Tips for a Successful Scientific Presentation

NIH StrokeNet Professional Development Seminar, Sep 2024

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Disclosures

- Salary support NINDS
- No relevant disclosures
- Mixes opinions with data

InterSECT

International Stroke Early Career and Training

Tips for a Successful Scientific Presentation

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Outline

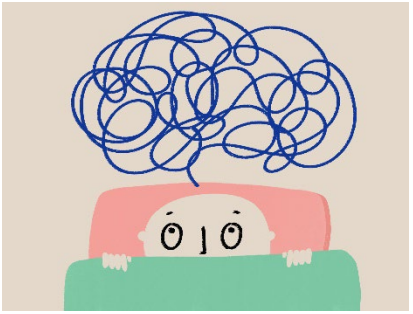
CONTENT

- Goals
- Framework
- Common Pitfalls

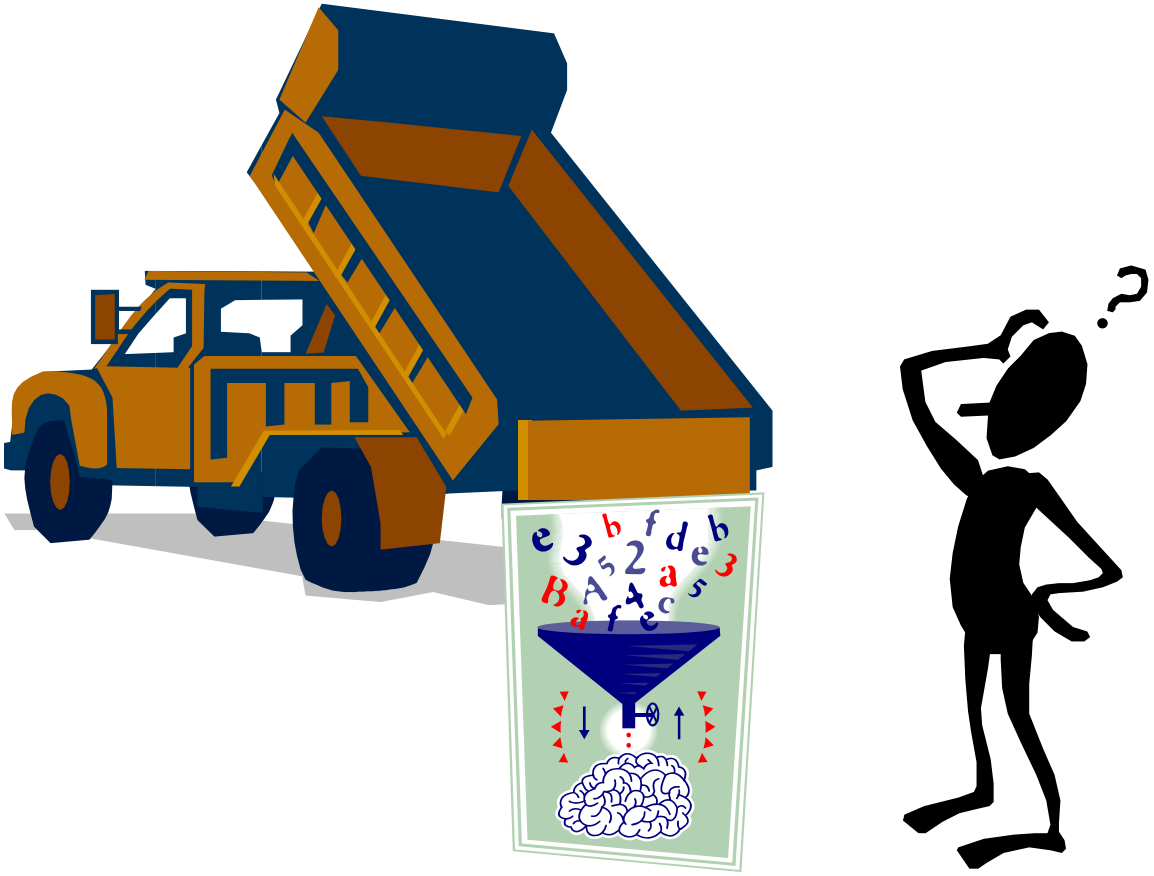
FORMAT

- Font & Typeface
- Color
- Tables
- Optimize Graphics
- Tips for Platform
- Tips for Poster

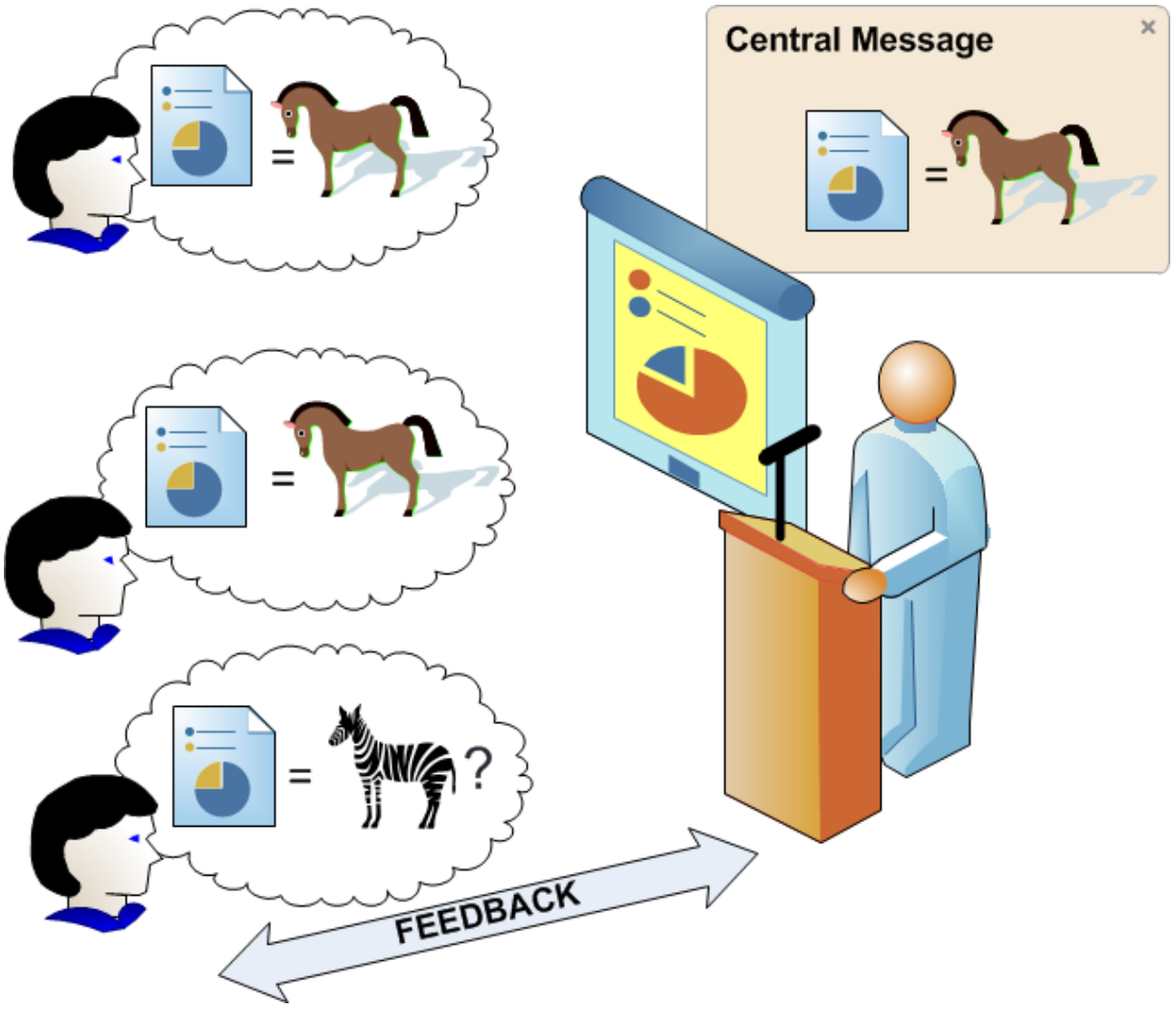
CONTENT



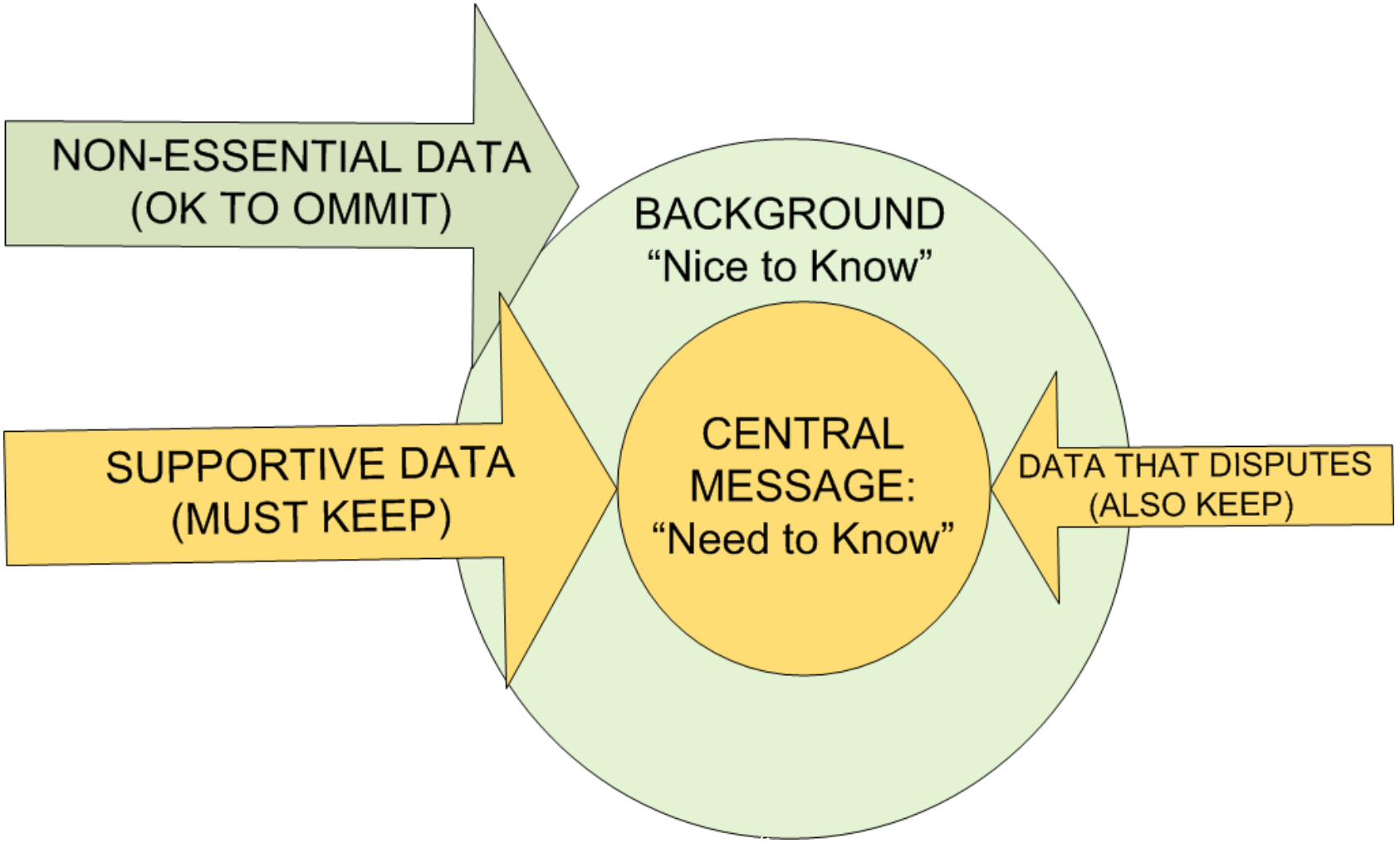
Presentation ≠ Dumping Data



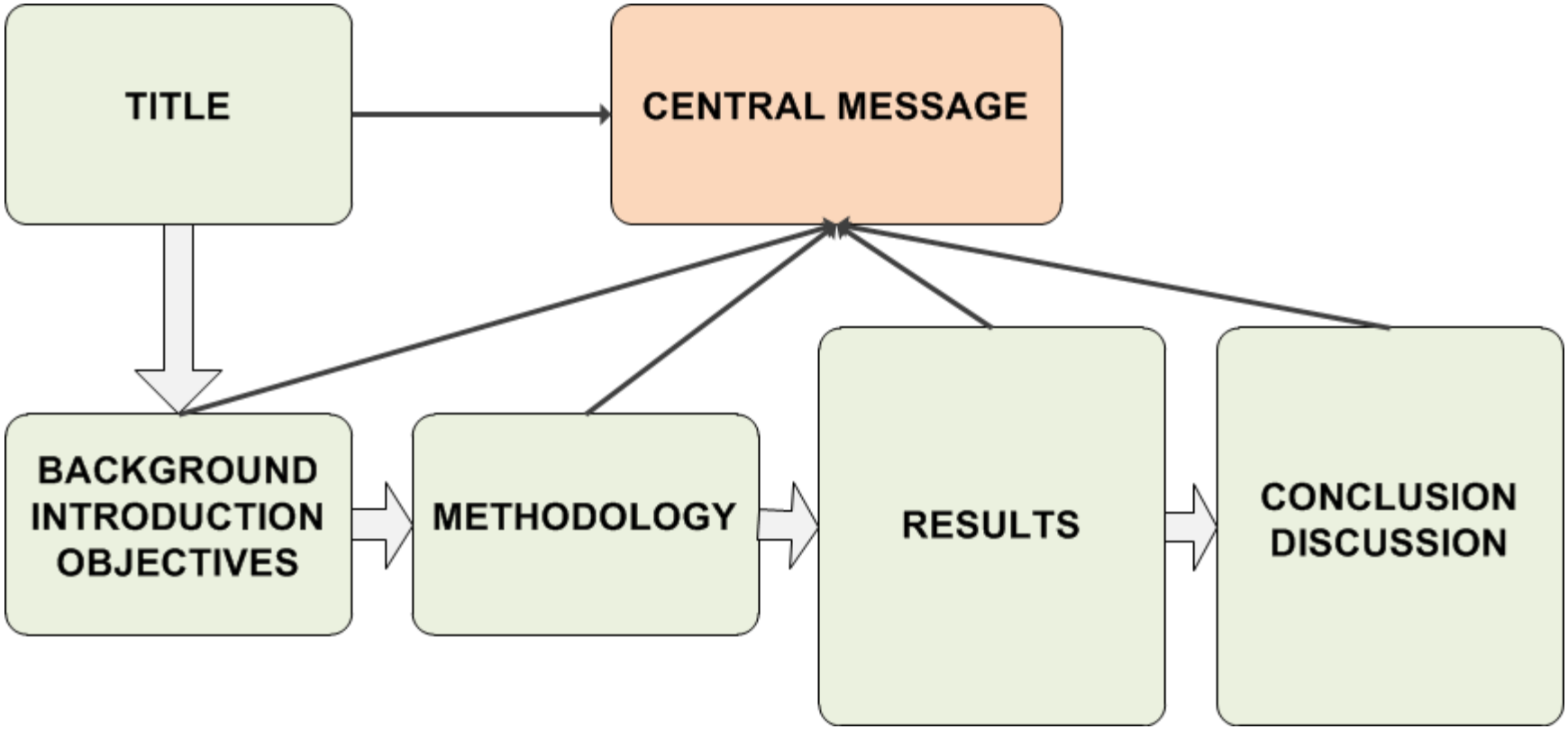
Goal Presentation = Communication



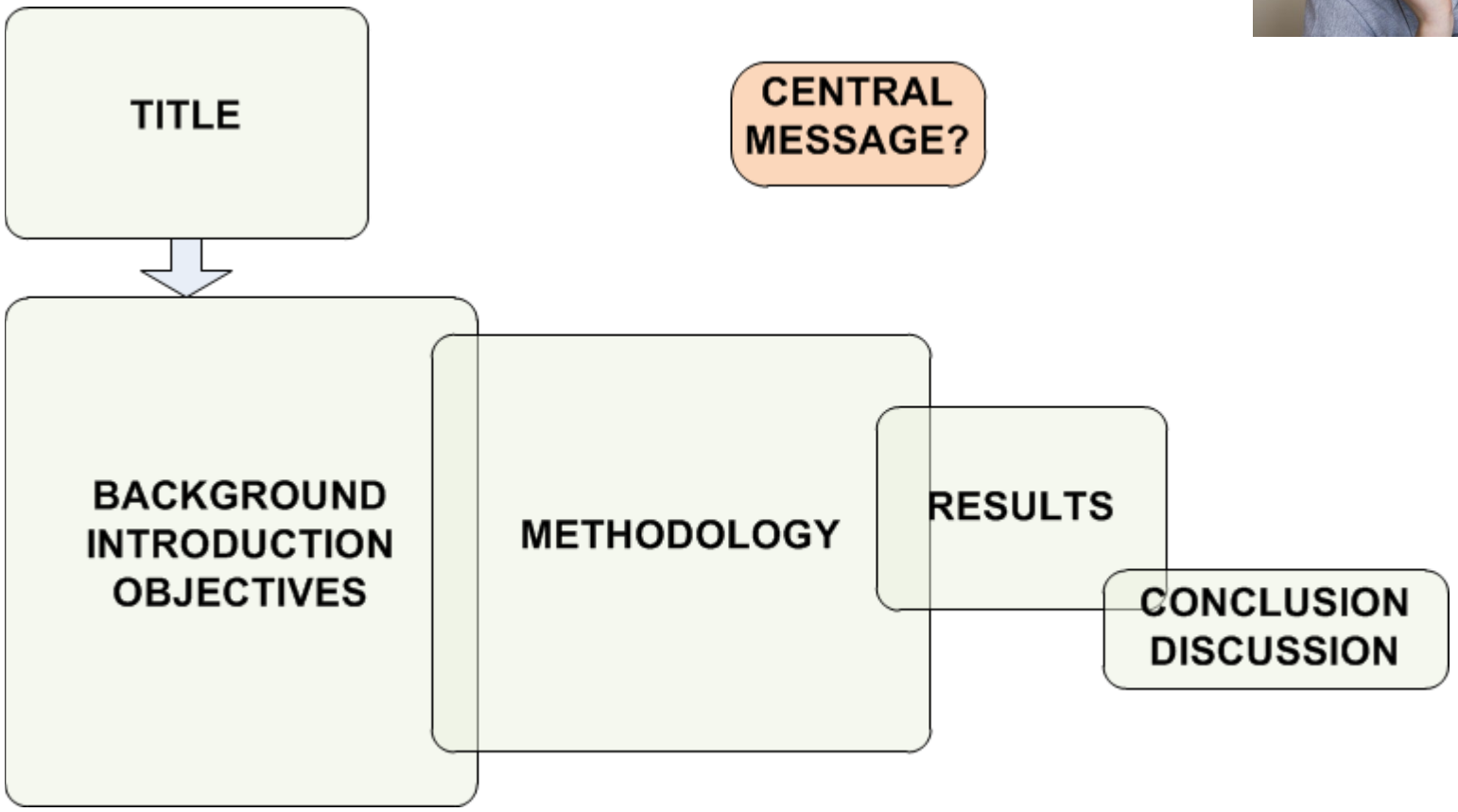
Goal= Enhance Central Message



Ideal Framework



Poor Presentation



Title is Key!

- Influences reviewers & graders
- Dissemination by search engines
- Selects audience
- Predisposes audience
- May be the only part ever read

3 Types of Titles

Impact of a StrokeNet Training Program on Academic Career Achievements: a Prospective Cohort

DESCRIPTIVE

Does the StrokeNet Training Program improve Academic Career Achievements?

QUESTION TYPE

The StrokeNet Training Program Improves Academic Careers

DECLARATIVE

Best Title?

- Short, Catchy & Flashy
- Worth spending time
- Question= power of suspense?
- Descriptive= broad interest?
- Declarative=central message

http://static.guim.co.uk/sys-images/Film/Pix/pictures/2013/2/8/1360326092958/Alfred-Hitchcock-010.jpg

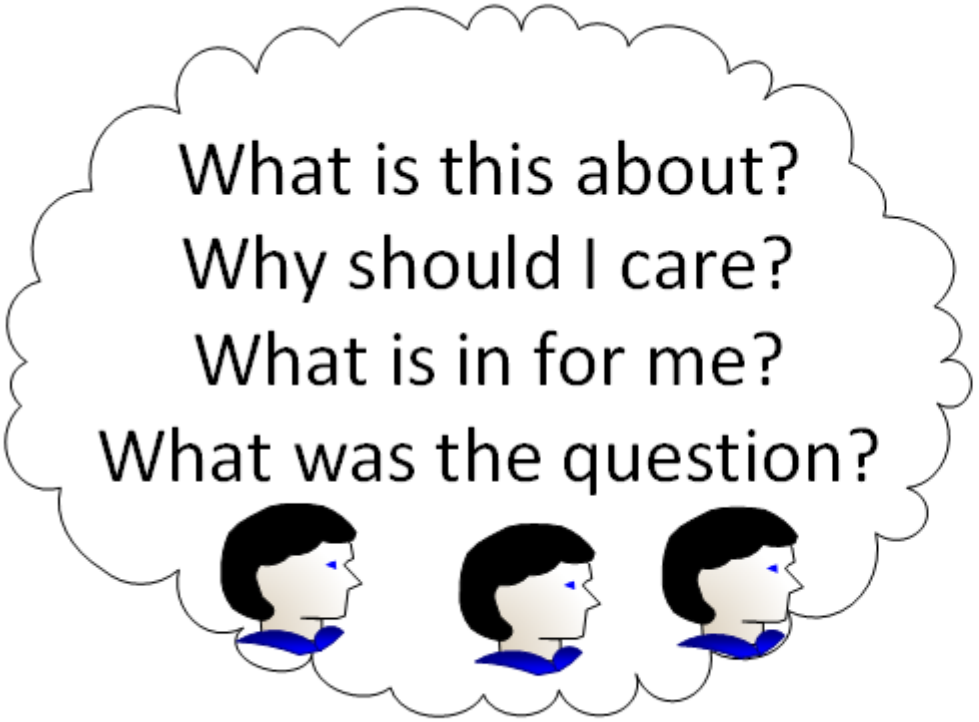
Title Types & Impact: Cross-sectional Study of 30 Journals

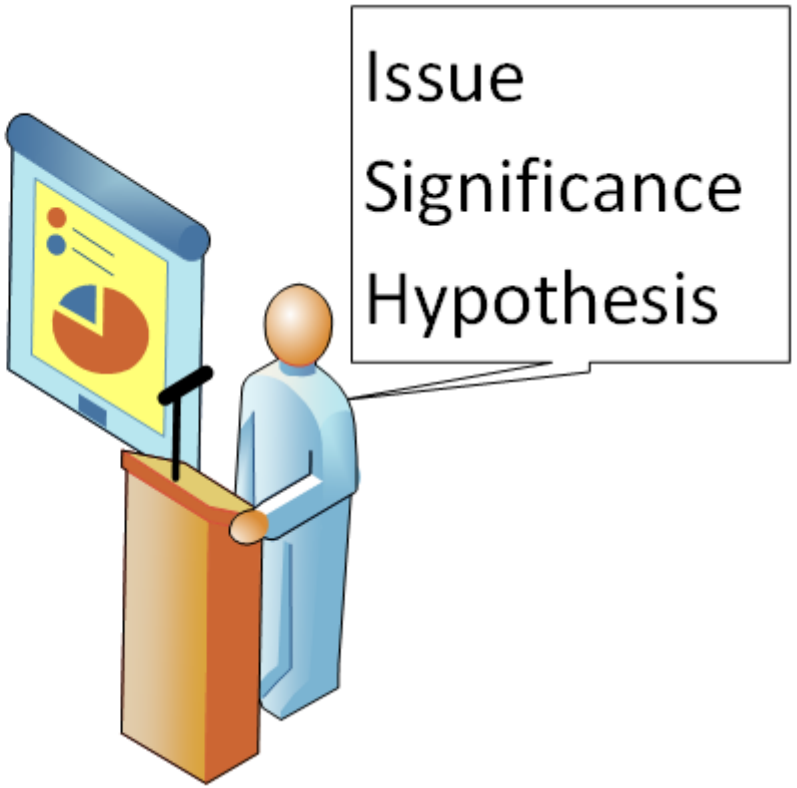
Title Type	Number Papers	Citation Number
Descriptive	2230	1296
Question	57	1356
Declarative	336	1411

P= 0.029

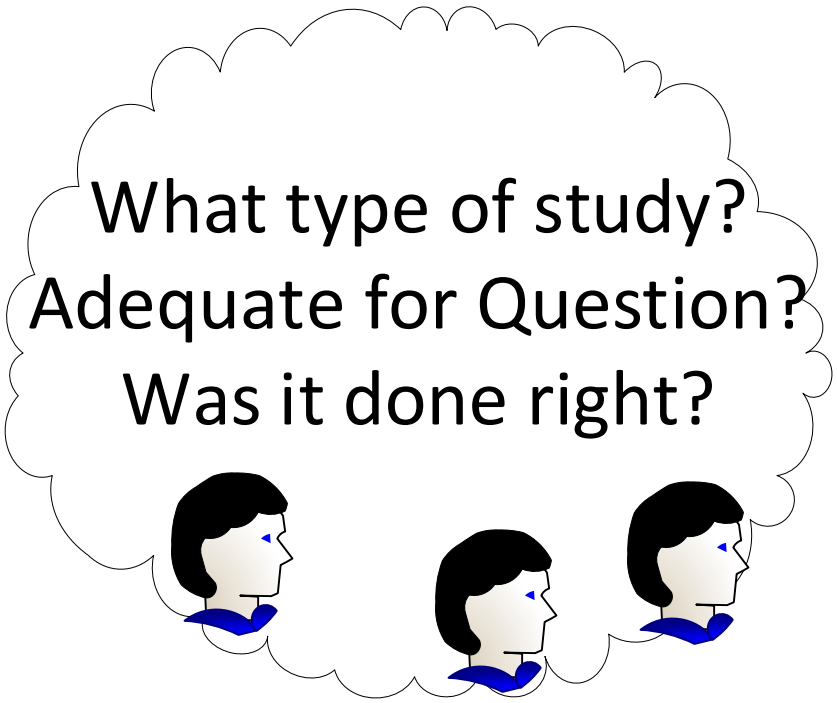
Braticevik MN et al, BioChem Med (Zagreb) 2020

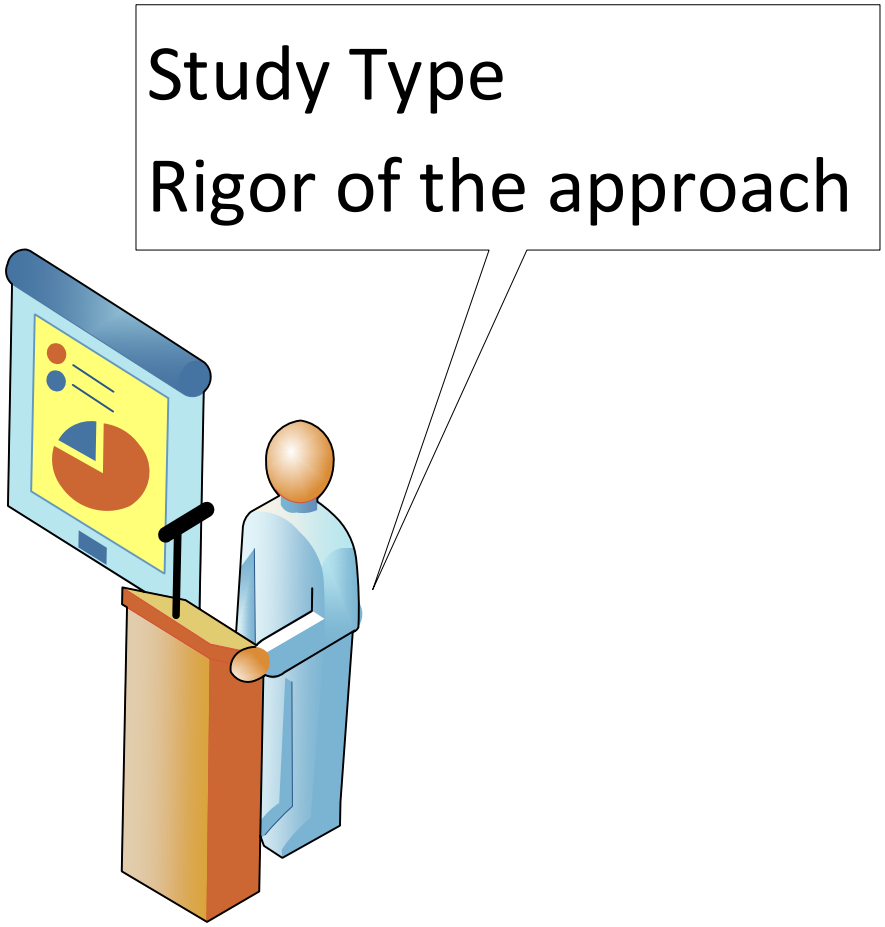
Background Section



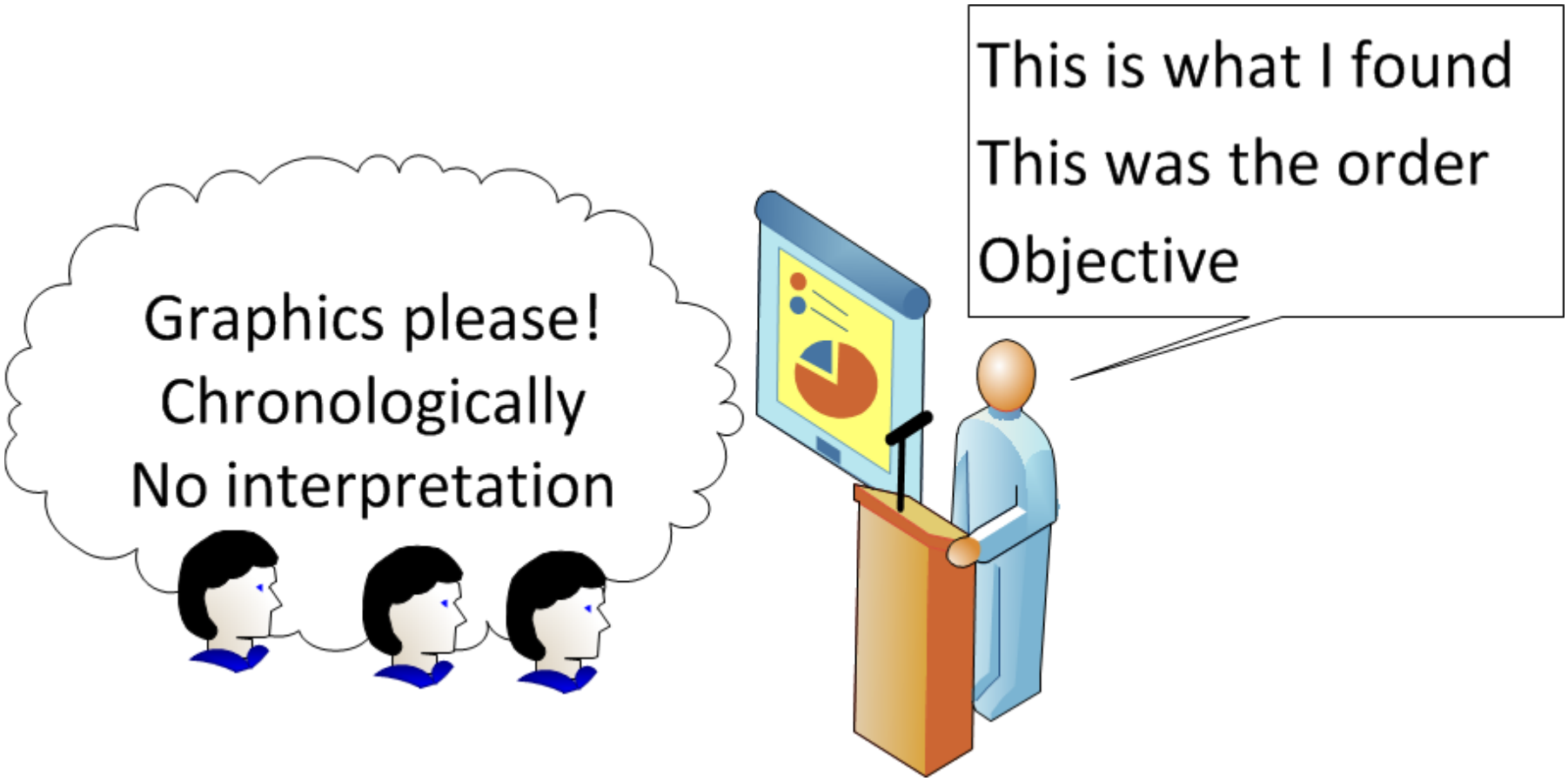


Methodology Section



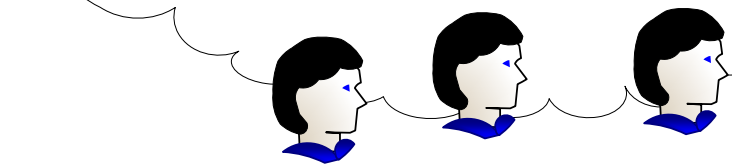


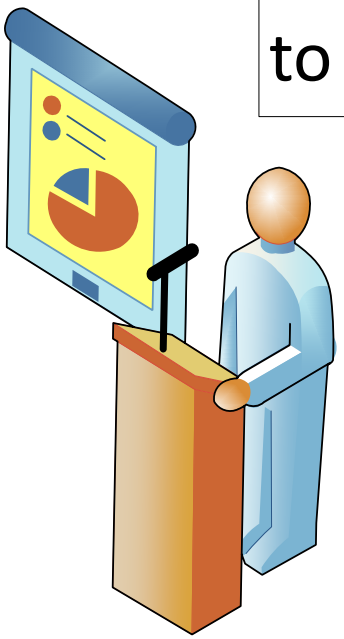
Results Section



Discussion

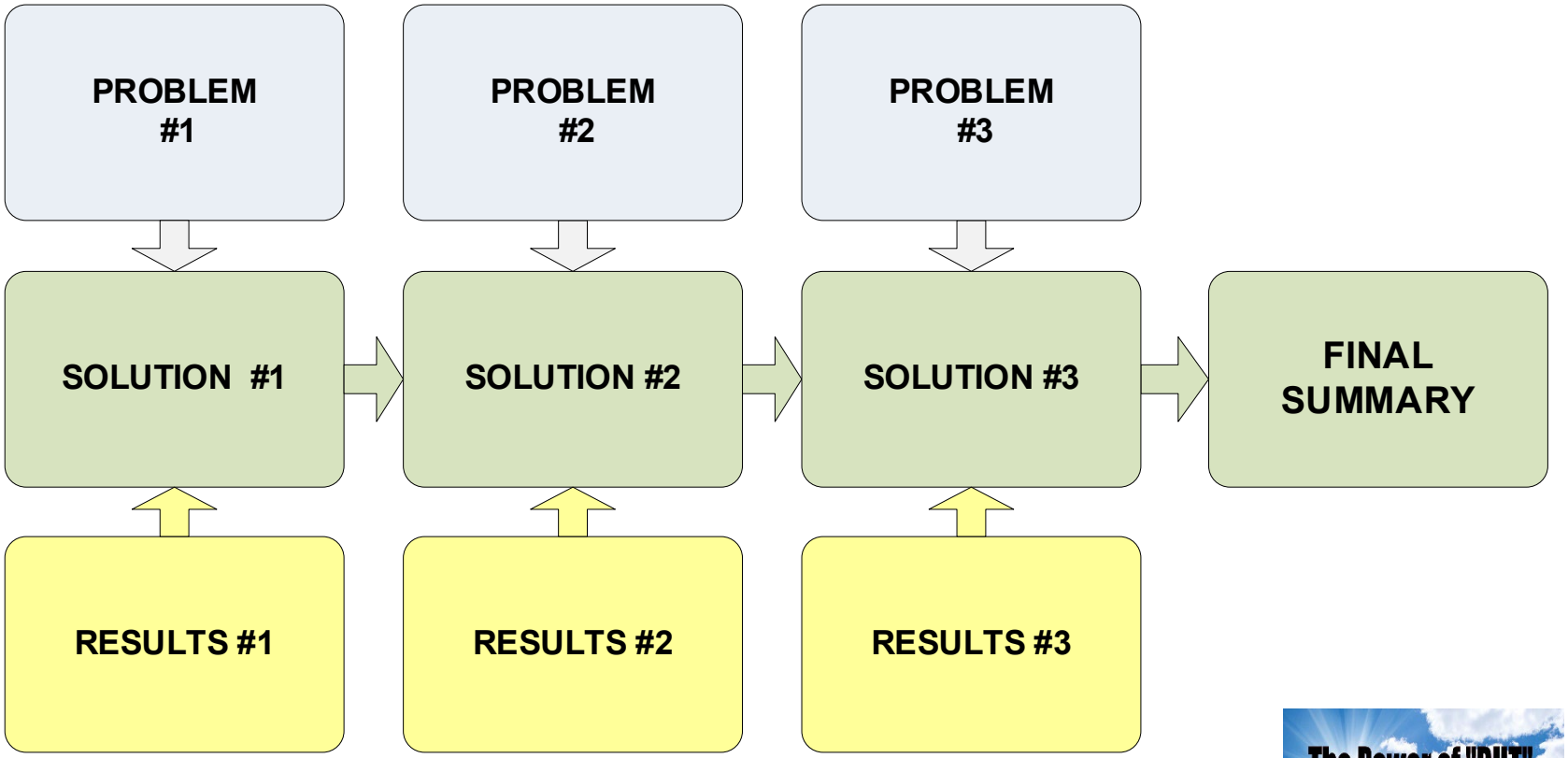
What do you make of this?
What problems are solved?





I tell a story
I interpret results
to solve problems

Discussion: Create a Story



Kirchoff B. Nature 2021

FORMAT

Typeface Choices

SERIF

FASTER TO READ: BEST TEXT

- Times New Roman
- Georgia
- Cambria
- Constantia

SANS-SERIF

SLOWER TO READ: BEST HEADLINES

- Arial
- Calibri
- Tahoma
- Verdana
- Century Gothic

Paterson and Tinker, J Appl Psych 1932

Which is Easier to Read?

TEXT 1

THE STROKE TRIALS NETWORK (NIH STROKENET) IS DESIGNED TO MAXIMIZE EFFICIENCIES TO PRIORITIZE, HARMONIZE AND STREAMLINE THE DEVELOPMENT OF HIGH-QUALITY, MULTI-SITE CLINICAL TRIALS FOCUSED ON KEY INTERVENTIONS IN STROKE PREVENTION, TREATMENT, AND RECOVERY. EARLY PHASE 1-2 EXPLORATORY AND COMFIRMATORY PHASE 3 TRIALS AS WELL AS BIOMARKER-VALIDATION STUDIES THAT ARE IMMEDIATELY PREPARATORY TO TRIALS WILL BE COORDINATED THROUGH REGIONAL COORDINATING STROKE CENTERS, THE NATIONAL CLINICAL COORDINATING CENTER, AND THE NATIONAL DATA MANAGEMENT CENTER.

TEXT 2

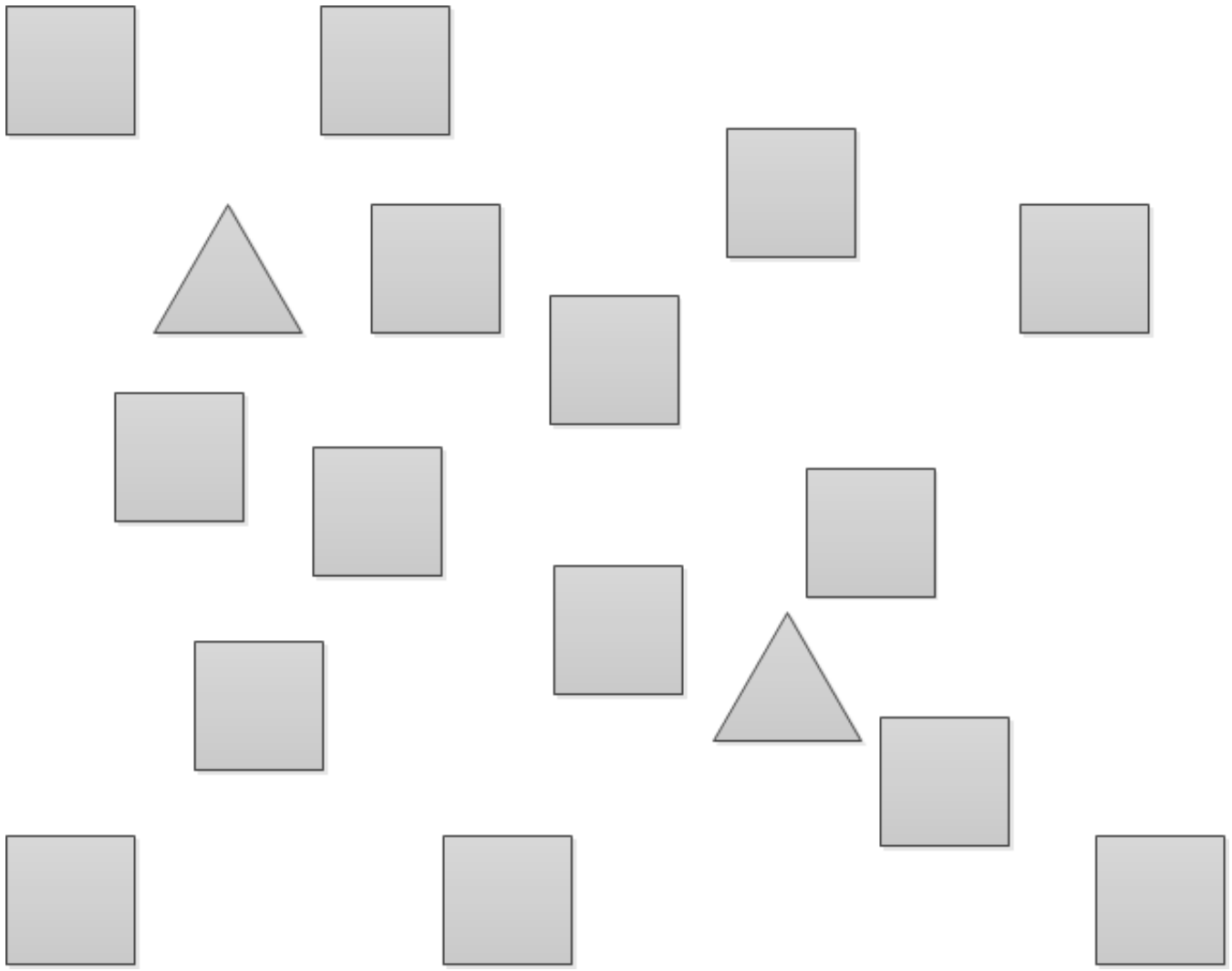
The Stroke Trials Network (NIH StrokeNet) is designed to maximize efficiencies to prioritize, harmonize and streamline the development of high-quality, multi-site clinical trials focused on key interventions in stroke prevention, treatment, and recovery. Early phase 1-2 exploratory and confirmatory phase 3 clinical trials as well as biomarker-validation studies that are immediately preparatory to trials will be coordinated through Regional Coordinating Stroke Centers, the National Clinical Coordinating Center, and the National Data Management Center

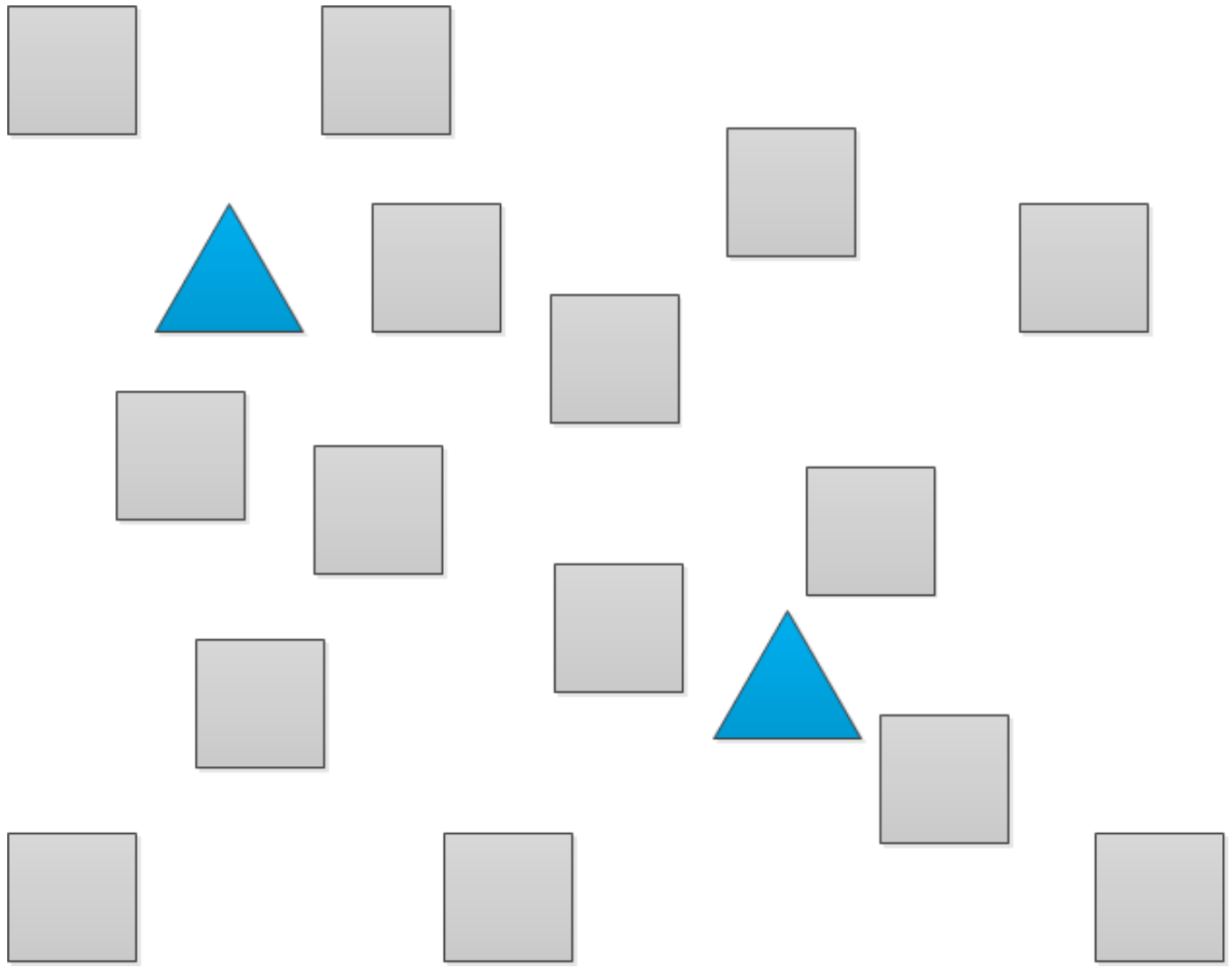
TEXT 3

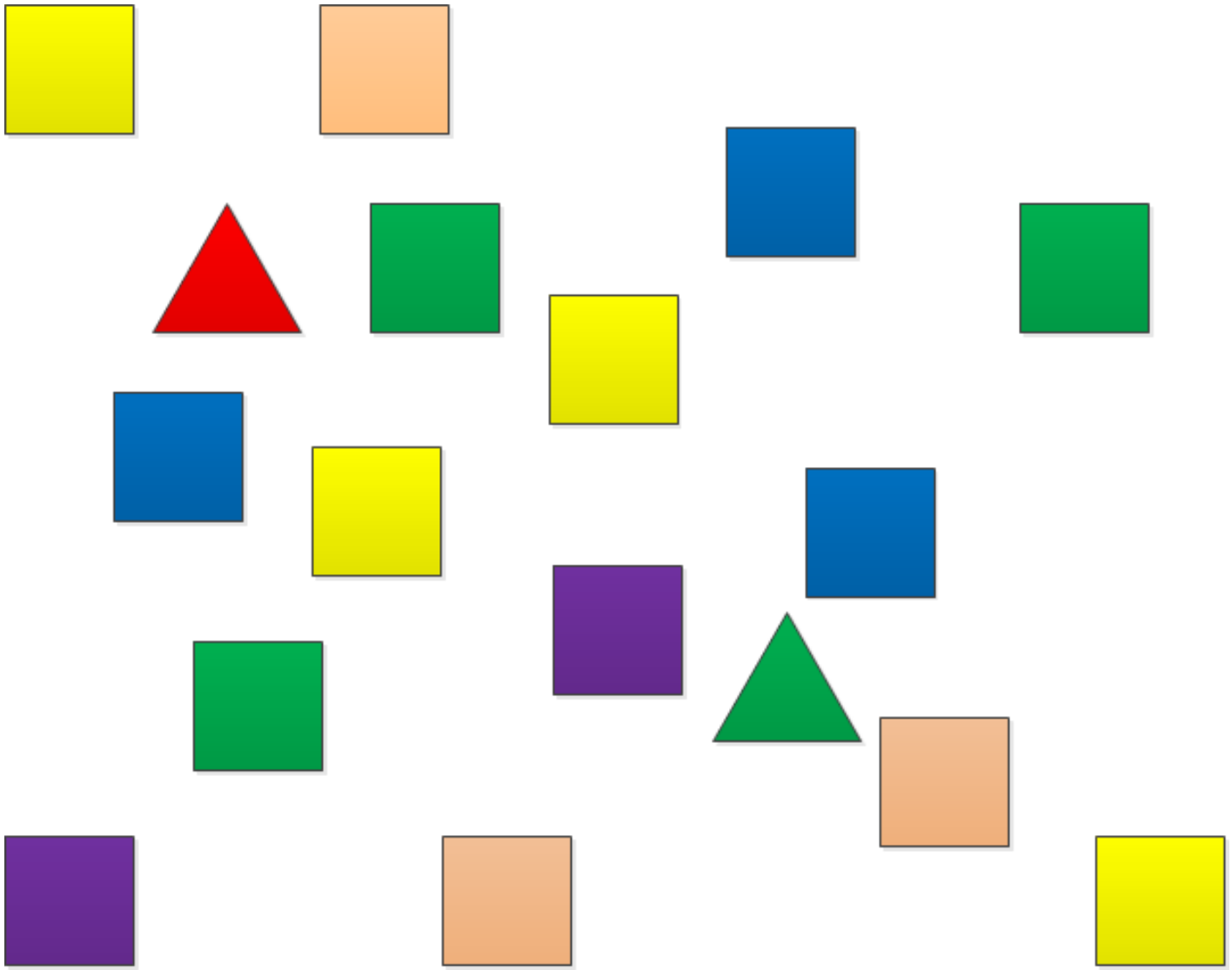
The Stroke Trials Network (NIH StrokeNet) is designed to maximize efficiencies to prioritize, harmonize and streamline the development of high-quality, multi-site clinical trials focused on key interventions in stroke prevention, treatment, and recovery. Early phase 1-2 exploratory and confirmatory phase 3 clinical trials as well as biomarker-validation studies that are immediately preparatory to trials will be coordinated through Regional Coordinating Stroke Centers, the National Clinical Coordinating Center, and the National Data Management Center

Format

- Avoid All Capitals & Italics
- 6 Bullets & 7 words per line max
- 1 slide/min max
- Never worry is too little
- High contrast text-background
- Avoid special effects
- Use color to code







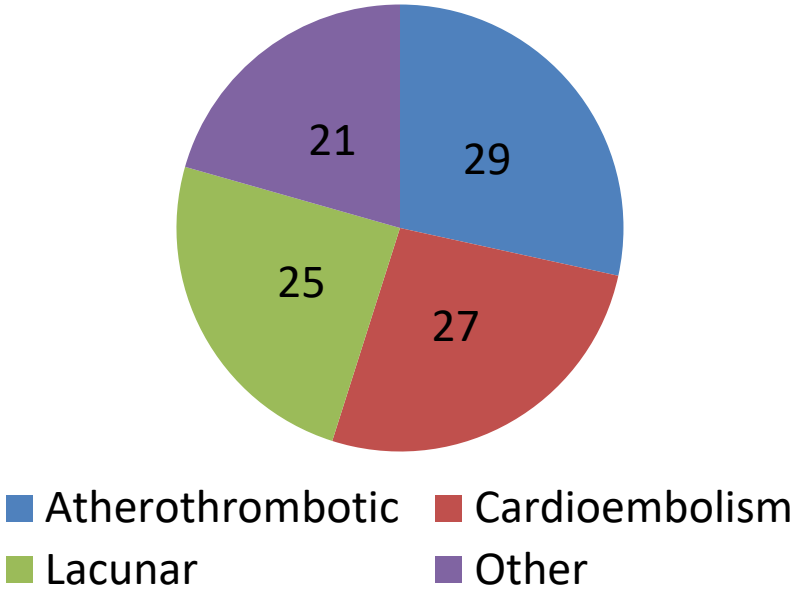
Tables

- Sentence best for showing 2 values
- Tables best small data sets
- Allows comparisons
- Gives exact values
- Always better than a pie chart (Tufte ER)

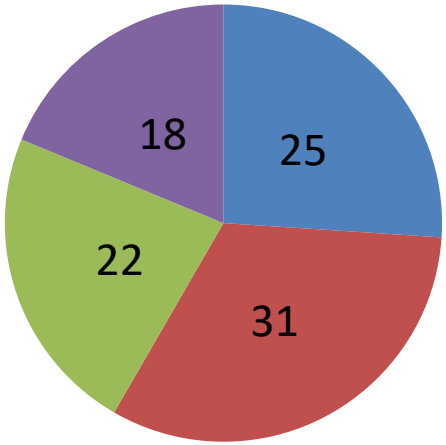
Tufte ER. The Visual Display of Quantitative Information

Pie Charts are Not Precise..

PRE- MONITORING



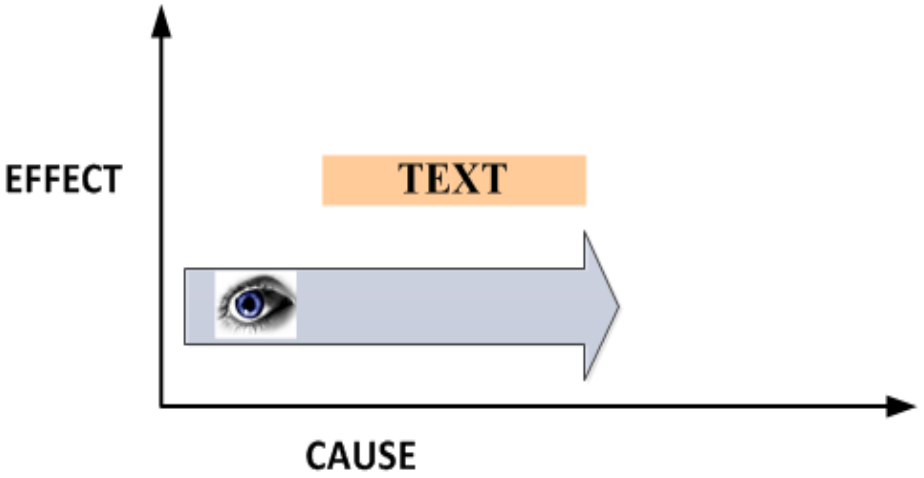
POST-MONITORING



SUBTYPE	PRE-MONITORING	POST-MONITORING
Atherothrombotic	29%	25%
Cardioembolic	27%	31%
Lacunar	25%	22%
Other	21%	18%

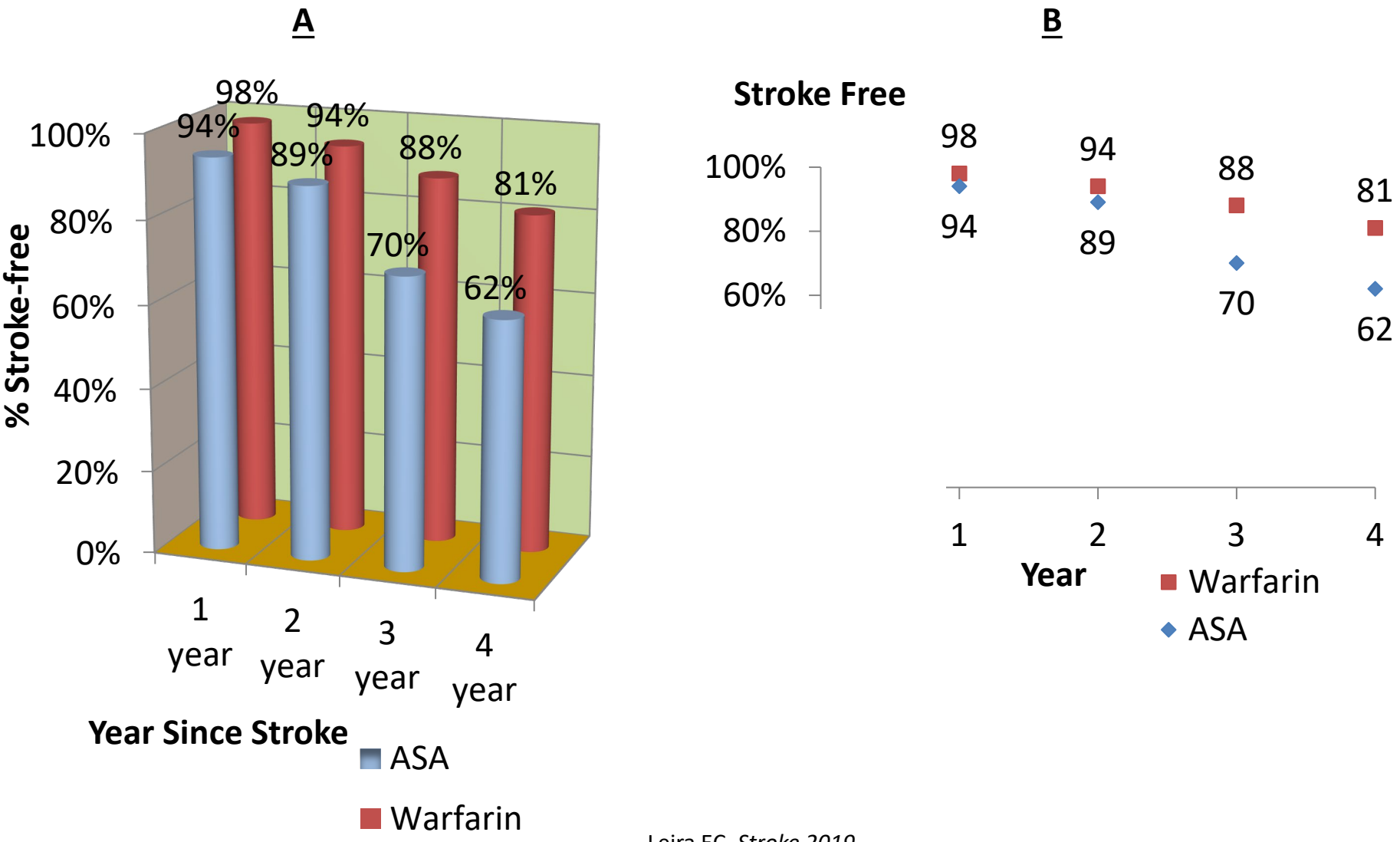
Features Good Graphics

- Communicates complex data with clarity
- Focus on substance
- Encourages comparisons
- Efficient ↑data/pixel ratio
- Integrity
- Integrates with text
- Never say: “sorry this is a busy graphic...”



Tufte ER. The visual Display of Quantitative Information

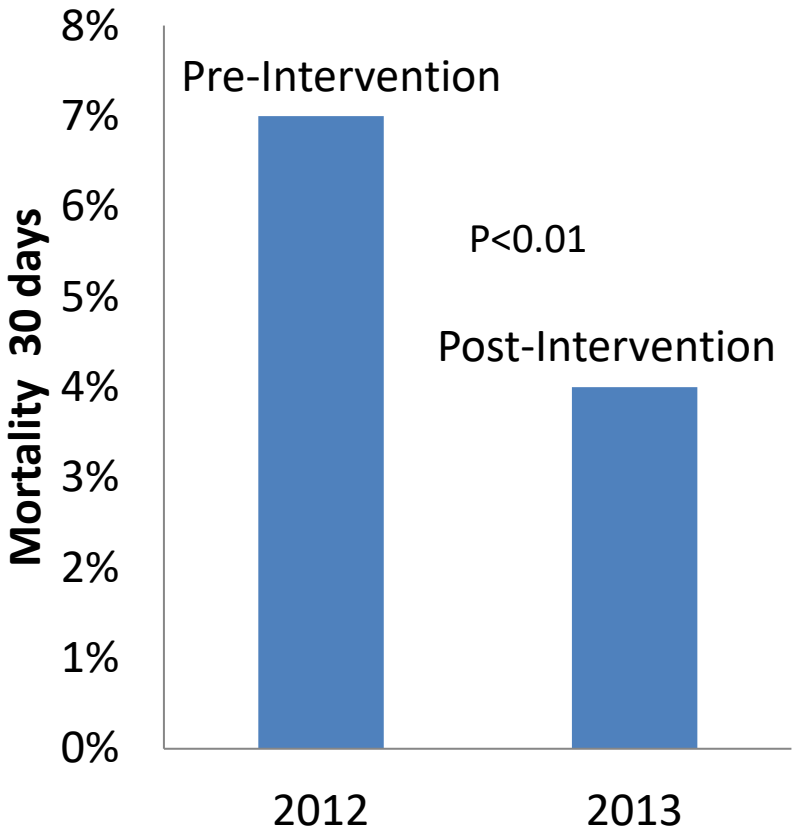
Chart Efficiency



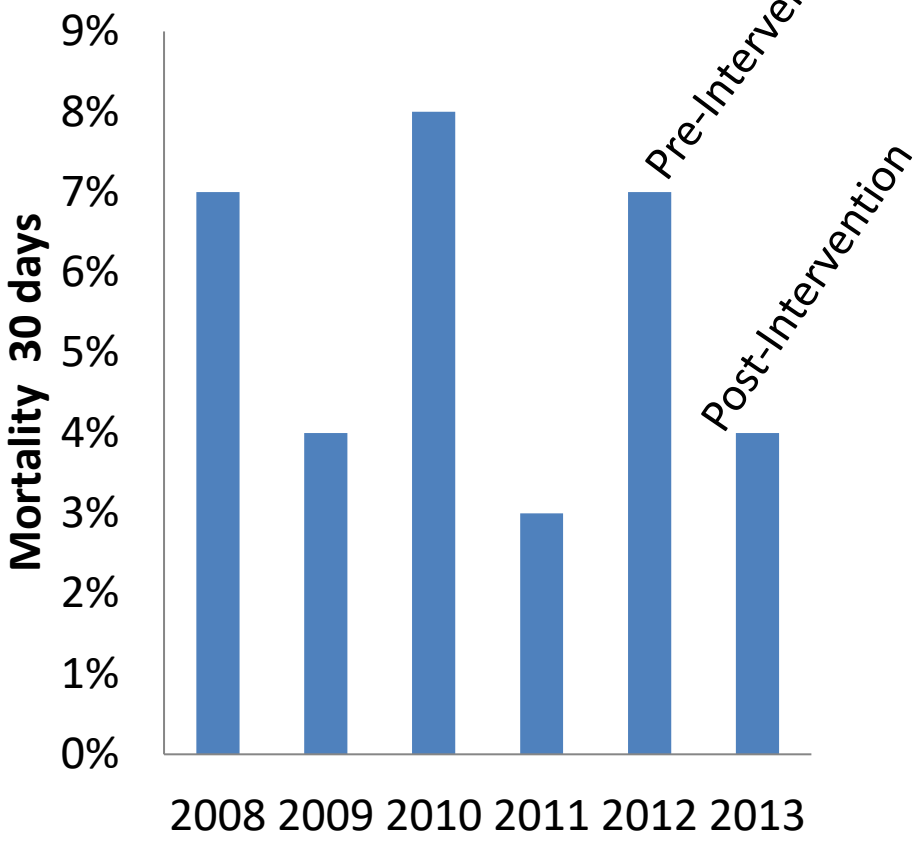
Leira EC, *Stroke 2019*

Integrity: Lack of Context

A

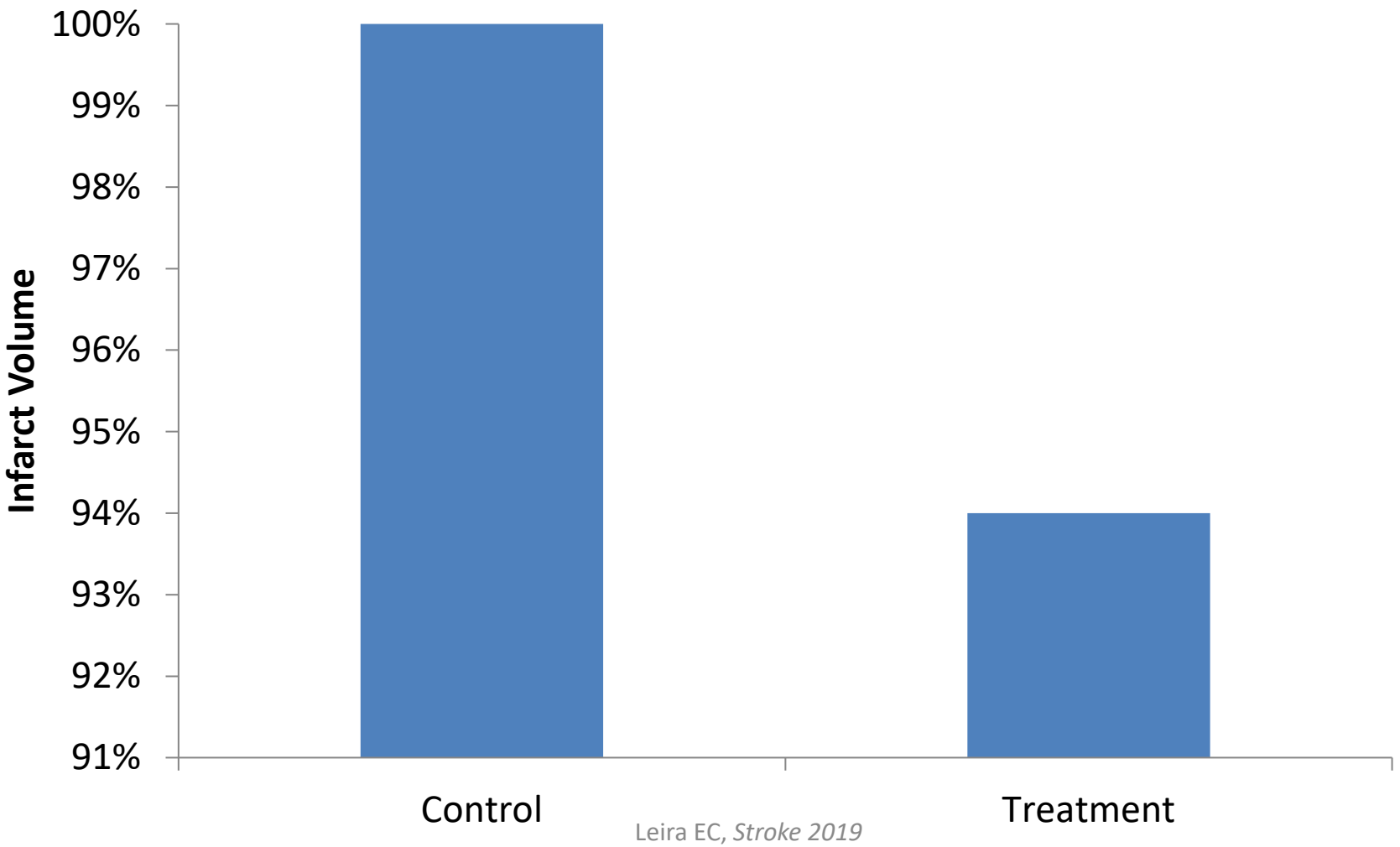


B



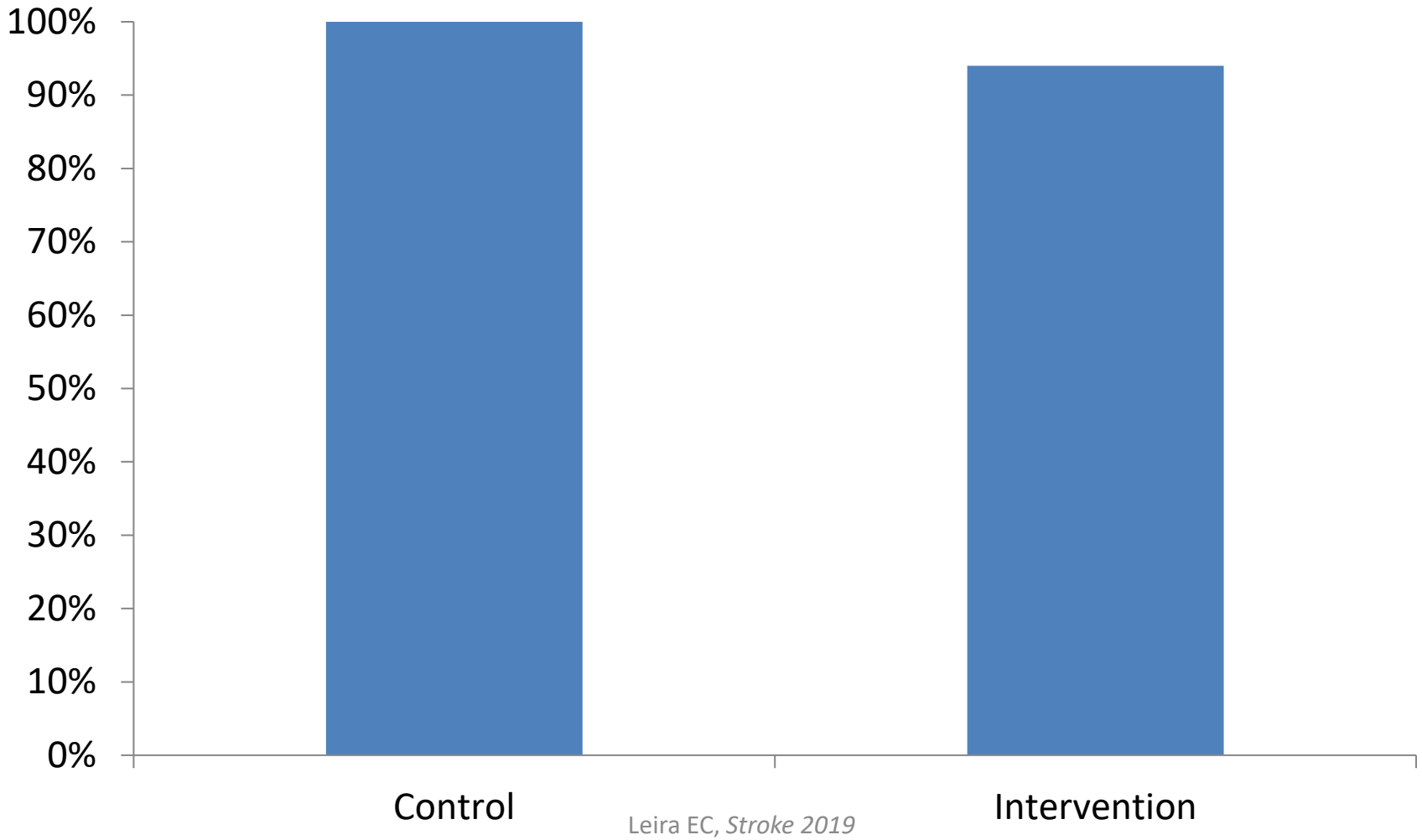
Leira EC, *Stroke 2019*

Axis Out of Scale



Leira EC, *Stroke 2019*

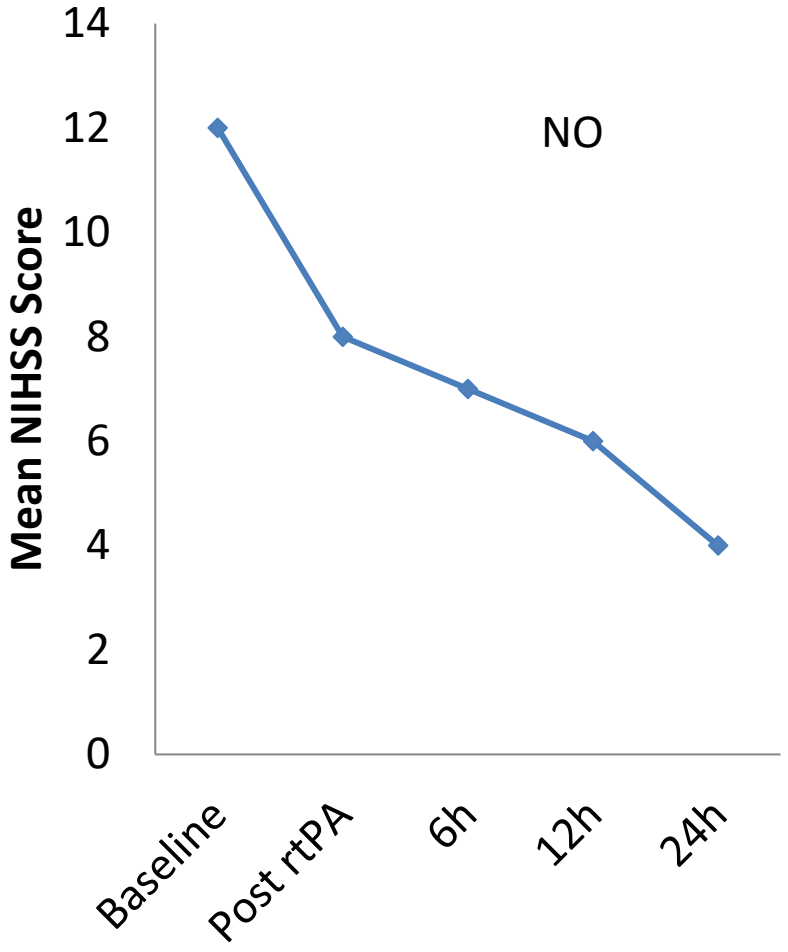
Integrity: Adjusted Scale



Leira EC, *Stroke 2019*

Integrity: Respect Discrete Data

A



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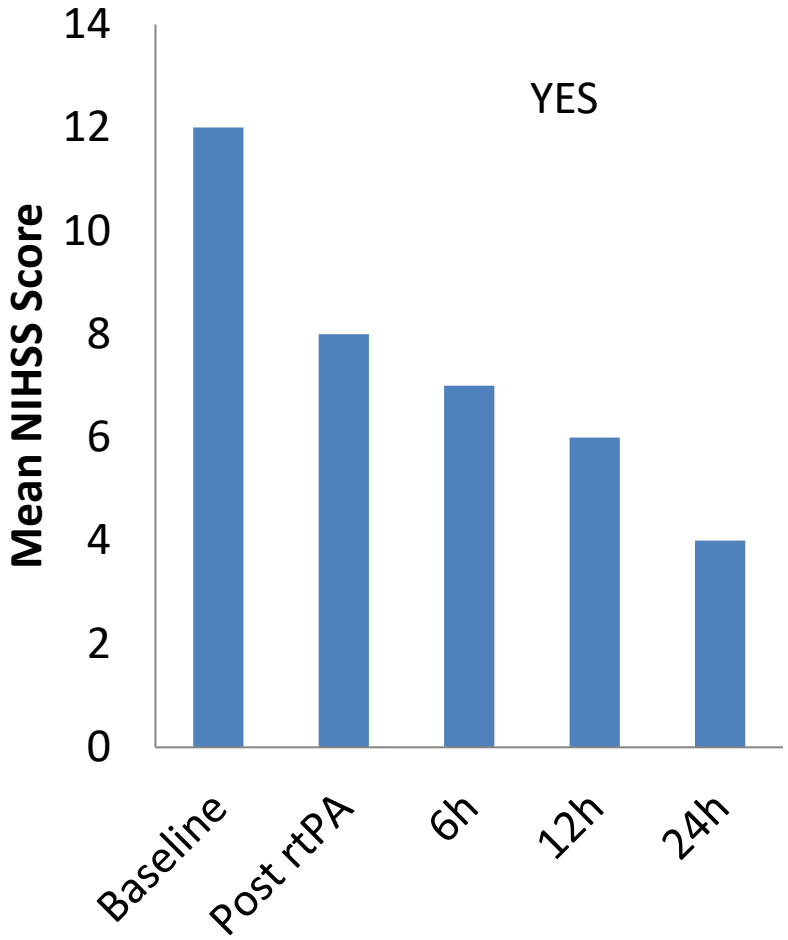

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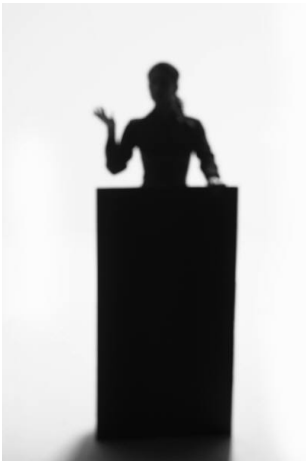
Oral vs. Poster

Oral Platform



- Localized in time and space
- Read and engage audience
- Rehearse, exercise prior & relax
- Confident body language
- Spontaneous talk
- Anticipate questions
- Admit ignorance or error

Leira EC, *Stroke 2019*

Oral Platform: don’t

- Read the slides
- Pretend you are alone
- Use laser pointer
- Take a beta-blocker
- Loose your calm during questions

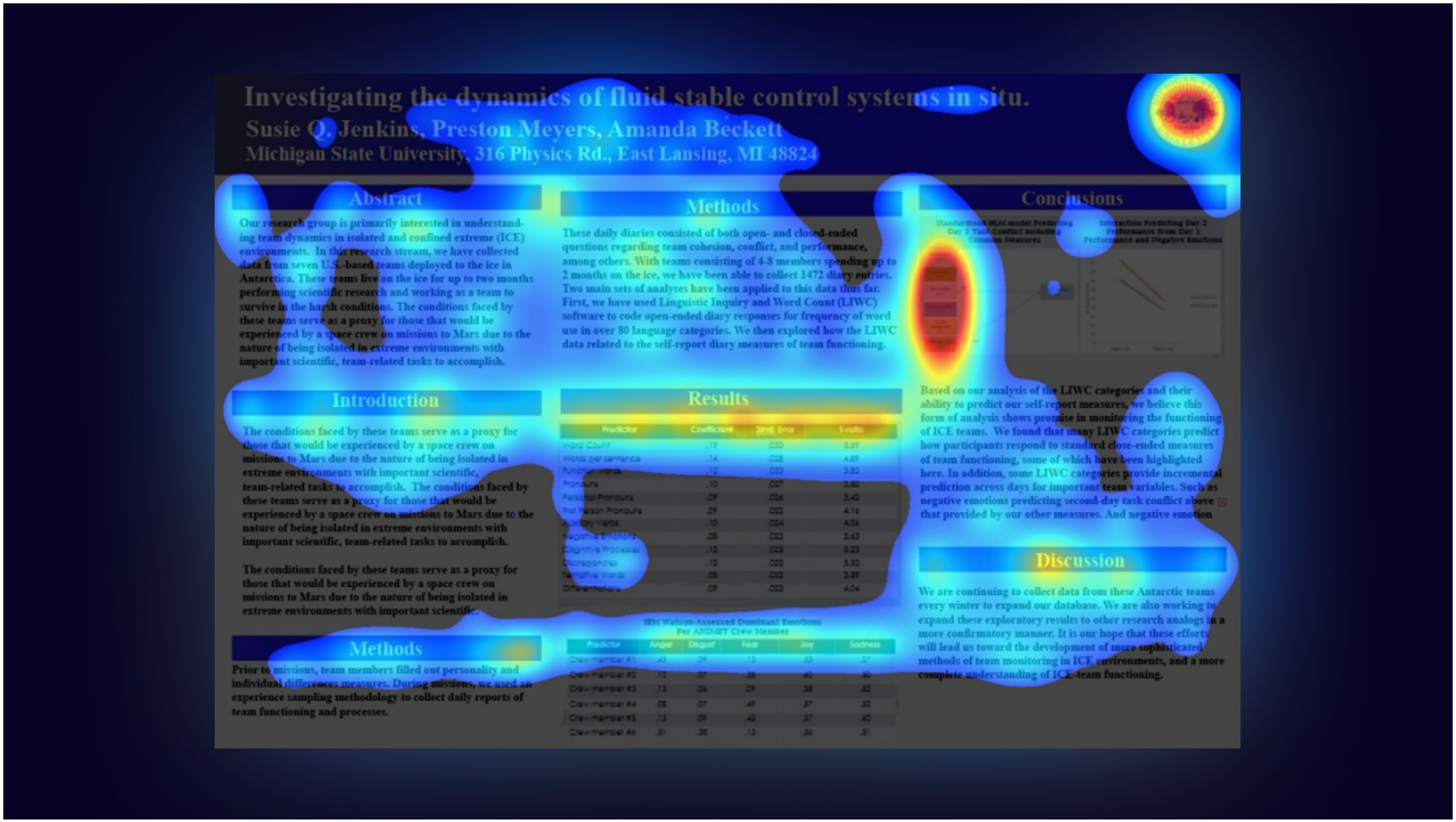
Leira EC, *Stroke 2019*

http://s3-ec.buzzfed.com/static/2014-05/enhanced/webdr06/27/11/enhanced-buzz-18743-1401206015-60.jpg

Tips for Posters

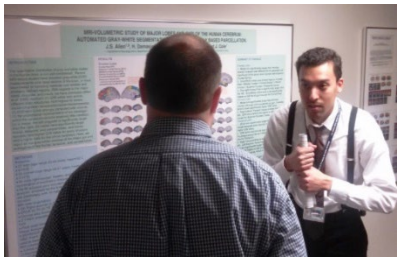
- Fixed in space, spread in time.
- Most people don’t interact
- Capture the audience
- Make the poster attractive
- Beware of the visual science poster

Eye Tracking in Posters



Tips for Posters (2)

- Reconsider institutional logo
- Mostly graphics
- Plenty white space
- Fewer words as possible
- Title, introduction and conclusions
- Avoid PGB “poster guarding behavior”



Leira EC, Stroke 2019

Summary

- Relaxed and enthusiastic performance
- Have a central message
- Work on a good title
- Summarize & summarize more
- Optimize color/text
- Plenty of excellent graphics

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