

STATISTICALLY VALID PATIENT SATISFACTION SURVEYS

Information Paper

The purpose of a patient satisfaction survey is to determine patient satisfaction with the care received within a department and from an individual provider. While surveying a subset of all patients who visit an emergency department (the population) can provide an estimate of that population's opinions, the sample must be large enough to draw reliable conclusions. In addition, several potential sources of bias in surveys can lead to discrepancies between survey results and the true opinions of the population.

Survey results estimate true opinions, but the estimate is never exact and should be accompanied by a 95% confidence interval. For example, if survey respondents, on average, report a satisfaction of 3 out of 5 (95% confidence interval 1-4), the true beliefs of 95% of the population may lie anywhere from 1 to 4. When comparing two physicians or two emergency departments, no meaningful difference exists when confidence intervals overlap (Figure 1, A1 vs B1 cannot differentiate between the groups). A physician with an average satisfaction of 3 (95% confidence interval 1-4), is not necessarily different from a physician with an average satisfaction of 4 (95% confidence interval 2-5) in these two distributions.

When the sample size is larger (Figure 1, A2 vs B2), power to detect a difference increases while error decreases, narrowing the interval and increasing confidence that there is a real difference between the average of group A versus group B. After approximately 300 people are surveyed, the sample size needed to accurately measure a large population starts to stabilize (Figure 2). An emergency department seeing over 20,000 patients per year similarly needs ~380 surveys per year to estimate satisfaction for the department. However, a provider seeing ~4,000 patients per year also needs 350 surveys per year, or approximately 30 surveys per month, for a reliable evaluation of their individual performance.

In addition to sample size, there are several other reasons that a survey result could inaccurately estimate the true beliefs of a population. Those who respond to a survey may hold stronger opinions, positive or negative, than those who choose not to respond. Longer delays between emergency visits and surveys may increase this response bias. To accurately represent the views of a population, a sample should include the same demographic makeup as the broader population. Language barriers may lead to underrepresentation of minority populations in the sample. The method by which a survey is distributed can also affect responses. Different sociodemographic groups have variable access to telephone land lines, traditional mail, internet, and email. Written surveys, as compared to those administered verbally by telephone or in person prior to discharge, may exclude patients with limited literacy, but verbal interviews can exacerbate social desirability bias (the respondent's desire to please others, eg, the interviewer). Many emergency department surveys also exclude patients who are admitted to the hospital, who instead receive a survey about their inpatient care. However, admitted patients may have a different, possibly more positive, experience of care. CMS has proposed a survey option that includes patients admitted from the ED, which may resolve this bias in the future.

The survey itself can also influence results. When certain questions are asked before others, they may trigger a different response than if the questions were asked in a different order, so randomized question order is recommended. Demographic questions should be asked last, instead of first, because they require minimal mental effort and are less susceptible to survey fatigue. Close-ended questions (eg, yes/no, multiple choice) may not capture the nuances of a patient's opinions, and the choices themselves can also influence responses. For scales from 1 to 5 or 1 to 10, responses usually do not distribute linearly, so the difference between a 3 and 4 or a 4 and 5 is not necessarily equivalent.

Finally, there can be a disconnect between patient satisfaction scores and objective measures of quality of care, with some evidence suggesting that more satisfied patients have higher healthcare costs and worse outcomes. Patient satisfaction has also been found to correlate more with environmental factors than with

physician factors, for example noise, light, privacy, room temperature, and number of beds per room. Faster care generally increases satisfaction, while long wait times and delays decrease satisfaction. ACEP recommends that any patient satisfaction survey result be considered in the context of the above limitations, particularly the limitation of survey volume per physician, prior to instituting a policy to affect physician reimbursement.

For more information from ACEP, please see:
Patient Experience of Care Surveys. Policy Statement, June 2016. <https://www.acep.org/Clinical---Practice-Management/Patient-Experience-of-Care-Surveys/>

Emergency Department Patient Satisfaction Surveys: An Information Paper. June 2011. <https://www.acep.org/patientsatisfaction/>

Figure 1

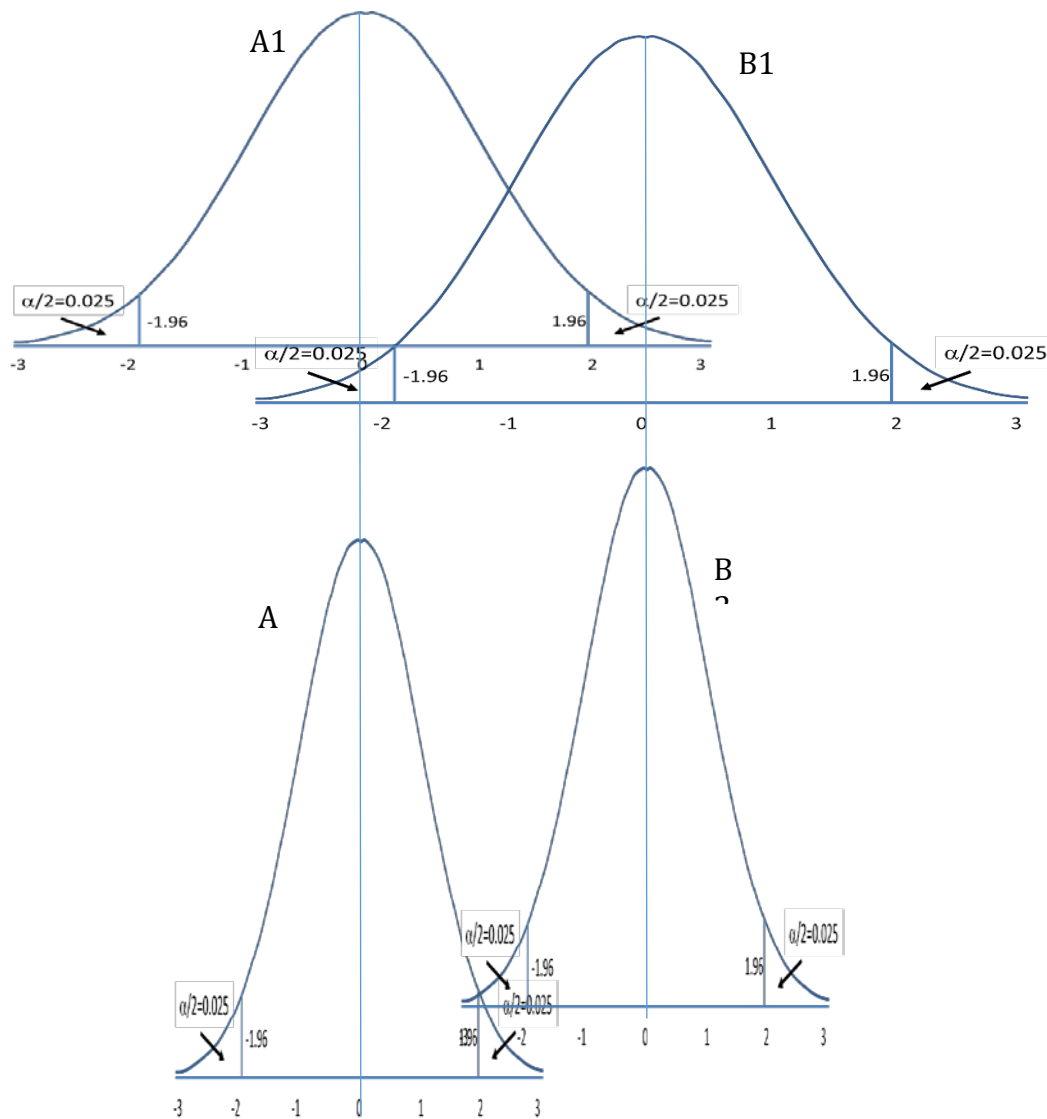
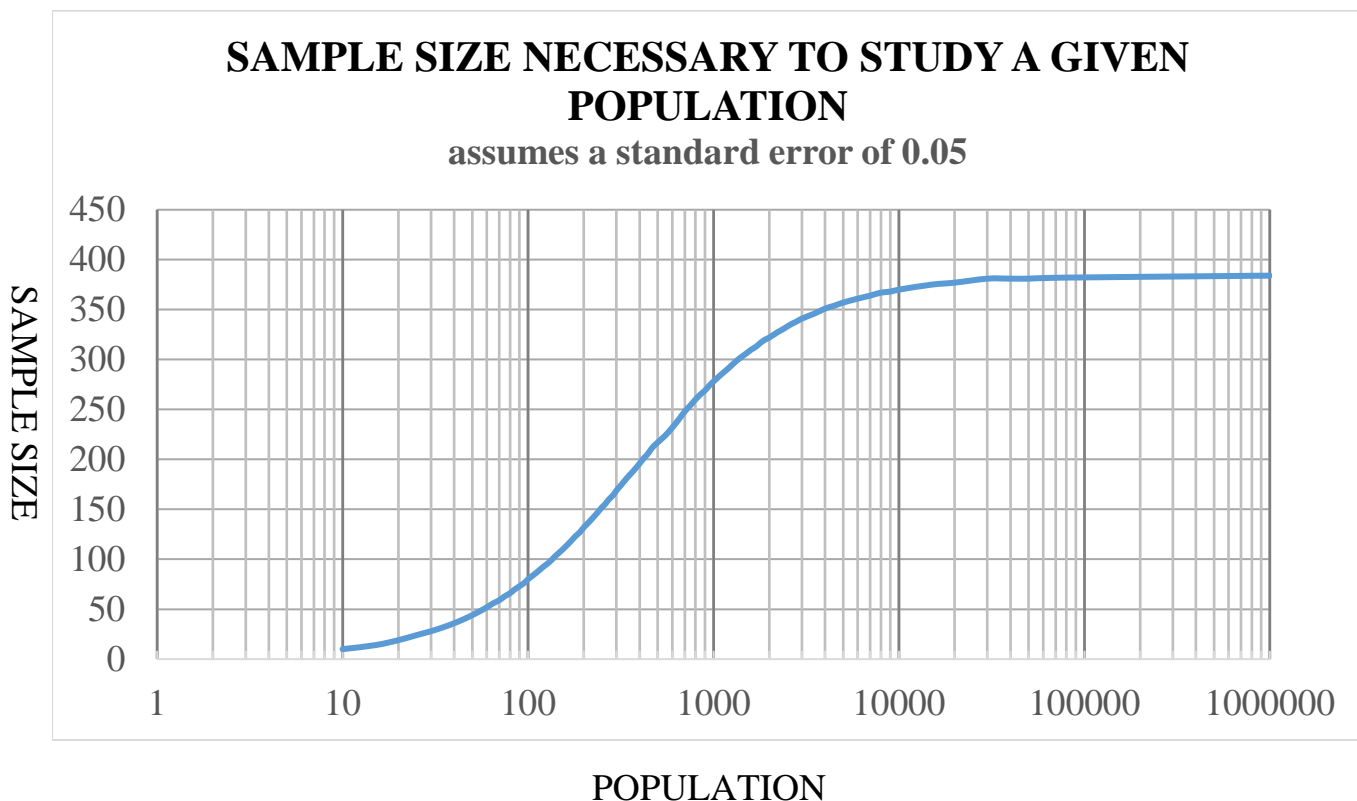


Figure 2



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