Stat 550: Screening for Sleep Apnea

Respiratory specialists collected data on a sample of 346 patients referred by community physicians for assessment to determine if they suffered from *obstructive sleep apnea* (OSA). At the time of the study, the "gold standard" for diagnosis of this condition was a costly overnight sleep study which was limited in availability. The primary aim of the investigators was to find simple rules which for assessing likelihood of OSA without the need for the overnight study.

The following variables were considered:

- actual diagnosis of sleep apnea (yes/no) after sleep study.

- age (in years)

- sex

- bmi - body mass index (a measure of obesity)

- neck - neck circumference (cm.)

Also considered were three items that were reported by their sleep partners. The possible answers in each case were *never*, *sometimes* and frequently.

- snorehx - does your sleep partner snore?

- stopbr - does your sleep partner stop breathing during sleep?

- partgasp - does your sleep partner sometimes gasp for breath during sleep?

The specialists wanted to develop a probability score, but also wanted to develop a simple categorical grading system with categories such as "Low probability","Moderate Probability" and "High Probablity".