Potential Errors in POCT

- Scope and diversity of testing sites makes the potential for error in POCT high.
- Errors in laboratory testing usually classified into the following:
  - Pre-analytic
  - Analytic
  - Post-analytic
Medical/Laboratory Errors

Attributed to:
- Pre-Post-analytic errors
- Action taken by others
- Poorly designed processes outside of laboratory
- Misidentification of patients
- Mistakes in written and oral communication
- Disjointed policies and procedures
- Insufficient knowledge of testing process
- Limited testing oversight
- Lack of metrics and analysis to identify problems and make improvements

Ehrmeyer S, Hausman P, Lebo R, Point of Care, vol 4, 2005; Nichols Jr, Point of Care, vol 4, 2005
How to Prevent Errors

Difficult – POCT performed at dozens of sites, hundreds of devices, thousands of operators

Need to engineer systems that prevent errors and tolerate errors when occur that limit effects

Manufacturers – Must perform hazard analysis and risk mitigation studies to determine human factors that affect operation

Nichols J; Point of Care, vol 4, 2005
Clinical Practice Guidelines for POCT

Institute of Medicine (IOM) defines clinical practice guidelines as:

“systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances”