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Senior Care Evaluation Progress Report

Project work to date.

From April to the end of July ACS worked to place the data set in the correct format for use by the HBCU Alliance. July to September 15, 2003 we worked with Office of Rural Health to explore issues related to dual eligibility. The information being prepared by the Office of Rural Health was not ready by the dead line so the first phone calls were made on September 26, 2003. To date 45 surveys have been completed. Four individuals as of October 23, 2003 have been trained to make calls and it is estimated that 250- 300 surveys will be completed by the end of November.

Analysis Plan.

Data collected from the survey can be used to test five hypotheses:

H1₀: Proportion of participants in Senior Care who have access to medication equals proportion of patients within the general population who have access to medication.

H1_A: Proportion of participants in Senior Care who have access to medication is greater than proportion of patients within the general population who have access to medication.

Proposed analysis: Bootstrapping of a proportion. This technique randomly samples, with replacement, the proportion from the observed dataset, and calculates the probability that this proportion of participants in Senior Care with access to medication equals that of the general population.

H2₀: The proportion of participants enrolled in Senior Care who are satisfied with the program equals the proportion of participants enrolled in Senior Care who are DISSATISFIED.

H2_A: The proportion of participants enrolled in Senior Care who are satisfied with the program is greater than the proportion of participants enrolled in Senior Care who are DISSATISFIED.

Proposed analysis: Bootstrapping of a proportion. This technique assumes the probability that a participant will say he is satisfied equals 0.5. By randomly selecting (with replacement) n responses ($\frac{1}{2}$ are “satisfied” and $\frac{1}{2}$ are “dissatisfied”), this technique

will test whether the proportion of participants in Senior Care who are satisfied equals the proportion of participants in Senior Care who are DISSATISFIED.

H3₀: The proportion of participants enrolled in Senior Care complying with prescribed medication regimens equals proportion of patients within the general population complying with prescribed medication regimens.

H3_A: The proportion of participants enrolled in Senior Care complying with prescribed medication regimens is greater than the proportion of patients within the general population complying with prescribed medication regimens.

Proposed analysis: Bootstrapping of a proportion. This technique randomly samples, with replacement, the proportion from the observed dataset, and calculates the probability that the proportion of participants in Senior Care complying with prescribed medication regimens equals that of the general population.

H4₀: The proportion of participants enrolled in Senior Care utilizing available health services equals proportion of patients within the general population utilizing available health services.

H4_A: The proportion of participants enrolled in Senior Care utilizing available health services is greater than proportion of patients within the general population utilizing available health services.

Proposed analysis: Bootstrapping of a proportion. This technique randomly samples, with replacement, the proportion from the observed dataset, and calculates the probability that the proportion of participants in Senior Care utilizing health services equals that of the general population.

H5₀: The proportion of participants enrolled in Senior Care who utilize available health services equals the proportion of participants enrolled in Senior Care who DO NOT utilize available health services.

H5_A: The proportion of participants enrolled in Senior Care who utilize available health services is greater than the proportion of participants enrolled in Senior Care who DO NOT utilize available health services.

Proposed analysis: Bootstrapping of a proportion. This technique assumes the probability that a participant will say he utilizes available health services equals 0.5. By randomly selecting (with replacement) n responses ($\frac{1}{2}$ are “satisfied” and $\frac{1}{2}$ are

“dissatisfied”), this technique will test whether the proportion of participants in Senior Care who utilize available health services equals the proportion of participants in Senior Care who DO NOT utilize available health services.

Bootstrapping, Efron (1982), expands an empirical dataset into a hypothetical population, and is based on the assumption that values within a dataset represent all data points within a population. Thus, taking repeated samples with replacement for a given size n from the empirical data generates a sampling distribution of a theoretical population. From this sampling distribution, one can estimate almost any kind of population parameter such as means, standard deviations, and confidence intervals. One can also estimate the probability of an event occurring, given only sampling variability.

REFERENCES

Efron, B. (1982). The Jackknife, the Bootstrap and Other Resampling Plans. Philadelphia: Society for Industrial and Applied Mathematics.

Shao, J., and Tu, D. (1995). The Jackknife and Bootstrap. New York: Springer-Verlag.