⭐⭐ Add dynamic elements to your report

📋 Instructions

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This exercise builds on the previous exercise where you learnt to [build a simple MS Word report ⭐](./exercise3_instructions.html).

# 1. 🎯 Exercise objectives

* Open the Quarto document exercise4.qmd in RStudio;
* All text formatted in bold is a placeholder and should be replaced with appropriate automated calculations or cross-references.
* Complete each of the following tasks and render the document after each task or set of tasks to track your progress.

# 2. Improve navigation and readability

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| Tip |
| * See [Quarto documentation about MS Word table of contents](https://quarto.org/docs/output-formats/ms-word.html#table-of-contents) |

* ☐ Insert a table of contents to the Quarto document ;
* ☐ Automatically number the different sections of the Quarto document ;
* ☐ Configure the table of contents to only display two levels of section headings.

# 3. Implement dynamic calculations

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| Tip |
| * See [Quarto documentation about dynamic dates](https://quarto.org/docs/reference/dates.html#date-parsing) * See [Quarto documentation about inline code](https://quarto.org/docs/computations/inline-code.html) |

* ☐ Change the date 2023-12-31 to the date at which the Quarto document was last modified, and format this date to display it with the format December 31, 2023 ;
* ☐ Replace the placeholder text in bold with the automated calculation of the outbreak start and end dates ;

“*The outbreak ran from* ***date*** *to* ***date***”

* ☐ Replace the placeholder text in bold with the automated calculation of the number of cases, confirmed cases and deaths.

“*Over the studied period, there were* ***N*** *cases, including* ***N*** *confirmed cases and* ***N*** *confirmed deaths.*”

# 4. Create and reference publication-ready tables

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| Tip |
| * See [gtsummary documentation about summary tables](https://www.danieldsjoberg.com/gtsummary/articles/tbl_summary.html) * See [Quarto documentation about table cross-references](https://quarto.org/docs/authoring/tables.html#cross-references)   Other R packages include [flextable](https://davidgohel.github.io/flextable/) and [gt](https://gt.rstudio.com/) |

* ☐ Create a table summarising the demographic characteristics and outcome frequency of all cases ;
* ☐ Add a caption to the table ;
* ☐ Assign a label to the table ;
* ☐ Replace the placeholder text in bold with a cross-reference to the table ;

“***cross-reference*** *provides a summary of the demographic characteristics and the outcome proportion for the overall population*”

* ☐ Create a table summarising the demographic characteristics of individuals who died versus those who are still alive ;
* ☐ Add a caption to the table ;
* ☐ Assign a label to the table ;
* ☐ Replace the placeholder text in bold with a cross-reference to the table.

“*while* ***cross-reference*** *compares the demographic characteristics of individuals who died versus those who are still alive*”

# 5. Customise figures

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| Tip |
| * See [Quarto documentation about figure cross-references](https://quarto.org/docs/authoring/cross-references.html#computations) * See [Quarto documentation about figure options](https://quarto.org/docs/computations/execution-options.html#figure-options) |

* ☐ Add a caption to the figure ;
* ☐ Assign a label to the figure ;
* ☐ Replace the placeholder text in bold with a cross-reference to the figure ;

“***cross-reference*** *illustrates the outbreak’s progression, which can be divided into distinct phases.*”

* ☐ Adjust the dimensions of the figure until you are happy with it
* ☐ Beautify the plot using ggplot options

# 6. Code

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| Tip |
| * See [gtsummary documentation about formatted table of regression model results](https://www.danieldsjoberg.com/gtsummary/articles/tbl_regression.html) * See [Quarto documentation about code chunk cross-references](https://quarto.org/docs/authoring/cross-references.html#code-listings) |

* ☐ Implement a logistic regression model based on description in the Quarto document ;
* ☐ Create a table summarizing the odds ratios from the logistic regression model ;
* ☐ Add a caption to the table ;
* ☐ Assign a label to the table ;
* ☐ Replace the placeholder text in bold with a cross-reference to the table ;

“The results of the logistic regression model are summarized in the formatted regression table, which is presented in **cross-reference**.”

* ☐ Display the code chunk for your R implementation of the logistic regression (and only this code chunk) in the rendered MS Word document ;
* ☐ Add a caption to the code chunk ;
* ☐ Assign a label to the code chunk ;
* ☐ Replace the placeholder text in bold with a cross-reference to the code chunk.

# 7. Add references

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| Tip |
| * See [Quarto documentation about citations](https://quarto.org/docs/authoring/citations.html) |

* ☐ Add the bibliography file my\_biblio.bib to your MS Word rendered report ;
* ☐ Cite the reference text in your MS Word rendered report ;
* ☐ Create your own bibliography file and apply it to your MS Word rendered report ;

# 8. Finalise your MS Word report

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| Tip |
| See [Quarto documentation about Word templates](https://quarto.org/docs/output-formats/ms-word-templates.html) |

* ☐ Apply the Swiss TPH template swisstph\_template.docx to your MS Word rendered report ;
* ☐ Create your own template and apply it to your MS Word rendered report.