**EVALUATION GUIDANCE VISION**

**Proposed guidance will be provided for the following items in the training manual.**

* Overview of the permit requirements that the report template and evaluation guidance are intended to support. Reference attached flow chart for WWA permit requirements.
* How to use this manual.
* An overview of community based social marketing vs social marketing. Reference attached diagram for comparison of methods.
* Selecting sample size for the target audience.
* Guidance for identifying the priority audience
* Information about recruiting participants to be involved in studies and increasing participant response rates
* Guidance for selecting methods and instruments that can be used to measure change. Instruments may include:
	+ Surveys
	+ Interviews
	+ Focus groups
	+ Observational
	+ Photos
	+ Drawings
* Guidance for designing and validating instruments
* Overview of the types of data that maybe collected and methods for analyzing the data.
* Responses to:
	+ Multiple choice questions
	+ Yes/no/maybe questions
	+ Open ended questions
	+ Responses to questions that follow a Likert scale: strongly agree, agree, neutral, disagree, strongly disagree
* Guidance for selecting statistical analysis methods including hypothesis testing including a comparison of methods that outlines recommended applications and limitations
* Software options for data analysis (reference attached example table)
* Quantitative data analysis methods including converting multiple choice data into a Likert scale
* For qualitative data (i.e., open ended survey/interview questions): guidance for coding data into common themes and validating themes
* Provide level of expertise/time needed to follow through with the evaluation tools as well as confidence in the results or limits of the method. For example, data collected from self-reporting surveys has a lower confidence compared to observational data due to social desirability bias.
* References and weblinks to resources for items such as evaluation training

**Proposed format for guidance:**

* A check list will be included that outlines a step-by-step process for evaluating changes in understanding and adoptions of behavior change. The checklist will also reference the relevant training manual sections for additional guidance.
* Flow charts that provide overview of selection process followed by details about decisions for each step (reference attached flow chart for sample size selection example)
* Examples
* References and weblinks for locating additional information







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| **SUMMARY OF SOFTWARE OPTIONS** |
| **Software** | **Types of data analysis methods** | **Additional Description** | **Cost** | **Current version released** | **Manufactured/Developed By** | **Link to Website** | **Source** |
| **Excel** |  |  | Free version; $139.99 without Microsft Office 365 | Microsoft Excel 2019 | Microsoft |  | Personal Experience |
| **Minitab** | t tests; one and two proportions; normality test; chi-square; equivalence tests | Offers government pricing on implementation, training, & maintenance | Starts at ($1,400/user)/yr | 20.1.3(January 2021) | Minitab Inc. | [Data Analysis, Statistical & Process Improvement Tools | Minitab](https://www.minitab.com/en-us/) | [Ali & Bhaskar (2016)](../../../../../Ali%20%26%20Bhaskar%20%282016%29%20Basic%20statistical%20tools%20in%20research%20and%20data%20analysis.pdf) |
| **Statistical Package for the Social Sciences (SPSS)** | t-tests, ANOVA, z-tests, confidence intervals, proportions, non-parametric tests, etc. |  | Starts at ($99.00/user)/month | 27.0.1.0(November 2020) | IBM corporation | [SPSS Statistics - Overview | IBM](https://www.ibm.com/products/spss-statistics?p1=Search&p4=43700050436903288&p5=e&cm_mmc=Search_Bing-_-1S_1S-_-WW_NA-_-statistical%20analysis%20spss_e&cm_mmca7=71700000061022197&cm_mmca8=kwd-81089125487784:loc-71287&cm_mmca9=3b7f7ef5a22b1e299b561ed77215930e&cm_mmca10=81089043990884&cm_mmca11=e&gclid=3b7f7ef5a22b1e299b561ed77215930e&gclsrc=3p.ds&) | [Ali & Bhaskar (2016)](../../../../../Ali%20%26%20Bhaskar%20%282016%29%20Basic%20statistical%20tools%20in%20research%20and%20data%20analysis.pdf) |
| **Statistical Analysis System (SAS)** |  | Advertises to benefit a number of industries (public sector being one) | Must contact for pricing | 9.4M7(August 2020) | SAS Institute North Carolina, USA | [Data Management Software | SAS](https://www.sas.com/en_us/solutions/data-management.html) | [Ali & Bhaskar (2016)](../../../../../Ali%20%26%20Bhaskar%20%282016%29%20Basic%20statistical%20tools%20in%20research%20and%20data%20analysis.pdf) |
| **R** | ANOVA; t-tests; "linear and generalized linear models, nonlinear regression models, time series analysis, classical parametric and nonparametric tests, clustering and smoothing" | A programming language used for statistical computing and graphics (charts, graphs, etc.) Base for Rstudio software. | Free | 4.0.4(February 2021) | Ross Ihaka & Robert Gentleman from R core team | [R: The R Project for Statistical Computing (r-project.org)](https://www.r-project.org/) | [Ali & Bhaskar (2016)](../../../../../Ali%20%26%20Bhaskar%20%282016%29%20Basic%20statistical%20tools%20in%20research%20and%20data%20analysis.pdf) |
| **Rstudio** | vectors; lists; matricies; arrays; factors; data frames | Uses the R language to develop statistical programs. Provides further functionality for R. | Starts at $995/yr | Rstudio 1.4(January 2021) | Founded by J.J. Allaire | [RStudio | Open source & professional software for data science teams - RStudio](https://rstudio.com/) | [Personal Experience](../../../../../Ali%20%26%20Bhaskar%20%282016%29%20Basic%20statistical%20tools%20in%20research%20and%20data%20analysis.pdf) |
| **Stata** |  |  | Starts at ($765/user)/yr | Stata 16.1(February 2020) | StataCorp | [Stata: Software for Statistics and Data Science](https://www.stata.com/) | [Ali & Bhaskar (2016)](../../../../../Ali%20%26%20Bhaskar%20%282016%29%20Basic%20statistical%20tools%20in%20research%20and%20data%20analysis.pdf) |
| Web: **G-Power** | t tests; F tests; x2 tests, z tests, ANOVA (one-way & multi-way); chi-square tests; some exact tests | Compute data and graphics | Free | 3.1.9.7 for Windows (March 2020); 3.1.9.6 for Mac (February 2020) | Heinrich-Heine-Universität Dusseldorf (HHU) - German company | [Universität Düsseldorf: gpower (hhu.de)](https://www.psychologie.hhu.de/arbeitsgruppen/allgemeine-psychologie-und-arbeitspsychologie/gpower.html) | [Ali & Bhaskar (2016)](../../../../../Ali%20%26%20Bhaskar%20%282016%29%20Basic%20statistical%20tools%20in%20research%20and%20data%20analysis.pdf) |
| Web: **Sample Power** | t tests; ANOVA; McNemar's Z test; Cox; test odds | Web-based calculator | Free |  | SPSS | [Power and Sample Size Calculators | HyLown](http://powerandsamplesize.com/Calculators/) | [Ali & Bhaskar (2016)](../../../../../Ali%20%26%20Bhaskar%20%282016%29%20Basic%20statistical%20tools%20in%20research%20and%20data%20analysis.pdf) |
| Web: **StatPages.net** |  | Statistical search engine | Free |  |  |  | Ali & Bhaskar (2016) |