

TDU

R FOR DATA VISUALIZATIONS

Day 3

May 4, 2023



Public Health
Agency of Canada

Agence de la santé
publique du Canada

Canada

WELCOME BACK!

Over the last two days we reviewed:

Day 1:

- Graphing using base R and ggplot
- Grammar of graphics
- Custom data visualizations

Day 2:

- Best practices in data visualization
- Application of graphic design practices in R
- Data visualization and potential for harm to small and vulnerable communities

RULES TO VIZ BY!

- Summary of all the Jamboards from Day 2 'Rules to Viz by' activity
- Available in the course repository on Github
- Link posted in the chat

Rules to 'Viz' By

- Keep It Simple! (KIS Principle)**
 - One Concept, One Visual
 - Pick and Display Variables Judiciously
 - Reduce Background Noise (limit gridlines, unnecessary elements, cluttered backgrounds, etc)
- Clarity of Message**

Be clear on what your message is and build your visualization around that!
- Consistency**

Ensure that all your visual elements are consistent both within and between visualizations. (e.g.: fonts, colours, etc.)
- Accessibility**

Apply accessibility best practices. E.g.: Using colours carefully and using proper contrast and colour palettes. Make sure your text and fonts are readable.
- Differentiation**

Ensure that you clearly label your graph elements and use best practice conventions in naming and scales.

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These 'rules to viz by' were developed by class participants based on their introspection after having completed the "Worst Practices in Data Viz" exercise.

OVERVIEW

Today we will:

- Test our knowledge on what was covered over the last two days
- Provide space for practice and support

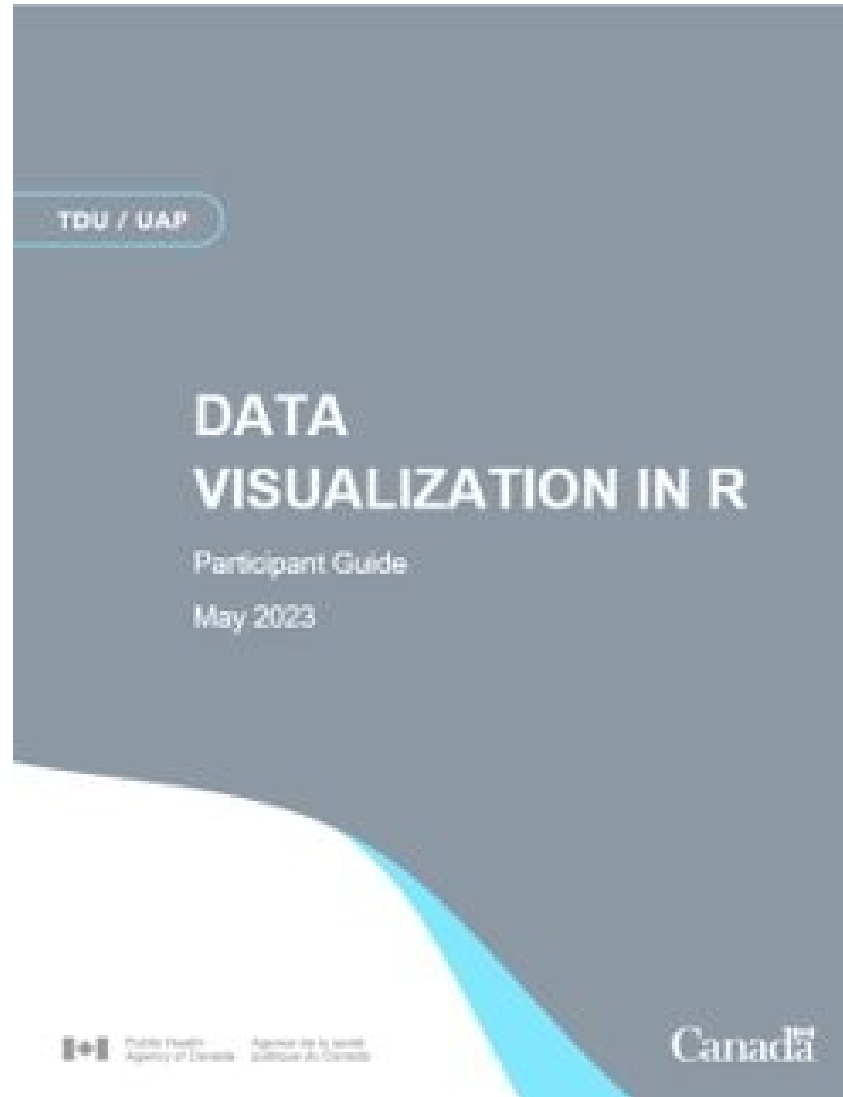
A background image showing two women sitting at a desk, looking at a laptop screen. The woman on the right is smiling. The image is overlaid with a dark blue semi-transparent layer. A bright blue curved shape is at the bottom right.

PIE CHART OF FORTUNE!

A background image showing two women sitting at a table, looking at a tablet together. The woman on the right is smiling. The image is overlaid with a dark blue semi-transparent filter. A bright blue curved shape is at the bottom right.

TIME FOR PRACTICE!

INDEPENDENT ACTIVITIES 1 AND 2



A background image of two women sitting at a table, looking at a tablet. The woman on the right is smiling. The image is darkened with a blue overlay. A bright blue curved shape is at the bottom right.

WRAP-UP

COURSE OVERVIEW

- By the end of this course, participants will be able to:
 - ✓ Discuss differences between base R and the grammar of graphics (ggplot) coding styles for data visualization.
 - ✓ Apply knowledge of R-coding to automate common graphics used in public health.
 - ✓ Connect elements of effective graphic design to R coding practices in data visualization.
 - ✓ Discuss considerations for data visualisation to avoid potential harms to small or vulnerable communities.

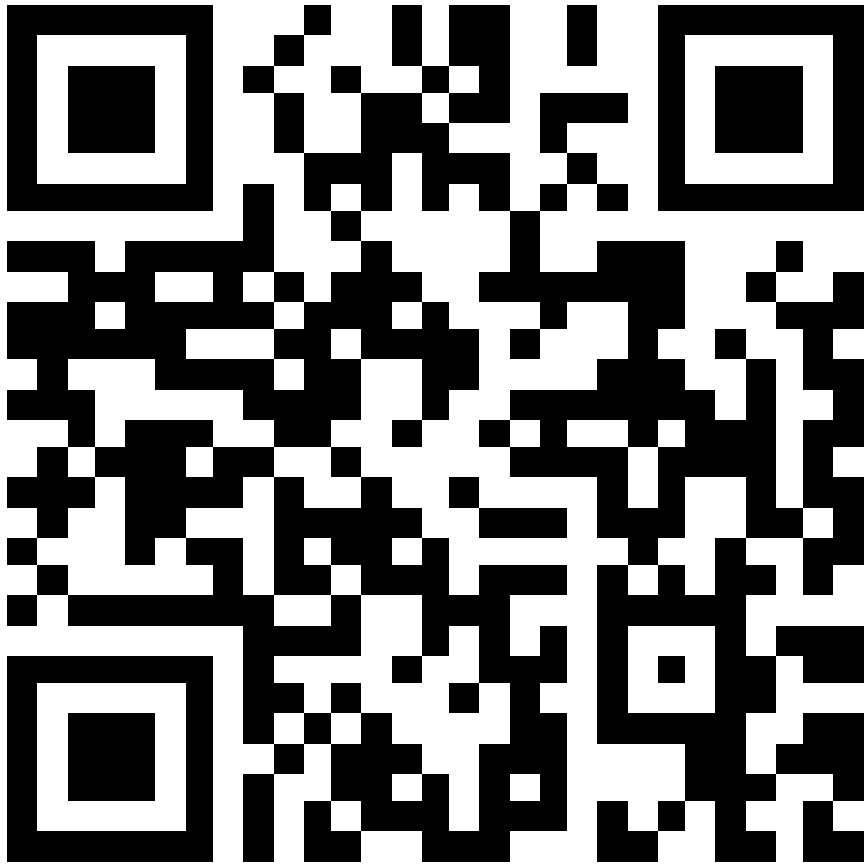
SUMMARY AND WRAP-UP

- Knowing what you want to accomplish at the outset will help you decide what format your data should be in
- It is possible to make publication-worthy figures using only base R graphics
- Ggplot makes graphing easier as it uses an iterative, layered approach based on a specific grammar of independent components

SUMMARY AND WRAP-UP

- The power of R for creating data visualizations does not include the intention and thoughtfulness required to produce meaningful graphics
- Careful thought must be taken to ensure that visualizations adhere to best practices
- Additional consideration is needed to ensure that our data visualizations do not tell stories that actively cause harm or perpetuate harm to small and vulnerable communities

COURSE EVALUATION



<https://www.slido.com/>

Event code: **RDV2023**