However, the majority of successful organizations in the general business world operate a total quality management (TQM) strategy. Should TQM be applied to the laboratory, or should a hybrid approach be used?

This paper identifies the key attributes of each approach, and explores how the formulation and implementation of such managerial initiatives can influence the degree of success achieved. The study poses key questions such as: are these two systems mutually exclusive, or could they be combined? Finally, the possible benefits and pitfalls of combining the two approaches are discussed, and human and financial issues are considered.

It has been difficult to overlook the significant media coverage regarding crime laboratory scientific output, staff competence, staff integrity, and wrongful convictions. The Fort Worth Laboratory scandal is fresh in many minds, as is the multi-day crime laboratory deficiency expose' published by the Chicago Tribune in October 2004. Even the once untouchable FBI Laboratory HQ in Quantico, VA has not escaped scandal and criticism in recent years. When Illinois Governor George Ryan commuted the sentences of numerous prisoners from death to life, one of the concerns he cited was his lack of confidence in crime laboratory work.

The true victims of these deficiencies are the US justice system - the backbone of a civilized society - and those individuals who have lost their life and/or liberty due to scientific and/or managerial deficiencies.

Many in the legal profession, and elsewhere, have been appalled by the media revelations. Society is now asking if the number of wrongful convictions can be reduced by improving the accuracy and reliability of crime laboratory output, and if so, how are these improvements achieved?

The laboratories themselves have not ignored these issues, and have made efforts to improve the situation. These efforts have primarily consisted of accreditation schemes such as ISO 9000, or that run by the American Society of Crime Laboratory Directors (ASCLD). However, whilst these initiatives may well have improved laboratory standards to some extent, they do have their shortcomings and their detractors. The continuing adverse media coverage is indicative that yet more needs to be done. Many people have criticized accreditation as an exercise in credibility, rather than quality.

This paper explores the fundamental principals behind accreditation, and highlights its potential benefits and pitfalls, particularly in the context of its application in an environment populated by highly qualified scientists. Accreditation is considered in terms of system design, planning, implementation and, most importantly, its 'fit' to the crime laboratory working environment and the scientists employed therein.

The concept of accreditation is compared to the widely used, and highly successful, organizational strategy of Total Quality Management (TQM). The core concepts behind TQM, its organizational and industry 'fit', and its successful implementation are discussed. The potential benefits and pitfalls of adopting TQM in a laboratory setting are considered, with particular emphasis on the human factor.

The concept of a hybrid strategy for the science laboratory is considered in an effort to combine the strengths of each approach, whilst minimizing the drawbacks.

In addition to the potential benefits and drawbacks to the scientific bottom line, the impact of these



## Jurisprudence Section – 2007

---

systems and strategies on organizational culture, staff morale, plus recruitment and retention are discussed. Given that the majority of crime laboratories are publicly funded, financial issues are also considered.

In the final analysis, it is evident that the current system of laboratory accreditation has not secured the trust of society at large, and in particular, not the trust of those professionals who work within the criminal justice system on a daily basis. There is no easy fix, and improvement is going to require time, effort, funding, and most of all, motivation from key stakeholders within the criminal justice system.

### **Laboratory, Accreditation, Management**