Dichotomizing a Continuous Measure for Group Comparisons

Statistician’s Role in a Pharmaceutical Company

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(reception follows)
6011 Bren Hall
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(One) Statisticians generally appreciate through their education and training that dichotomizing a variable is not advisable because it causes a loss of information. Nevertheless, binary endpoints are often used in clinical trials after dichotomizing a continuous or multi-category measurement. A dichotomization process converts the research framework from comparing group means of the continuous measure to comparing group responder rates of a binary endpoint. We discuss three methods to dichotomize a continuous response measure for the purpose of detecting location shift between two groups, a test and a control. In general, as the conventional wisdom has suggested, a dichotomization process leads to information loss, which is typically illustrated as decrease in statistical power given fixed sample sizes. However, when underlined distributions of the continuous measure have different magnitude of variation between the two comparative groups, a properly chosen cut-point for dichotomization could benefit researchers with respect to statistical powers.

(II) A brief introduction to what a statistician does and what characterizes a successful statistician in a mid-size pharmaceutical company will be presented.

Biography:

Thomas Lin received his PhD in statistics from Iowa State University in 1987. For the past 25 years, he has been a practicing statistician in support of global drug development in various therapeutic areas. He is currently Vice President/head of the Biostatistics, Statistical Programming, and Medical Writing department at Allergan, Inc., a global specialty pharmaceutical company located in Irvine, CA.

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