

Message

From: Tony Nugent [/O=THERANOS ORGANIZATION/OU=FIRST ADMINISTRATIVE GROUP/CN=RECIPIENTS/CN=TNUGENT]
Sent: 3/11/2011 5:07:39 PM
To: Elizabeth Holmes [/O=THERANOS ORGANIZATION/OU=First Administrative Group/cn=Recipients/cn=eholmes]
Subject: heres the actual abstract and citation so you dont have to dig around, I highlighted the statement in yellow. its from 2006 so its not that old

[Clin Chem Lab Med.](#) 2006;44(4):358-65.

Preanalytical variability: the dark side of the moon in laboratory testing.

[Lippi G](#), [Guidi GC](#), [Mattiuzzi C](#), [Plebani M](#).

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Abstract

Remarkable advances in instrument technology, automation and computer science have greatly simplified many aspects of previously tedious tasks in laboratory diagnostics, creating a greater volume of routine work, and significantly improving the quality of results of laboratory testing. Following the development and successful implementation of high-quality analytical standards, analytical errors are no longer the main factor influencing the reliability and clinical utilization of laboratory diagnostics. Therefore, additional sources of variation in the entire laboratory testing process should become the focus for further and necessary quality improvements. Errors occurring within the extra-analytical phases are still the prevailing source of concern. **Accordingly, lack of standardized procedures for sample collection, including patient preparation, specimen acquisition, handling and storage, account for up to 93% of the errors currently encountered within the entire diagnostic process.** The profound awareness that complete elimination of laboratory testing errors is unrealistic, especially those relating to extra-analytical phases that are harder to control, highlights the importance of good laboratory practice and compliance with the new accreditation standards, which encompass the adoption of suitable strategies for error prevention, tracking and reduction, including process redesign, the use of extra-analytical specifications and improved communication among caregivers.

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