To:Elizabeth Holmes[eholmes@theranos.com]From:Kingshuk Das[/0=THERANOS ORGANIZATION/OU=EXCHANGE ADMINISTRATIVE GROUP(FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=KINGSHUK DASE2B]Sent:Mon 5/16/2016 7:40:02 PM (UTC)Subject:R+D call earlier

I couldn't make out who asked, but someone did, re: allowable bias or total allowable error for potassium.

The CLIA acceptable limits are +/- 0.5 mmol/L, which translates to 10-14% across a reference interval of 3.5-5 mmol/L. FYI, I use CLIA only as a last resort, since it's akin to hitting the broad side of a barn.

I prefer #s based on biological variation (based on Callum Fraser's work, referenced by Ricos et al, Scand J Clin Lab Invest 1999, updated 2014), when possible, and here are those (p<0.05):

total allowable error = 5.6%, calculated from bias = 1.8% and CV = 2.3%

Hope this helps,

k