Giving an Effective Scientific Presentation

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Memory and Aging Center
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Overview

I. Why Present

II. What to Present
   - Telling a scientific story
   - Know your audience

III. How to Present
   - Power point basics
   - Presentation and Communication Skills
Why Present?

- Communicate your science beyond the lab
- Get Feedback from others
- Network
- Career Advancement
  - Grant proposals and job applications
  - Promotions
  - Grant renewals and progress reports
  - Establishing expertise in the field
Organizing your content

- Identify 1 or 2 overarching themes or questions
- Create an outline before preparing slides
- Start broad and progress to more specific
- Tell a story - logical, not chronological
Organizing your content

• Tailor to audience
  • What is the audience’s existing knowledge on the topic?
  • What is the audience’s goal? (CME vs. scientific information)
  • What is the audience’s interest in the topic?
  • What are your goals for giving your talk to this audience?
Questions to Answer

What is your scientific question?
Introduction and Hypothesis

Why should people care?
Background, Rationale, Importance to the field

What did you do?
Methods

What did you find?
Results

What do your results mean?
Discussion and Conclusion
How to prepare your slides
Approach

1. Title- short and clear
2. Disclosures (if needed)
3. Outline (for larger talks only)
4. Introduction/Background
5. Methods
6. Results
7. Limitations
8. Conclusion/Implications
9. Acknowledgements
Introduction and Background

- Why is this important? (separate slide)
  - Prior work on the topic (include citations)
  - Who is impacted? Clinical or policy implications?
  - How you will your work contribute to the field and this particular topic?
  - How will your work impact patients, clinicians, researchers?

- Make sure it will connect to the discussion

- Establish your scientific question and state your hypothesis in one slide (optional)
Methods

• Describe the population

• What type of study?

• What tools were used?

• Statistical Approach
Results

• Concise, clear, and thorough

• Provide charts, graphs and tables whenever possible

• Include statistical values (p, mean, etc.)

• Only present what is relevant to your main point

• Limit amount per slide (don’t cram)
Limitations

Address Shortcomings:

• Is your sample size small?

• Were the measures used not optimal for your population?

• Are your findings applicable across populations or restricted to certain demographics?

• What can be done better/differently next time?
Conclusions/Implications

1. What do you want to leave the audience thinking about?

2. What is your major point? Drive it home here in one sentence

3. Interpret results in the context of the bigger picture and implications for future research

*Refer back to Introduction
# Number of Slides per Section

<table>
<thead>
<tr>
<th>Section</th>
<th>Typical 12 Min Talk</th>
<th>Your 10 min MSTAR talk</th>
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<td>Title</td>
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</tr>
<tr>
<td>Disclosures</td>
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<td>0</td>
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<tr>
<td>Introduction &amp; Background</td>
<td>2</td>
<td>3**</td>
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<tr>
<td>Methods</td>
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<td>Results</td>
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<td>Limitations</td>
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<td>Conclusions &amp; Implications</td>
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* Expected findings
** Be sure to state hypothesis
Slide Design and Layout

• Be cautious with Powerpoint templates- use departmental templates

• Avoid fancy animations and special effects

• Use your ‘white’ space sparingly

• Title slides with succinct, descriptive headings
Colors

• Use high contrast colors:
  • Dark background and light letters – large spaces
  • Light background and dark letters – small spaces

• Avoid neon colors in text or background
Text: Less is more

- If I typed out everything I was going to say in full sentences on my slide then you would want to read it and would begin to tune in and out of my voice, which would be repeating what my slide says since I've left nothing for me to reveal verbally. It's much better to display a modest number of key phrases or sentences that you are going to state out loud.

Text: Less is more

- Avoid full sentences
- Use small phrases and key words
- Use legibly sized font
- Slide text dissonance (STD)
Text Technicalities

• 1.5-2 pt. spacing between bullet points
• Use Sans Serif Fonts
  • Arial, Calibri, Helvetica
• Font size:
  • Headings: 36-44 point
  • Body: 24-36 point
  • References: 14 point
• This is 14 point
• This is 18 point
• This is 36 point
• This is 44 point
Charts, graphs and visuals

- Minimize number of figures in one slide (1 main figure/slide)
- Provide clear, easy to read titles and axis labels
- Orient the audience to what is most important in the figure
- Simplify complex figures to bare necessities
Ten Year Risk of Cardiovascular Events

<table>
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<th>Men</th>
<th>Women</th>
<th>Risk Factors</th>
<th>No Lipodys</th>
<th>Lipodys</th>
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<tr>
<td>30 yo No Smoke</td>
<td>30 yo No Smoke</td>
<td>50 yo No Smoke</td>
<td>50 yo No Smoke</td>
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<tr>
<td>No Lipodys</td>
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<td>3.6</td>
<td>1.1</td>
<td>6.3</td>
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<tr>
<td>Lipodys</td>
<td>1.9</td>
<td>9.1</td>
<td>3.6</td>
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# Projected Scans by Arm: 9/2014-5/2015*

<table>
<thead>
<tr>
<th>Arm</th>
<th>Baseline</th>
<th>Wk48</th>
<th>Wk96</th>
<th>Wk144</th>
<th>Wk192</th>
<th>Total</th>
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<tbody>
<tr>
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<td>0</td>
<td>0</td>
<td>5</td>
<td>18</td>
<td>23</td>
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<tr>
<td>Deferred wk144</td>
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<td>7</td>
<td>6</td>
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<tr>
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<td>3</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>12</td>
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<tr>
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<td>10</td>
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*Assuming no new enrollees
## Projected Scans by Site: 9/2014-5/2015*

<table>
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<tr>
<th>Site</th>
<th>Baseline</th>
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<th>Wk96</th>
<th>Wk144</th>
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<td>1</td>
<td>6</td>
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<td>KKU</td>
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<td>0</td>
<td>5</td>
<td>5</td>
<td>12</td>
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<tr>
<td>RIHES</td>
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<td>0</td>
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<tr>
<td>Total</td>
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<td>3</td>
<td>10</td>
<td>19</td>
<td>68</td>
<td>100</td>
</tr>
</tbody>
</table>

*Assuming no new enrollees

Combine HIV-NAT and KKU – call them HIV-NAT/KKU
Total NAB Performance

Total NAB across groups. ANI did not differ from MND, but both ANI and MND performed more than 2 SD below controls.

Chiao et al. AIDS Res. 2013
Network Connectivity Integrity in HIV
Presentation Basics

• Plan your words, but don’t memorize a script
• Be mindful of time limits (avg. 1 min/slide)
• Speak slowly and enunciate- pace yourself
• Take pauses to allow audience to catch up
• Demonstrate confidence- don’t doubt yourself but recognize the extent of your knowledge
Body Language

**Body**
- Stand straight (don’t lean at an angle)
- Don’t fidget, play with your hair etc.
- SMILE!!!

**Eyes**
- Don’t stare at your slides- speak to your audience
- Scan the audience and make eye contact

Adapted from UCSF OCPD ‘Presentation Tips for designing and delivering a dynamic research talk’
Prepare by considering what questions may be asked

Practice in front of others to get feedback and suggestions for possible questions
When asked a question:

- Listen carefully and restate question if not certain you heard correctly
- Take a moment to think out your answer
- Don’t doubt yourself- be confident!!

If you don’t know the answer:

- Try your best and acknowledge importance of the question
- Consider if it will help you in your work
- Don’t be rude or condescending
Summary

• Keep it simple and concise
• Know your audience
• Know your presentation goals
• Get feedback
• Be Confident
• Practice Practice Practice!!!
Further Resources

- UCSF Office of Career and Professional development
  - Mock presentation opportunities for practice and feedback

- Scitable.com (by Nature.com): ‘English Communication for Scientists,’ Unit 4: Giving Oral Presentations
Engaging the Audience

• Start with attention grabber

• Road map:
  • Provide a preview slide at beginning with outline of the talk and refer back to it throughout the talk to help orient

• Include audience in the story telling, use ‘we’, rather than ‘I’

• Use humor - but remain culturally sensitive (no nationality jokes) and professional
Transitions

• Provide verbal transitions that direct audience when moving onto a new point or concept

• Important in telling your story in a manner that audience can follow

• Review major points before moving on to next point
  • ‘So now that we’ve looked at what to present, we’ll look into how to present’