

# The Data Analysis Plan: A Tool for Planning, Collaboration and Data Interpretation

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**What is a Data Analysis Plan?** A data analysis plan is “a detailed document outlining procedures for conducting an analysis on data (Jablonski & Guagliardo, 2016).”

Plans describe the **purpose** of the analysis, the **product** and the **decisions** made about the data.

## Critical Analysis Plan Components

### Purpose

**Evaluation questions & measures:** Identify the purpose of the analysis and the information needed.

### Product

**Data sources:** List the data sources to be analyzed.

**Statistical analyses/approaches:** Identify the type of analysis to be done (e.g., exploratory, descriptive or inferential).

**Variables:** Identify the interview, survey questions or data points needed to produce a measure, including how variables are transformed.

**Subgroup analysis:** Describe the base population and how data should be broken out.

### Decisions

**Definitions/parameters:** Define variables and subgroups clearly so that they can be fully explained in a report and repeated in future analyses.

**Notes:** Track information about the many decisions about data. How are missing data handled? How do you check for and deal with outliers? For internal team members, where are analysis files stored? What naming conventions are used for files, variables and databases?

### Updates

Make note of changes made during the analysis process. For example, as a project moves from exploratory to more complex analysis, the Notes section can be used to document important learnings while the rest of the plan is updated.

### Results

Results can be incorporated into a plan as data are collected and analyzed. Plans can be used during data meetings and as a framework to facilitate stakeholder collaboration. For discussions involving different stakeholders, consider your audience and use best practices in data visualization and information design.

## Benefits to Written Plans

Information is accessible to all evaluation team members in a standardized way.

Plans facilitate discussions about the approach to evaluation questions and data-related challenges (e.g., missing data or inconsistencies).

Plans serve as a framework to engage stakeholders in the evaluation and data analysis process.

Plans help with report writing and the reproduction of analyses.

## Tips and Tricks

**Start with evaluation questions when developing an analysis plan**

**Update plans to reflect changes in the evaluation, programs, and data sources.**

**Identify a point person to develop the initial plan and set timeframes to review and update it.**

**Discuss changes in the data which impact the evaluation and the analysis plan with evaluation team members and other stakeholders.**

## Resources

<http://www.betterevaluation.org/>

Data Analysis Plan (2010). Retrieved from

[http://www.parkdatabase.org/files/documents/0000\\_Data-analysis-plan\\_Unknown.pdf](http://www.parkdatabase.org/files/documents/0000_Data-analysis-plan_Unknown.pdf)

Feldman, H. (n.d.) Data Analysis Plan. Clinical Research Center, Boston Children's Hospital, Retrieved from <https://catalyst.harvard.edu/pdf/biostats/HSPHAnalysisPlanBW2014.pdf>

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Pankaj, V. & Emery, A.K. (2016). Data Placemats: A Facilitative Technique Designed to Enhance Stakeholder Understanding of Data. *New Directions for Evaluation*, 2016(149), 81-93.

Peng, R.D. & Matsui, E. (2017). *The Art of Data Science: A Guide for Anyone Who Works with Data*, Skybrude Consulting.

## About Hornby Zeller Associates, Inc.

Hornby Zeller Associates, Inc. (HZA) is an evaluation, research and consulting firm which uses rigorous analysis to answer questions posed by government and non-profit agencies. Its added value is represented by high standards, hard work, and an intensive focus on customer wants. HZA's diverse staff of 40 combine people with advanced degrees in social work, public administration, public health, education and law with others trained in computer technology and applied mathematics. For each client engagement HZA forms a cross-disciplinary team that best meets the project's needs.

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