

4th International Conference and Exhibition on **Biometrics & Biostatistics**

November 16-18, 2015 San Antonio, USA



Ken Williams

KenAnCo Biostatistics; University of Texas Health Science Center at San Antonio, USA

A workshop on how to do meta-analysis right

This workshop will provide a brief overview of important features of meta-analysis. Topics will include: choosing between a fixed effect and a random effects model; accounting for correlations between statistics being compared; assessing the potential for bias; conducting subgroup analyses; doing meta-regression analysis; comparing the advantages and disadvantages of using published statistics versus individual-level data; doing Bayesian meta-analysis; choosing among available meta-analysis software; and applying parameters estimated by meta-analysis to support public health policy decisions. Examples will be provided from three published meta-analyses. One included all the 12 published reports from epidemiological studies that contained estimates of the relative risks of LDL-C, non-HDL-C, and apoB predicting fatal or nonfatal ischemic cardiovascular events. Another meta-analysis included 7 placebo-controlled statin trials in which LDL-C, non-HDL-C, and apoB values were available. The workshop leader was the lead analyst for these first two sample meta-analyses. The third sample meta-analysis was conducted by the Emerging Risk Factors Collaboration using individual-level epidemiological data from 3 studies which had published the relevant statistics and 23 which had not. All these sample meta-analyses were published in various journals. The workshop will wrapped up with a discussion of how irreconcilable conclusions may be derived from different meta-analyses ostensibly pursuing the same objective.

Biography

Ken Williams received a BS in Applied Math from Georgia Tech in 1971 and an MS in Operations Research from the Air Force Institute of Technology in 1980. He served in the US Air Force for 22 years in Computer Systems and Scientific Analysis. He also served 10 years as a Biostatistician at the University of Texas Health Science Center at San Antonio where he remains an Adjunct Faculty Member. He has been a Freelance Biostatistician with KenAnCo Biostatistics since 2007. Designated as a Professional Statistician (PStat) in the inaugural 2011 litter, he has published more than 100 papers in peer-reviewed journals.

ken@kenanco.com

Notes: