# 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

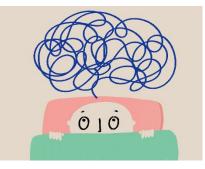
### **CONTENT**

- Goals
- Framework
- Common Pitfalls

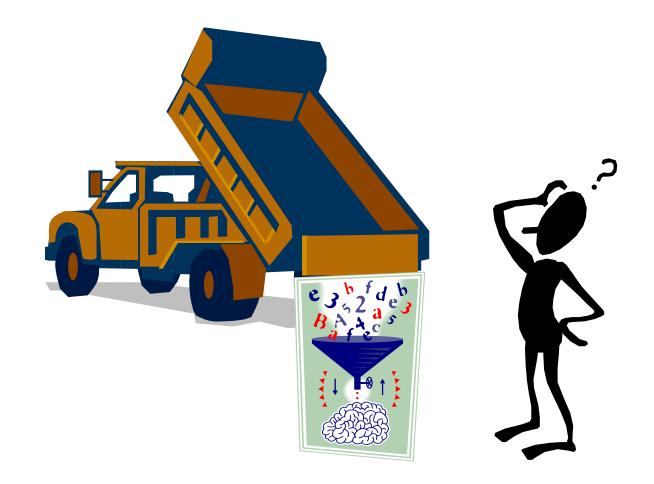
### **FORMAT**

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

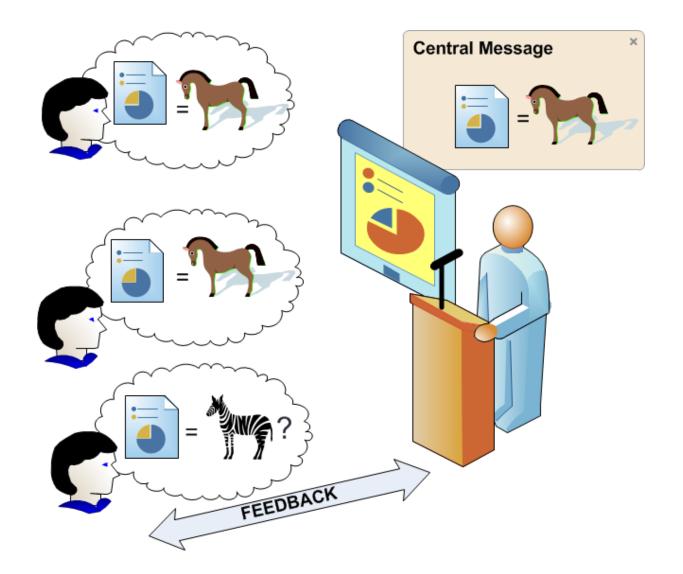
### CONTENT

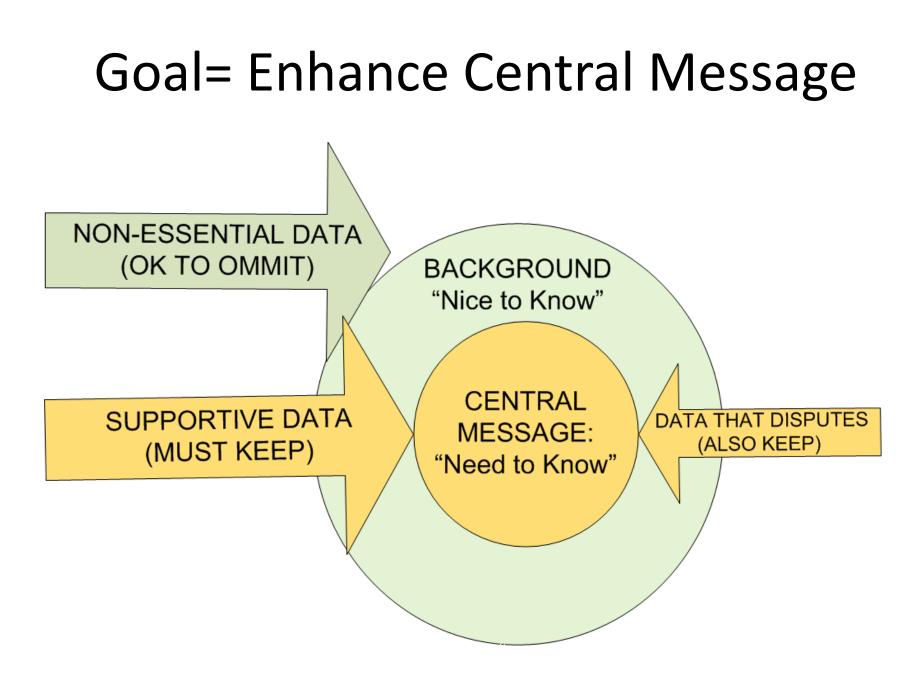


### Presentation ≠ Dumping Data



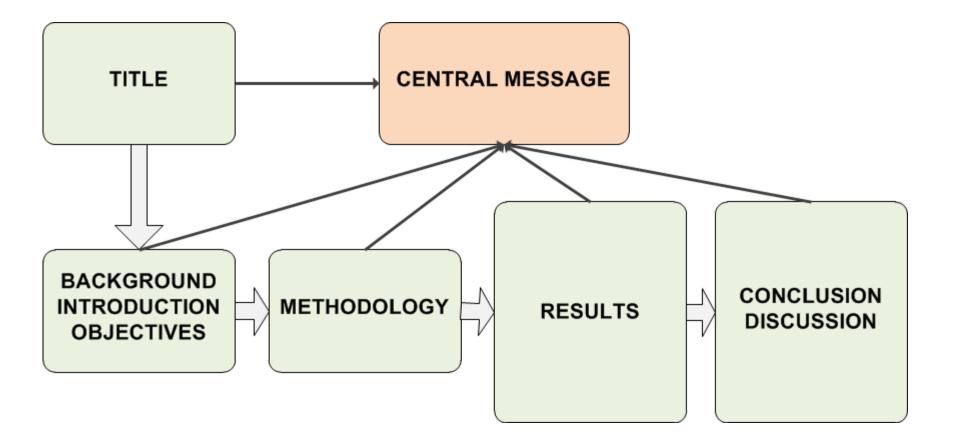
### Goal Presentation = Communication





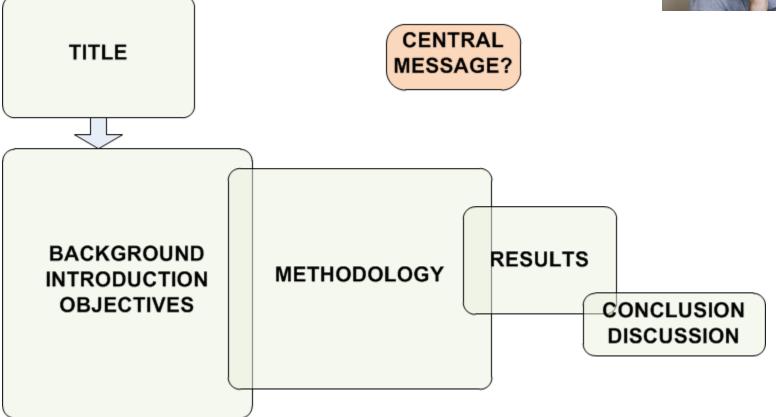
### Ideal Framework





### **Poor Presentation**

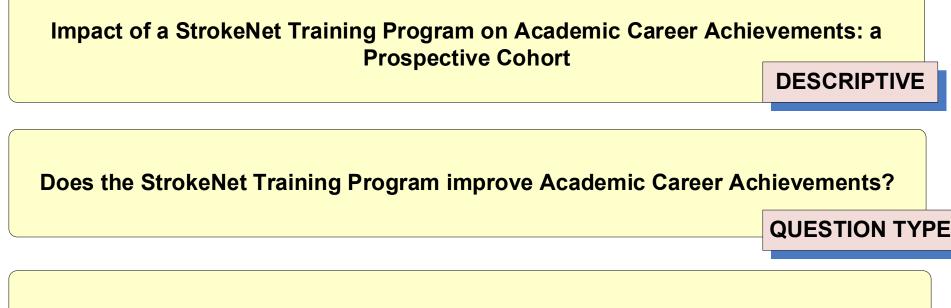




# Title is Key!

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

### 3 Types of Titles



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

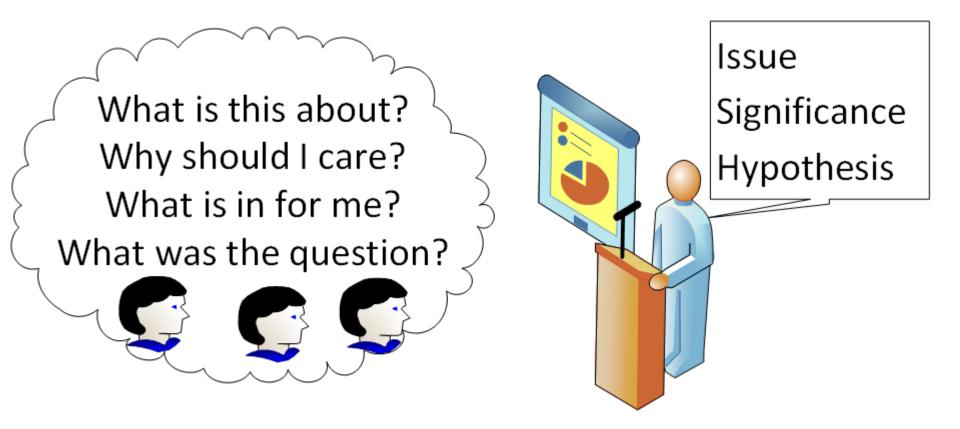


http://static.guim.co.uk/sysimages/Film/Pix/pictures/2013/2/8/1360326092958/Alfred-Hitchcock-010.jpg

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

Title Type	Number Papers	Citation Number	
Descriptive	2230	1296	
Question	57	1356	P= 0.029
Declarative	336	1411	

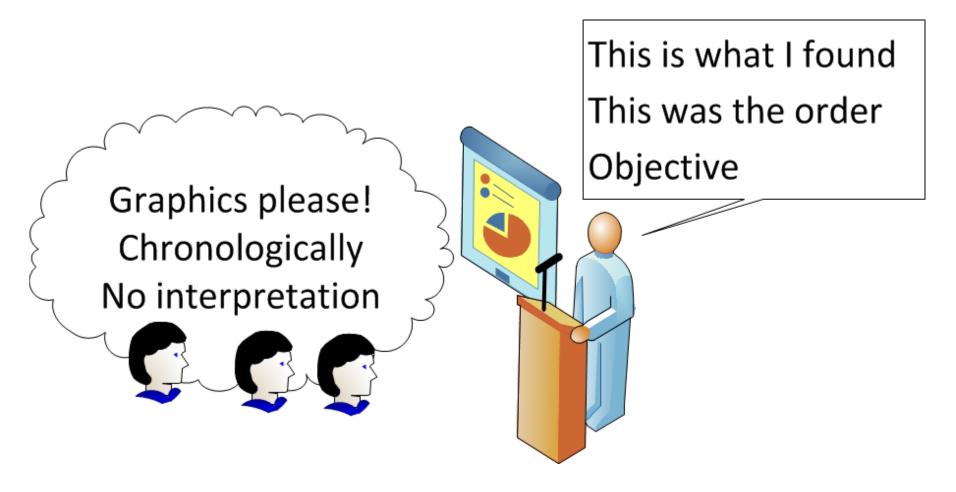
### **Background Section**



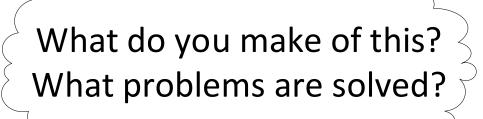
### **Methodology Section**

What type of study? Adequate for Question? Was it done right? Study Type Rigor of the approach

### **Results Section**

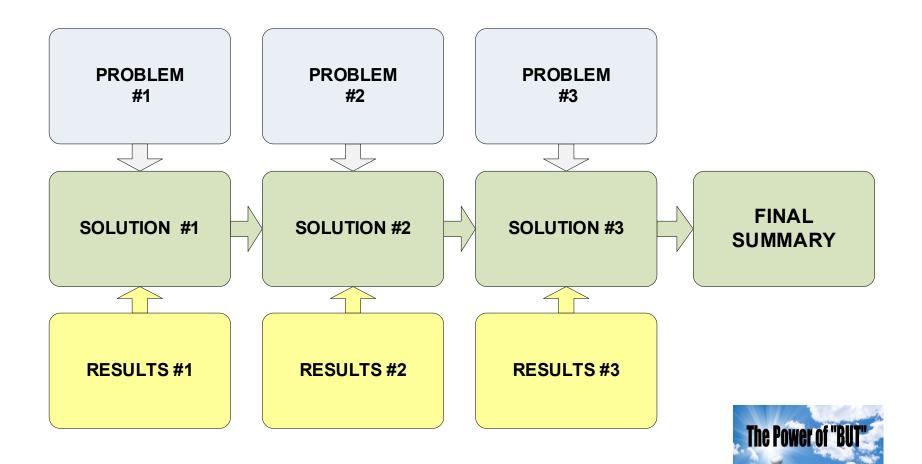


### Discussion



I tell a story I interpret results to solve problems

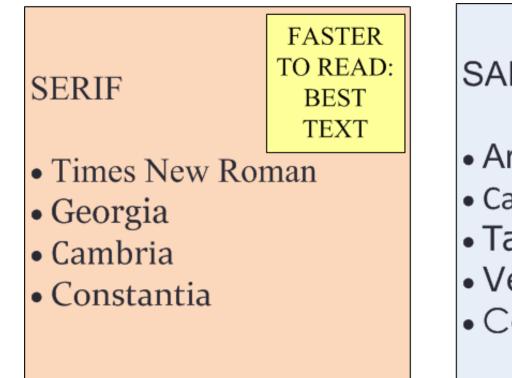
### **Discussion: Create a Story**



### FORMAT



### **Typeface Choices**



### SANS-SERIF

SLOWER TO

READ:

BEST

**HEADLINES** 

- Arial
- Calibri
- Tahoma
- Verdana
- Century Gothic

### 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

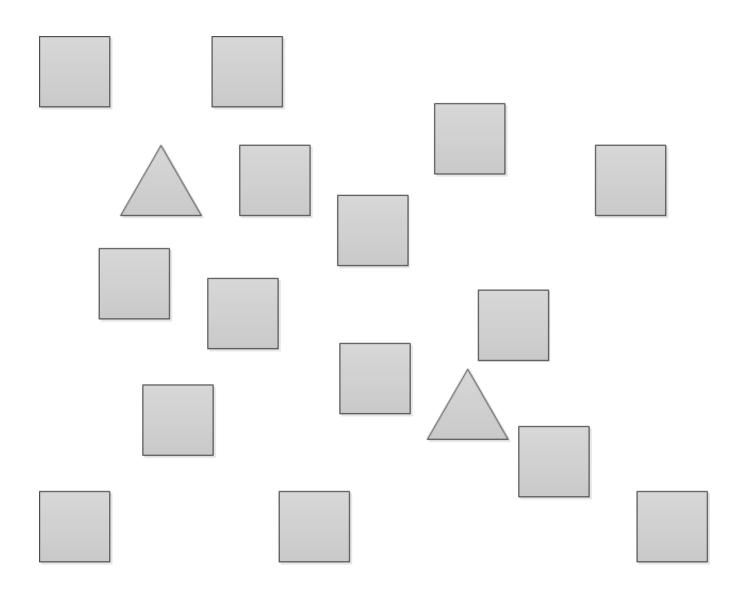
The Stroke Trials Network (NIH StrokeNet) is designed to maximize efficiencies to prioritize, harmonize and streamline the development of high-quality, multi-site clinical trials focused on key interventions in stroke prevention, treatment, and recovery. Early phase 1-2 exploratory and confirmatory phase 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

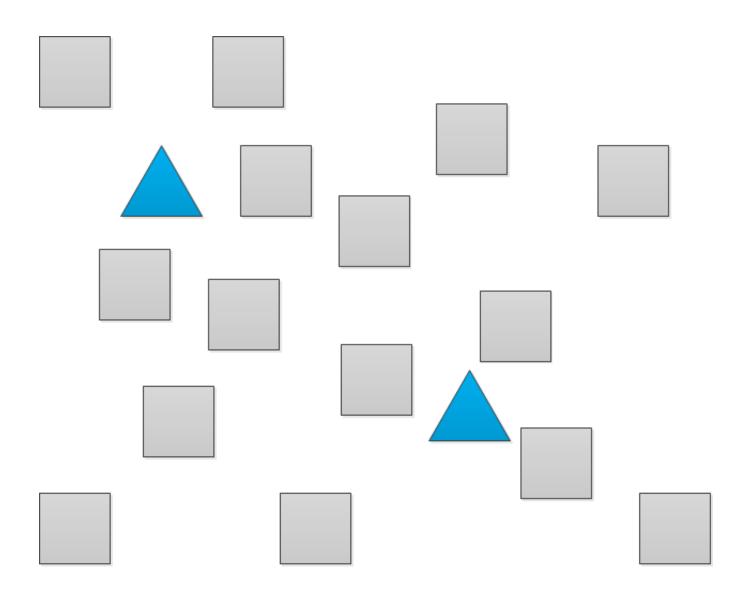
#### TEXT 3

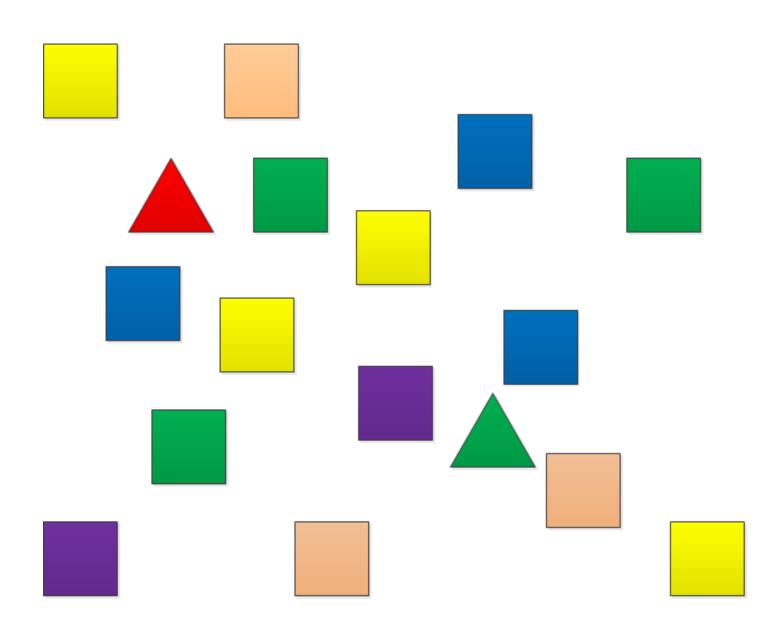
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### Format

- 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





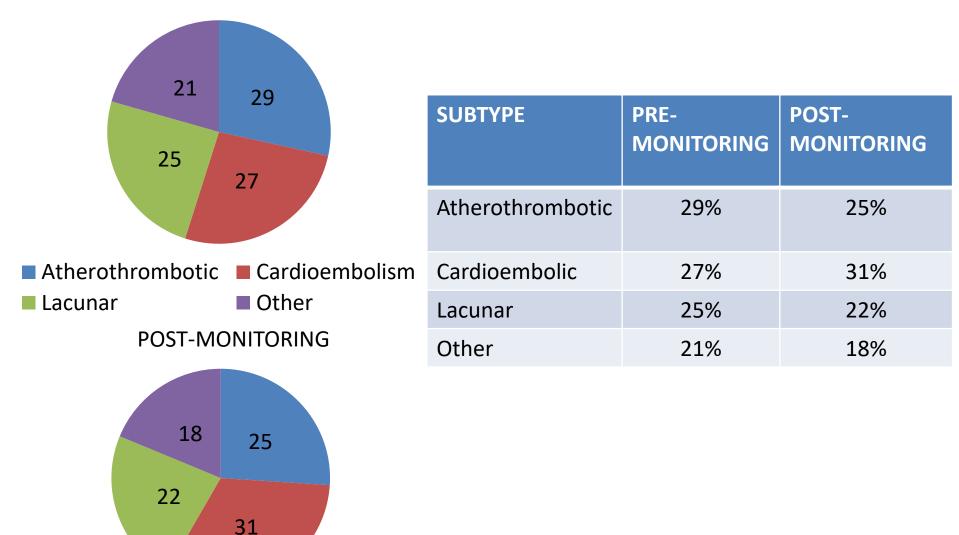


# Tables

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

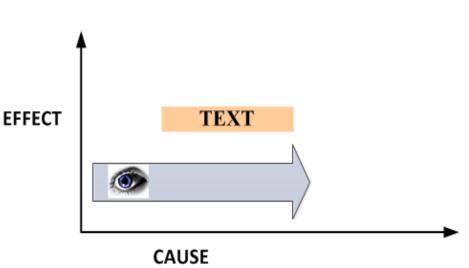
### Pie Charts are Not Precise..

#### **PRE- MONITORING**

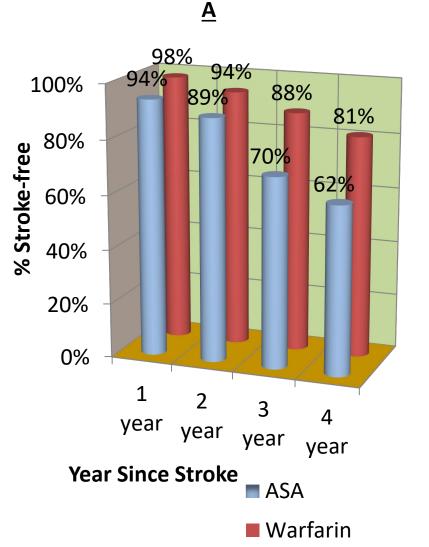


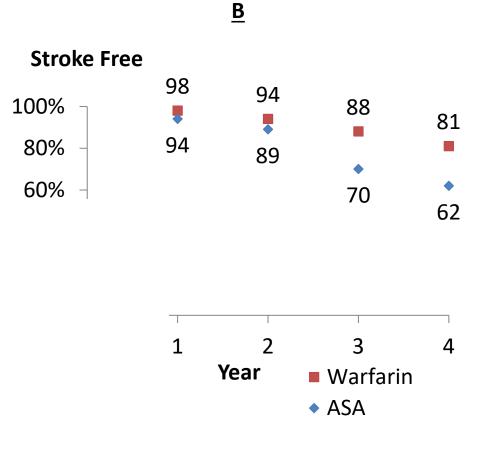
# Features Good Graphics

- 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..."



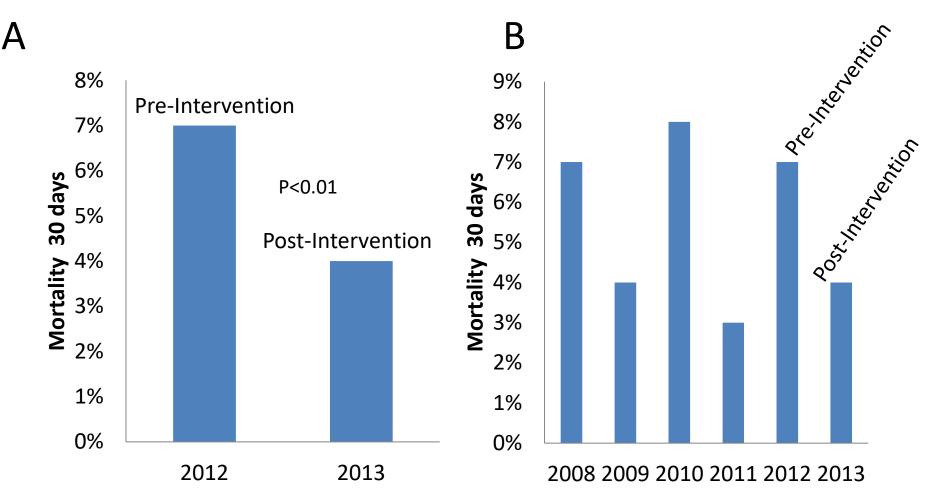
### **Chart Efficiency**





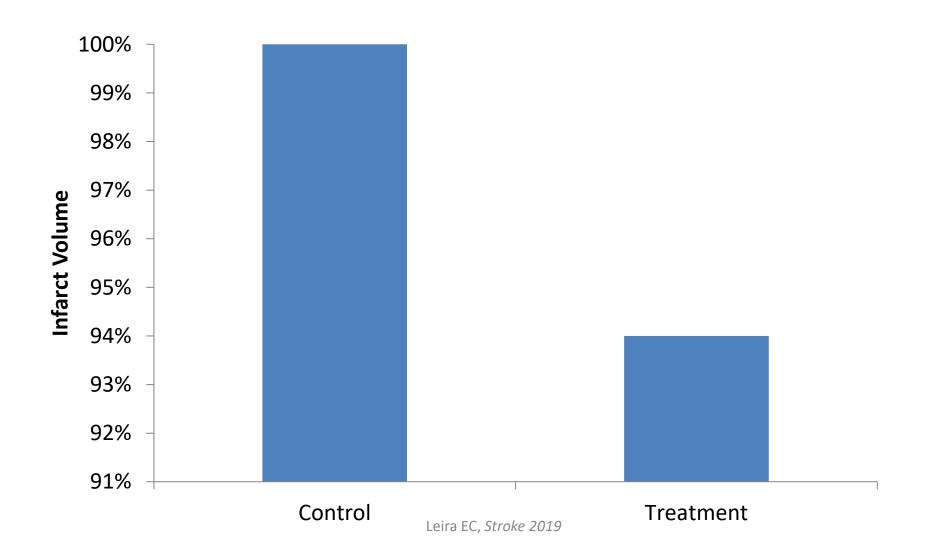
Leira EC, Stroke 2019

### Integrity: Lack of Context

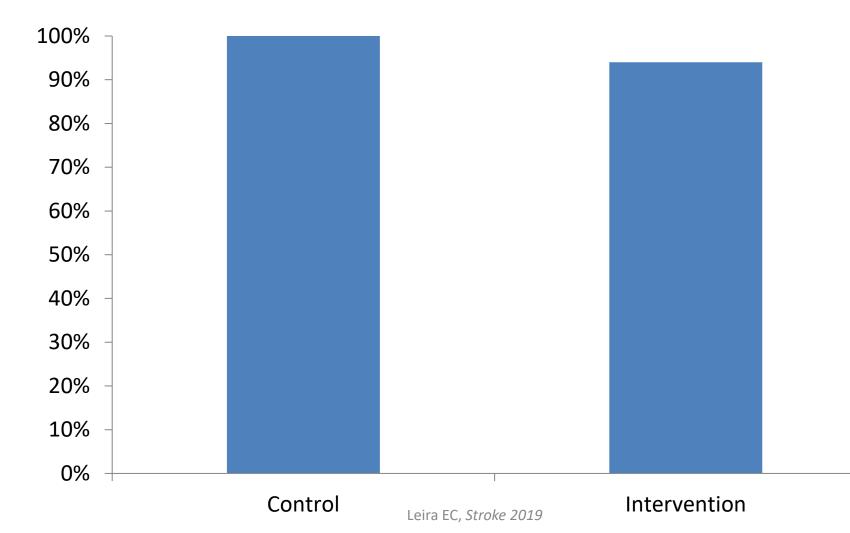


Leira EC, Stroke 2019

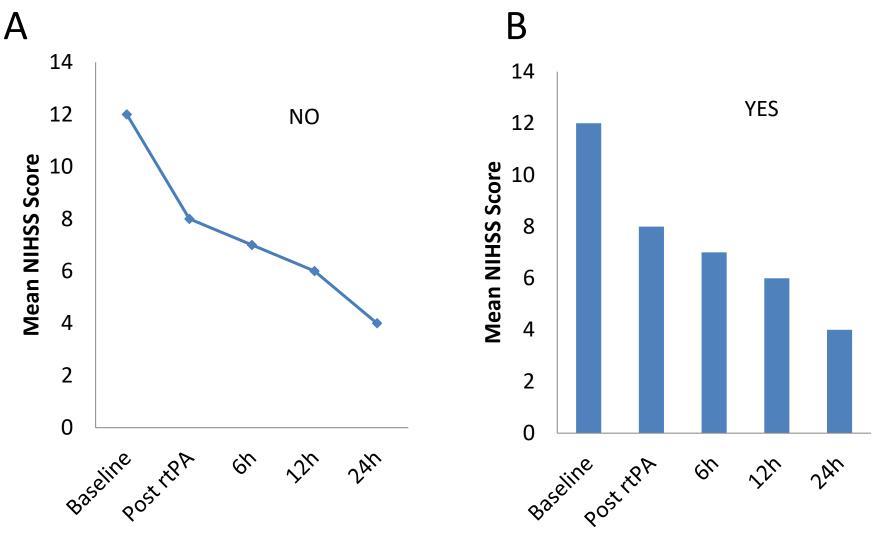
### Axis Out of Scale



### Integrity: Adjusted Scale



### **Integrity: Respect Discrete Data**



Leira EC, Stroke 2019

### 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



# Oral Platform: don't

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



# **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

**Investigating the dynamics of fluid stable control systems in situ.** Susie Q. Jenkins, Preston Meyers, Amanda Beckett Michigan State University, 316 Physics Rd., East Lansing, MI 48824

#### Abstract

Our research group is primarily interested in understanding team dynamics in isolated and confined extreme (ICE) environments. In this present stream, we have collected data from seven U.S.-based teams deployed to the ice in Antarctica. These teams live on the ice for up to two months performing scientific research and working as a team to survive in the harsh conditions. The conditions faced by these teams serve as a proxy for those that would be experienced by a space erve on missions to Mars due to the nature of being isolated in effreme environments with important scientific, team-related tasks to accomplish.

#### Methods

These daily diaries consisted of both open- and closed-ended questions regarding team cohesion, conflict, and performance, among others. With team consisting of 4-8 members speeding up to 2 months on the ice, we have been applied to this data thins far: First, we have used Linguistic Inquiry and Word Court (LIWC) software to code open-ended diary responses for frequency of word use in over 80 language categories. We then explored how the LIWC data related to the self-report diary measures of team functioning.

#### Introduction

The conditions faced by these teams serve as a proxy for those that would be experienced by a space crew on mixilon, to Mars due to the nature of being isolated in extreme environments with important scientific, ream-related tasks to accomplish. The conditions faced by these teams serve as a proxy for those that would be experienced by a space crew on mixistons to Mars due to the nature of being isolated in extreme environments with important scientific, team-related tasks to accomplish.

The conditions faced by these teams serve as a proxy for those that would be experienced by a space crew on missions to Mars due to the nature of being isolated in extreme environments with important scientific

#### Methods

Prior to missions, team members filled out personality and individual differences measures. During missions, we used anexperience sampling methodology to collect daily reports of team functioning and processes.

Results						
Predictor	Coefficient	Singl, Error	Tratio			
			5.67			
Words persentance	.14	.008	4.27			
Andianara	.12		3.82			
Pronauna		227	3.92			
Fersonal Pronouns	29	.004	2.42			
Arst Person Pronouns	.09	.002	4.16			
A Ony Varos		.004	4.06			
ACCT CONTRACTOR	/28	.023	3.63			
Cognitive Processes	.13	.025	3.23			
Dispreponcies	.12	.002	5.57			
Tentative Words	/28	.022	2.37			
Differentations	.59	.022	4.04			

#### IEM Walson-Assessed Dominant Emotions Per ANSHIT Crev Member

	PER ANSMET CREW MEMBER			142	
Predictor		Disgust			
Crew member #1	A2				
Crew marries #2	.10	.07	- 25		
Crew mampar #3	,12	.04	.01	- 31	
Crew mamber #4	.51			S.	.82
Crew member #5	.32	.29	.44	57	.40
Crew member #6	.31	.38	.13	.31	.51

Conclusions The second second

Based on our analysis of the LUWC categories and their ability to predict our self-report measures, we believe this form of analysis shows provaine in monitoring the functioning of LCE teams. We found that many LUWC categories predict how participants respond to standing down-ended measures of team functioning, some of which have been highlighted here. In addition, some LUWC categories provide increments prediction across days for important/eauntvariables. Such as negative emotions predicting second-day task conflict above that provided by our other measures. And negative emotions

#### Discussion

We are continuing to collect data from these Antarctic teams every winter to expand our database. We are also working to expand these exploratory results to other research analogs in a more confirmatory manner. It is our hope that these efforts will lead us toward the development of more ophisticated methods of team monitoring in ICE ravironments, and a more complete understanding of ICE feam functioning.

# 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"





### Summary

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

