

Table 1. Summary of sources of variation and quality indicators by pre-analytical phase.

	Source of Variation	Quality Indicators (QIs)
Test Ordering	<ul style="list-style-type: none"> • Similar test name • Duplicate orders • Transcription entry errors • Verbal orders misinterpreted 	<ul style="list-style-type: none"> • Requests without clinical question • Inappropriate requests with respect to clinical question • Duplicate orders • Requests with errors concerning test input orders
Patient Preparation	<ul style="list-style-type: none"> • Diet • Posture • Exercise • Timing of sampling 	<ul style="list-style-type: none"> • Samples collected at inappropriate time
Sample Collection	<ul style="list-style-type: none"> • Patient Identification • Sample labeling • Needle size • Sample volume • Sample collection tube • Inadequate tube filling • IV Contamination • Order of specimen draw • Specimen clotting • Fist clenching during phlebotomy 	<ul style="list-style-type: none"> • Requests with errors in patient ID • Samples collected with inappropriate sample type • Samples collected in inappropriate containers • Samples with insufficient sample volume • Samples with inappropriate volume to coagulant ratio • Clotted samples • Hemolyzed samples • Lipemic samples • Contaminated samples
Sample Processing, Transportation, and storage	<ul style="list-style-type: none"> • Agitation • Delayed processing of outpatient clinic • Re-centrifugation • Exposure of samples to environment • Add-on testing 	<ul style="list-style-type: none"> • Damaged samples • Samples transported at inappropriate time • Samples transported under inappropriate temperature conditions • Improperly stored samples • Samples lost or not received