BIOS 7659 Homework 1

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# Case Studies

Compare resources and cost, variability, confounding, etc.

## Case Study 3

The aim of case study 3 is to identify subgroups of patients using cluster analysis and then build a model to differentiate between the clusters. Samples are taken from 60 patients with B-cell lymphomas.

### Experimental Design 1

Half of the samples are labeled with Cy3 and the other half with Cy5. Then one Cy3-labeled sample and one Cy5-labeled sample are hybridized to 30 different two-color arrays.

### Experimental Design 2

Samples from each patient are labeled with Cy3 and hybridized to 60 two-color arrays. A universal reference sample labeled with Cy5 is also hybridized to each array.

Obviously more expensive.

### Experimental Design 3

Samples from each patient are hybridized to 60 different Affymetrix arrays.

# Sample Size Calculations