Results

Abstract

Introduction

Methods

Results

Discussion

Acknowledgments
References

Everything depends on the results

Introduction:
Prepares you for

Methods:
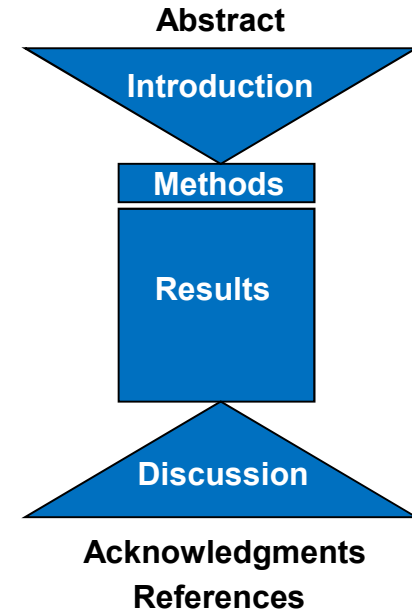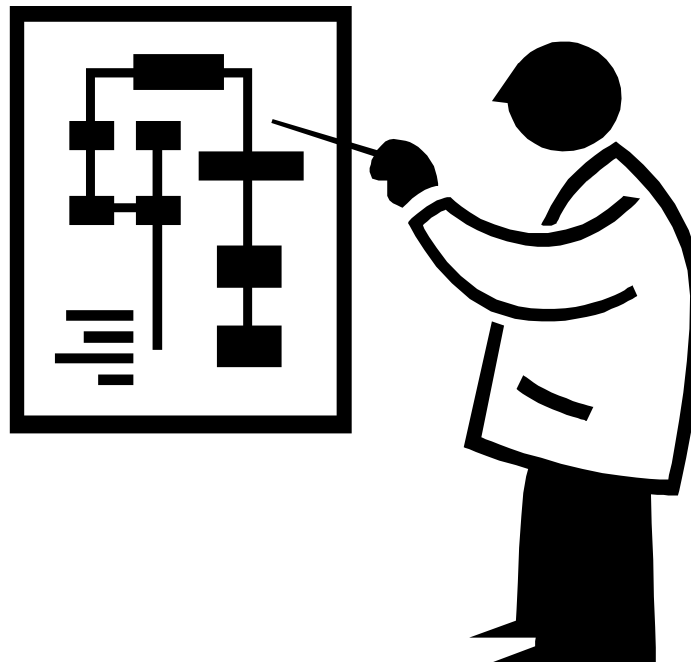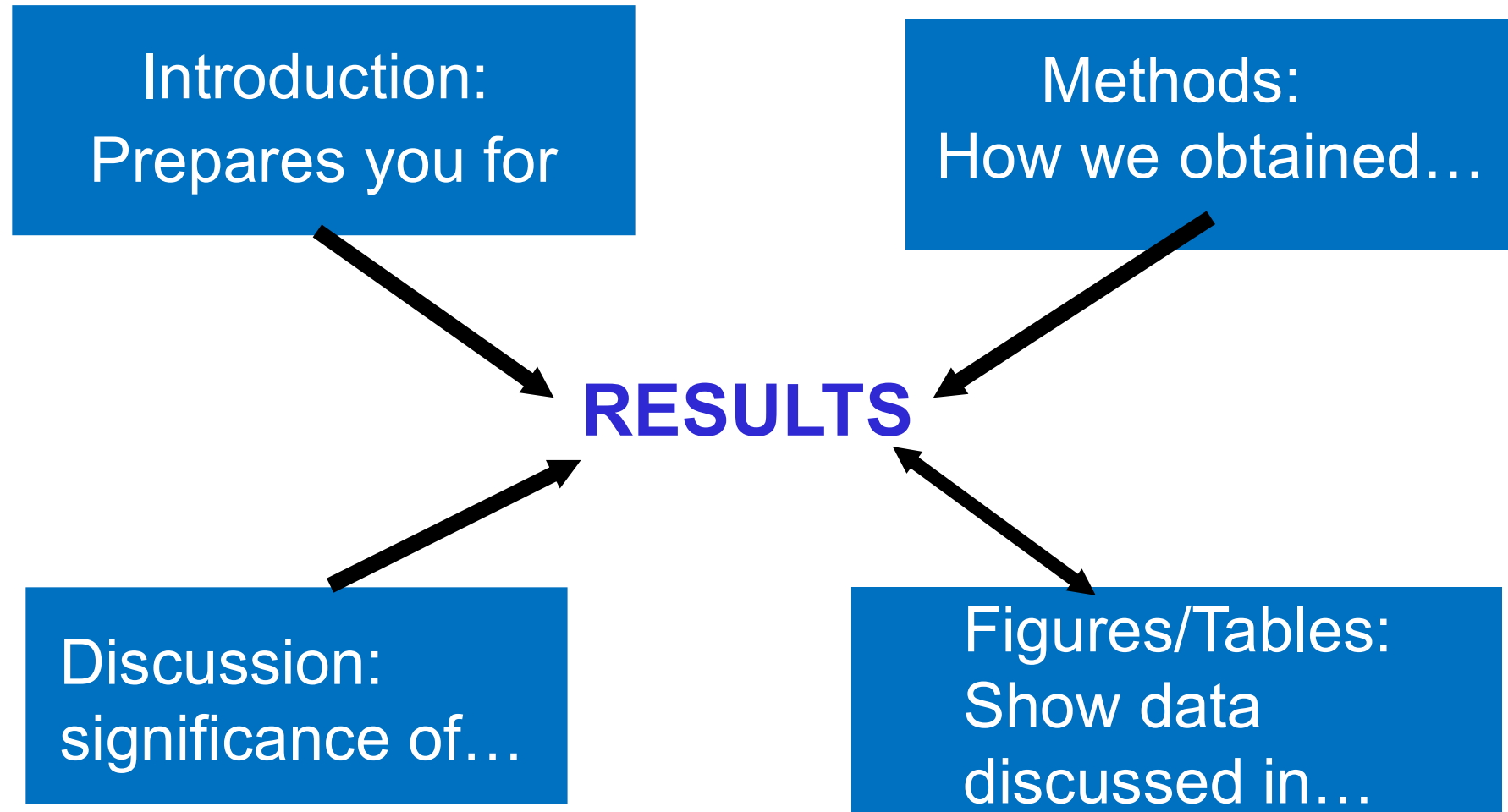How we obtained…

RESULTS

Discussion:
significance of…

Figures/Tables:
Show data
discussed in…

Purpose of results

1. Summarize the data

   – Reduce the data to a manageable size.

2. Lead the reader through the figures.

   – Point out important findings and interesting aspects of the data.

   – Style of results/structuring

3. Interpret your data

   - Point out trends

   - Style of interpretations

What to present?

- Data that supports your main point
  - Don't present every experiment!
  - More data is not always better
  - Summarize!
- How to present the data?
  - Use graphs, tables & figures
  - Try to limit it to 5!

Summarize

AVERAGES AND RANGES

- "The average number of cases per outbreak was 4.8 (range 2 to 25)."

PERCENTAGES

- "Of the 80 serum samples, 25% (20) had the presence of viral RNA."

Summarize: Percentages

- Always include the number of samples (N)

    Incorrect: A positive signal was detected in 75% of the blood samples.

    Correct 1: Viral RNA was detected in 75% (75/100) of the blood samples.

    Correct 2: Of the 100 blood samples, 75% had positive viral RNA.

Small number of samples

Beware of using percentages or statistics with small numbers of samples

Incorrect: "Sixty percent (3/5) of the samples from Asuncion and 20% (1/5) from La Paz demonstrated drug resistance."

Correct: "Three out of 5 samples from Asuncion and 1 out of 5 samples from La Paz demonstrated drug resistance."

Include controls?

When they demonstrate the utility/validity of the technique (e.g., PCR)

- Summarize controls point out the results that are from positive control
- Point out the results from the negative control

Lead the Reader: Describing Results

- Each figure/table should have at least one paragraph describing the results in that figure.

BE SURE TO REFER TO EACH FIGURE/TABLE

IN THE TEXT

- Each paragraph should end with a sentence summarizing the **important result** from that figure/table.

Style: Paragraph organization

- First sentence describes the experiment and why it is important.

- Next sentences describe the results and any issues about controls.

- Last sentence should be about the exciting findings and their importance (careful making assumptions or going into conclusions!).

Style: Organization of results/figures

- Chronological/Historical

  $1^{st} \rightarrow 2^{nd} \rightarrow 3^{rd} \rightarrow$ Lastly

  Most important result may be last

- Thematic

  Most logical sequence

Interpret Your Data

Generalize from the data

   Point out trends and patterns

   Tell the reader what to notice

Ref: Penrose and Katz

Describe statistics correctly

- If you ran a statistical analysis make sure that you say what type of test and what level of significance

  Correct: "X was significantly higher in males than in females (t-test, p-value>0.05)."

- If you did not run a statistical analysis, beware of saying "x was significantly higher in males than in females"
  - The word "significantly" implies statistical significance
  - Don't use the word significantly, if you did not run a statistical analysis!

  Correct: "There appeared to be higher levels of x in males than in females"

Talk about importance

- Point out similarities

  "The distribution of occurrence of Delhi genotypes by drug susceptibility status is shown in Table 2. Similar frequencies of the Delhi phenotype were found among resistant and susceptible isolates."

Point out differences

Include details (numbers) and refer to the figure

"Among the 83 isolates studied, 60 isolates
belonging to the Delhi genogroup displayed a
distinctive set of sequences as shown in Figure 3."

Style: Discussing figures

Be concise/brief when describing a table or figure

Incorrect: It is clearly shown in Table 1 that nocillin inhibited the growth of *N. gonorrhoeae*.

Correct: Nocillin inhibited the growth of

N. gonorrhoeae (Table 1).

Style: Scientific words

In describing the importance of your data, be strong but cautious:

- Incorrect: "This <u>definitively</u> proves that drug resistance is higher in Esmeralda."

- Correct: "This <u>suggests</u> that incidence of resistance to anti-malarial drugs is higher in Esmeralda."