RAT-STATS v.2019
New Version, Same Magic
Agenda

Part I – Let’s Review

Part II – What’s New

Part III – The How To
Let’s Review: Sampling
Sampling is the process by which a subset (sample) of a population is obtained.
Common Terms

*Population* - The entire pool from which a statistical sample is drawn

*Sample* - A subset of the population

*Sample Frame* – Subset of the population defined as variables of interest from which the sample will be randomly selected and over which the sample will be extrapolated

*Sampling Unit* – What is measured in the audit

*Confidence Interval* – The probability that the value of a parameter falls within a specified range of values
Common Terms

*Precision Point* – A measure of the closeness of the sample estimate and the corresponding population value

*Simple random sampling* – The probability of being selected into the sample is known and equal for all members of the population.

*Stratification* – The process of dividing the population into different sub-groups or strata

*Stratified sampling* – separates the population into different subgroups and then samples all the subgroups
When Can It Be Used?

▪ **Probe Audit**
  - Monitoring tool to assess risk within your agency

▪ **Self Audit**
  - Following a probe audit or to investigate an allegation
  - According to OIG Self Disclosure Protocol:
    - (1) Review all the claims affected
    - OR (2) Review a statistically valid random sample of the claims
The Process

1 – Define the population
2 – Identify the sampling frame
3 – Select a sampling design or procedure
4 – Determine sample size
5 – Draw the sample
Trust the Process!

- If a particular probability sample design is properly executed, i.e., defining the universe, the frame, the sampling units, using proper randomization, accurately measuring the variables of interest, and using the correct formulas for estimation, then assertions that the sample and its resulting estimates are “not statistically valid” cannot legitimately be made. In other words, a probability sample and its results are always “valid.”

CMS Medicare guidelines
CMS Pub.100-08 Chapter 3 Section 10.2
What’s New: RAT-STATS
Out with the old, in with the new...sort of
Overview of Changes

▪ Capable of replicating same data as 2010 version

▪ Bug Fixes

▪ Modules Removed
  • Unused by OIG in past 5 years.

▪ New Features
  • Option to calculate a confidence interval using the empirical likelihood3 approach for unrestricted and stratified variable appraisals.
  • Option to generate custom confidence levels in the Unrestricted Attribute and Stratified Attribute Appraisal modules.
  • All content able to be displayed in text alternative file.
What Can It Do?

- Determines statistically valid sample size
- Generates replicable random number sets through seed numbers*
- Determines a range of financial impacts based on the sample reviewed

*Always document the seed number, so that your work can be replicated either by another person in your agency or an outside source
The Magic Illustrated

^Example of a Random Number Set

^Formula to determine Confidence
How To: Application
Takeaways

- RAT-STATS software used by both OIG and CMS
  - Also used by CBH to develop samples in both probe audits and targeted audits

- Strengthens agency’s ability to monitor for issues related to Fraud, Waste, and Abuse

- Can also be used for internal audits and sample creation for self audits

- Sampling with RAT-STATS is both efficient and accurate
References


Here to Help!

RAT-STATS Walkthrough Guide

https://cbhphilly.org/cbh-providers/oversight-and-monitoring/audit-tools/

Got questions? No problem, we are here to help!

cbh.compliancecontact@phila.gov
Thank you!