

COVID-19 Mortality Analysis Report

A Statistical Investigation using R

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1 MAXIMUM 6 PAGES !

2 Introduction (0.75 - 1 page)

- Research question or paper overview
- Background and motivation (make sure to include proper citations)
- Dataset description (source, size, key variables)
- Study objectives

3 Exploratory Data Analysis (1 - 1.5 pages)

- Summary statistics
- Data visualization (2-3 key plots)
- Data quality assessment (missing values, outliers, distributions)
- Preliminary insights that inform modeling choices

4 Methods (1 - 1.5 pages)

- Statistical models used, with mathematical notation where appropriate
 - **For regression:** specify model equation, link function (if applicable), assumptions
 - **For PCA:** explain dimensionality reduction approach
 - **For clustering:** describe method and distance metric
 - **For regularization:** specify penalty type and selection procedure
- Why these methods? Connect to research questions and structure of data
- Software and key R packages used (don't forget to *cite* the R packages)

5 Results (2 - 2.5 pages)

- Model fitting and diagnostics

- Assumption checking (residual plots, normality tests, etc.)
- Model comparison (if applicable)
- Goodness-of-fit measures
- Parameter interpretation with confidence intervals where appropriate
- Key findings presented with visualizations

6 Discussion & Conclusion (0.75 - 1 page)

- Answers to research questions with supporting evidence
- Practical implications or insights
- Limitations and assumptions
- Future directions

7 References (not included in page count)

- Use consistent citation style (APA, Chicago, or similar)
- Include at least 2-3 references beyond the dataset source