Writing Research in Plain English

Mari Boesen
Associate Director, Pragmatic Clinical Trials Platform
Lay Summaries

Persuasive
- Sell your ideas in grant applications
- Published with funding decisions

Teaching
- Seeking community input and awareness
- Recruiting participants

Motivational
- Create excitement about your findings
- Presenting to a non-scientific audiences
Plain English

Your intended audience should be able to understand what you’ve written the first time they read it.

“If you ever own one of these properties, you agree to:”
1. Shorten Your Sentences

- Sentences should be 15 – 25 words
- One sentence is one idea

Because observational studies are subject to biased assessment of outcomes, new screening programs should be introduced in the context of randomized controlled trials that allow potential risks to the population to be minimized.

Observational studies are subject to biased assessment of outcomes. New screening programs should be introduced in the context of randomized controlled trials. Randomized controlled trials allow potential risks to the population to be minimized.
Shorten Your Sentences

• Cut out unnecessary words

- For the purpose of → to
- At the present time → now
- Due to the fact that → because
- In spite of the fact that → although
- In the event that → if
Babies born preterm have to often undergo several painful procedures after birth. Exposure of these infants to repeated pain and stress may lead to poor outcomes. Sedatives provide pain and stress relief to these babies. Sedation is an important part of care for babies in the intensive care unit. Sedatives that are currently used have some side effects that are not good. So it is important to find drugs which are effective and have less or no side effects. In this new study, the safety and effectiveness of a new drug will be studied. The study population will be babies who meet the study conditions and who are in need of sedation in the intensive care unit. The drug will be given through a vein for 6-24 hours. During treatment, blood will be drawn for analysis. Patients will be followed up to 7 days after stopping the study drug.
Firefighters are exposed to significant personal risk while providing essential services. Musculoskeletal (MSK) injuries, poor fitness & cardiovascular health are common problems.

We are evaluating the impact of a community-based medical, fitness, and MSK injury screening and education program.

We will conduct a screen of MSK injury and fitness of 150 firefighters with signs of emerging MSK problems. From these, 75 will be educated about how to perform their work in a manner that reduces the risk of injury.

We will evaluate our success by measuring health and work indicators at the start, and 6 & 12 months later.
Organize Your Story

The Context

- Describe the problem
  How does it fit into the bigger picture?
  Give us a reason to care

What Will the Trial Do?

- What will be compared/tested?
  What is the treatment that will be given?

More Information

- Who can be involved?
  How will they be selected?
  Where is the research taking place?

Impact and Outcomes

- What will happen next?

Example from: Joy MacDermid, McMaster University
2012 Winner of CIHR IMHA Research Ambassadors KT Award
Organize Your Story

Main point at the end

Given the beneficial impact of patient advisory committees, patient-oriented research techniques have been increasingly used in clinical trials.

Patient-oriented research techniques have been increasingly used in clinical trials given the beneficial impact of patient advisory committees.

Main point at the beginning
Consider Your Grammar

- Avoid nominalization
- Use active verbs

Nominalization is changing verbs to nouns.

**Passive Voice**

“**You will be asked** questions about your health.”

**Active Voice**

“**We will ask** you questions about your health.”

**Investigation** = to investigate

“**Our intention** is to perform an **investigation** of migraines.”

“We **intend to investigate** migraines.”

“We **will investigate** migraines.”
• Use simpler terms or descriptions

- Efficacy: How well (a treatment) works
- Predisposed: Likely to
- Thrombosis: Blood Clot

• Give an example or an analogy

Previous work has shown that pulmonary arterial vascular smooth muscle cells (VSMCs) exhibit cytoskeletal variation.

We have seen that muscle cells from lung artery walls differ from each other in their cytoskeleton (structural scaffolding).
Tips & Tricks

• Write it like you’re speaking to the reader
• Proof it in a different format
• Find the right balance of information
• Ask representatives of your intended audience to read it for you
• Check the readability score
The RCT study design mitigated selection bias by randomizing patients to receive either duloxetine or placebo, and it supported true causal inferences about treatment effects on the brain by controlling treatment assignment experimentally.

We assigned patients to receive either the drug or placebo by random. This helps us draw conclusions about the true effect of the drug on the brain.
<table>
<thead>
<tr>
<th>Other Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plain English Campaign</strong></td>
</tr>
<tr>
<td><a href="http://www.plainenglish.co.uk/files/medicalguide.pdf">http://www.plainenglish.co.uk/files/medicalguide.pdf</a></td>
</tr>
<tr>
<td><strong>Alternative Language for Medical Terms</strong></td>
</tr>
<tr>
<td><a href="https://hsoresearch.uiowa.edu/medical-terms-lay-language">https://hsoresearch.uiowa.edu/medical-terms-lay-language</a></td>
</tr>
<tr>
<td><strong>Lay Summary Checklist &amp; Advice</strong></td>
</tr>
<tr>
<td><a href="http://www.ccra-acrc.ca/images/CCRC/slide/Lay_Abstract_and_Summaries_Writing_Advice.pdf">http://www.ccra-acrc.ca/images/CCRC/slide/Lay_Abstract_and_Summaries_Writing_Advice.pdf</a></td>
</tr>
<tr>
<td><strong>Program for Readability in Science and Medicine</strong></td>
</tr>
<tr>
<td><strong>Canadian Institute for Military and Veteran Health Research</strong></td>
</tr>
<tr>
<td><a href="https://cimvhr.ca/forum/resources/WritingTheLaySummaryBasics.pdf">https://cimvhr.ca/forum/resources/WritingTheLaySummaryBasics.pdf</a></td>
</tr>
</tbody>
</table>
References

Inspiration from Dr. Lynn Dicks:  
https://www.youtube.com/watch?v=Mn7f5tsgjx8

West Virginia University IRB example:  
http://oric.research.wvu.edu/files/d/143b076c-3a96-4c73-be6f-fc6fe986bc6a/lay-summary-examples.pdf

Joy MacDermid, McMaster University, 2012 Winner of CIHR IMHA Research Ambassadors Knowledge Translation Award:  
http://www.cihr-irsc.gc.ca/e/43205.html#l

Clinical and Translational Radiotherapy Research Working Group:  