

How Do Professionals Use Annotations in Visualizations?

Md Dilshadur Rahman¹, Ghulam Jilani Quadri², and Paul Rosen¹
University of Utah¹, University of Oklahoma²

Annotations are essential in visualizations, enhancing data comprehension by providing additional context and highlighting key features. Understanding professional annotation techniques is critical to developing best practices and tools for effective visual communication.

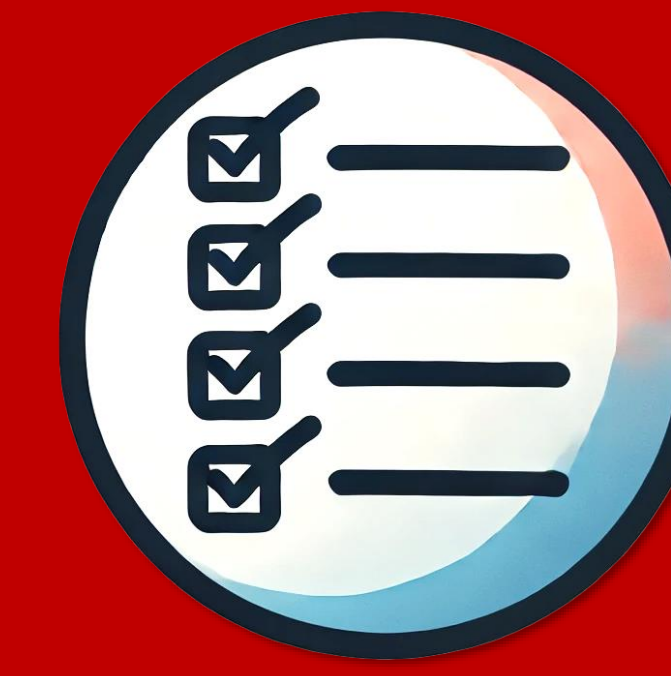
We investigated how professionals in leading US news portals use annotations in charts, uncovering interesting usage strategies.



Scrapped professionally designed charts



Thematic analysis
Annotation types and frequency
Common usage patterns



4 Leading US News Portals
NY Times, Washington Post,
Economist, Wall Street Journal

72 Static Annotated Charts
Bar Charts, Line Charts, Scatterplots

5 Frequently Used Techniques
Ensembles, Context-specific highlighting, Article-specific descriptions, Caption-annotation alignment, Emphasizing numbers

1 Abundant Use of Ensembles

Professional charts frequently combine multiple annotation types, such as connectors, color highlighting, and text descriptions, to denote a single phenomenon.

2 Context-Specific Highlighting

Charts often employ specific shades or shapes to highlight details relevant to the article, effectively linking data to the article's content.

3 Article-Specific Descriptions

Text descriptions in charts commonly incorporate article-specific details, reinforcing key points and connecting narratives to visual data.

4 Alignment of Captions and Annotations

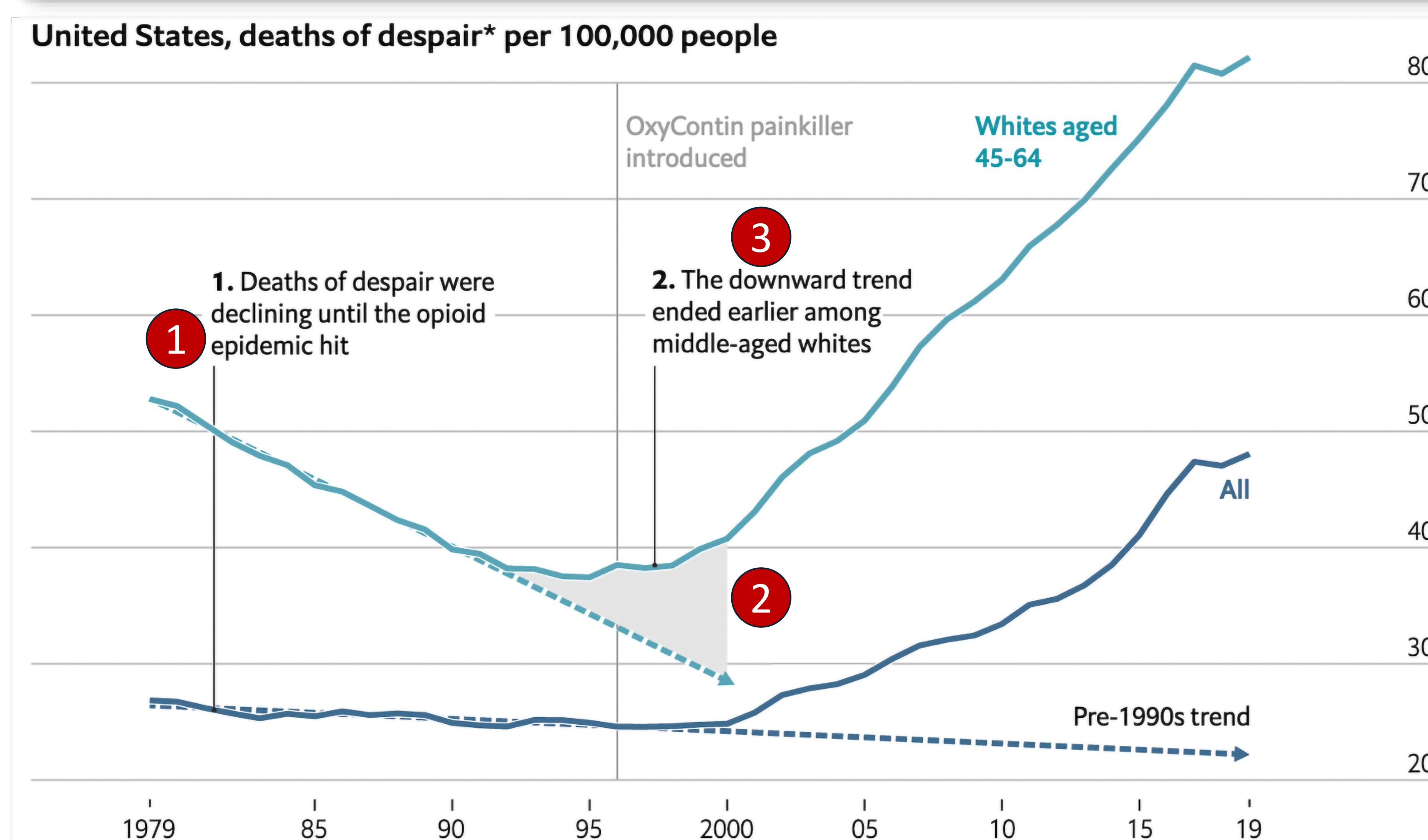
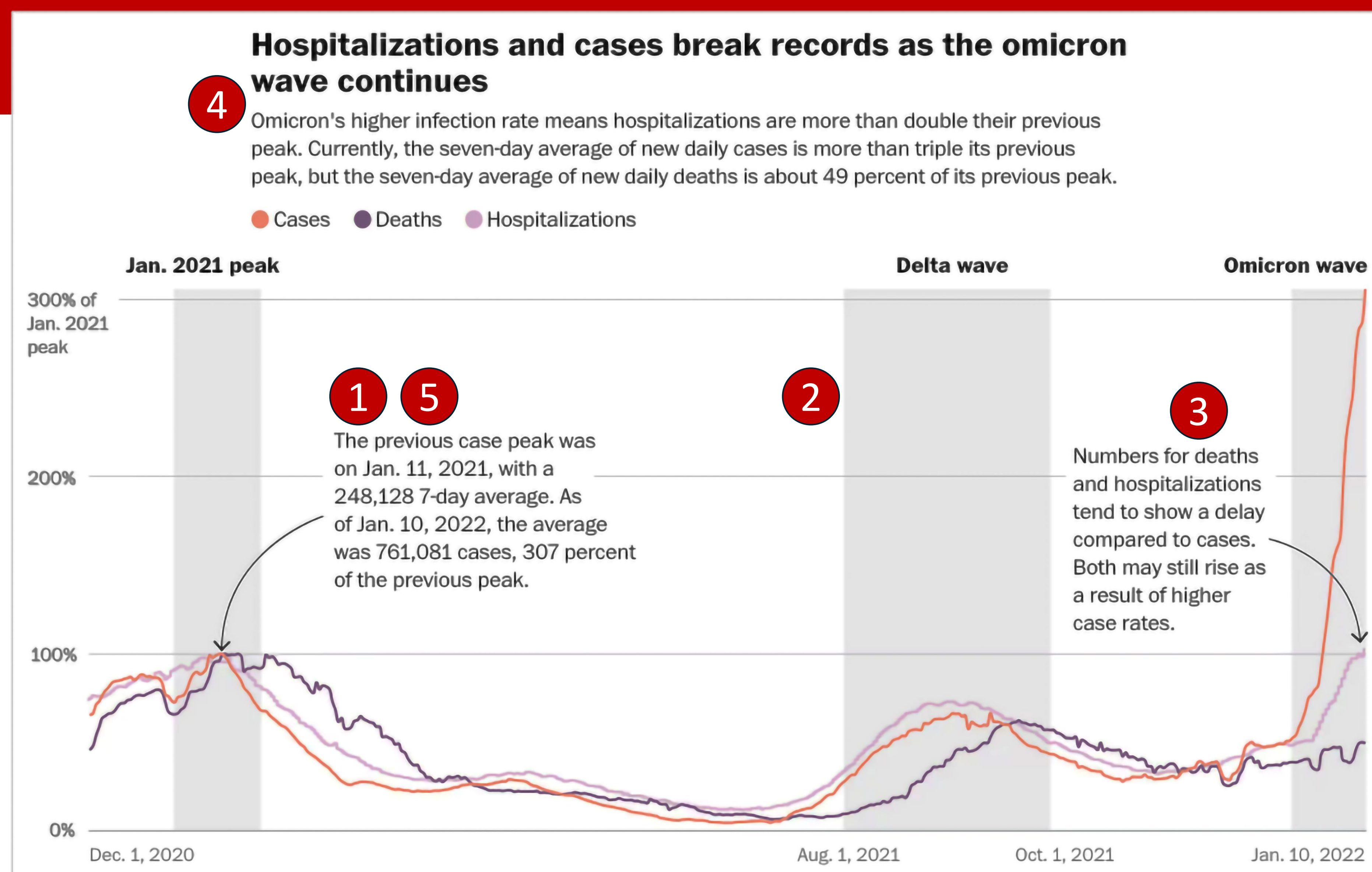
Captions in professional visualizations are closely aligned with annotations, creating a coherent narrative and improving comprehension.

5 Emphasis on Numerical Information

Charts consistently highlight significant numerical data to clarify facts and strengthen the article's narrative, ensuring effective communication of the story.

Limitation and Future Work

- Limited to static visualizations from four news organizations.
- Techniques' effectiveness needs investigation across scenarios and audiences.
- Future work should include direct input from visualization professionals.



Please help us better understand annotations by participating in our Interview Study on Annotations. Scan the QR Code or go to: <https://forms.gle/HcLxtVu84bo2biEPA>



Acknowledgement: This work was partially supported by the National Science Foundation (III-2316496 and DUE-2216227). The figures are from the Washington Post and The Economist. Contact: dilshadur@sci.utah.edu (@dilshadurrahman)