**Overview: Science, Politics and Non-Inferiority Designs**

**Alan Hopkins, Theravance, Inc.**

ABSTRACT

Over the last decade, the use of non-inferiority designs has been questioned. Sparked by the very controversial Ketek approval process (2000-2004) and subsequent Congressional hearings, the General Accountability Office (GAO) was asked to review FDA approvals using these designs. We review the subsequent GAO report (July 2010) on the use of non-inferiority designs in FDA new drug approvals. Evidence from non-inferiority trials was included in about one-quarter, or 43, of the 175 NDAs for new molecular entities that were submitted to FDA for review from fiscal years 2002 through 2009. Many of these applications were for antimicrobial drugs. FDA approved 18 of the 43 NDAs on the basis of evidence from non-inferiority trials. Of the remaining 25 NDAs, FDA approved 11 based on other evidence and decided not to approve 14. The FDA Critical Path Initiative called for a Guidance for non-inferiority studies that is the topic of the session today.