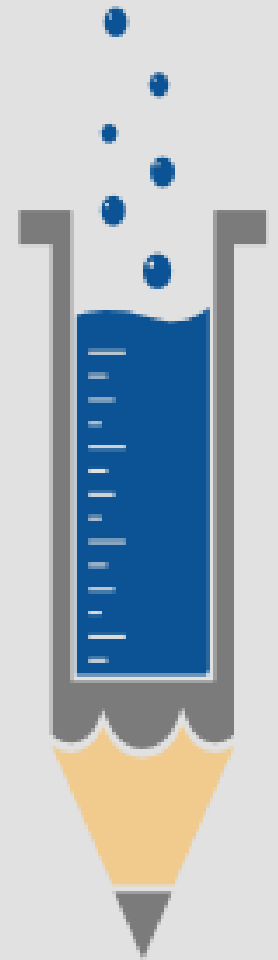




Writing a clear- language research summary

NMIN capacity-building webinar

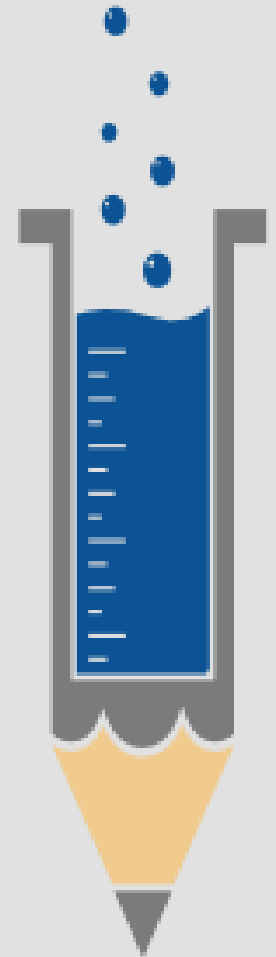
March 31, 2021





Learning objectives

1. Use simple text and structure.
2. Keep writing lively.
3. Identify three writing models.
4. Plan four sections of a lay summary.





*My research
paper is so
cool, people
will LOVE
this!!!*



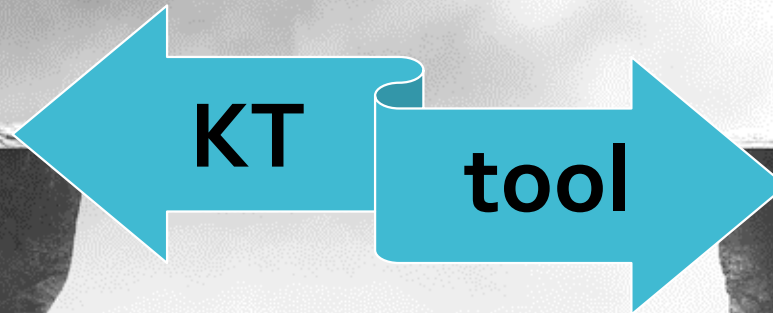
WHY BOTHER?





Scientists

Public



expands audience
remove paywalls
translate your work
journal/grant criteria



What is a clear language summary?

- **interesting** and **short**
- *"plain talk"* from the lab
- dumb down science
- **expands the audience**





Keep it SIMPLE

Make it short and to the point



Simple TEXT

- **15-20** words in a sentence
- **Short** paragraphs
- **Everyday** words
 - **Speed up** not **accelerate**
 - **Show** not **indicate**



Simple TEXT

- Minimize scientific-technical terms (“jargon”)
 - **Nerves** not **neurons**
 - **Cell death** not **apoptosis**
 - **Swelling** not **edema**
- Explain jargon with an **analogy**
 - “The **CD34** protein acts like a molecular Teflon ...”



Simple TEXT

- Avoid **acronyms ... unless they're useful**
 - introduce it after full terminology used once
 - c11orf30/EMSY → EMSY (easier to remember!)
- Aim for a **Grade 10** reading level
 - use online “readability” calculators



PRO TIP



Readability calculator (uses 7 readability formulas, including SMOG Index, Fog Scale, Flesch-Kincaide Grade Level)

Microsoft Word built-in readability statistics



Simple STRUCTURE

- Logical flow from a **reader's point of view**
 - reader does not know your topic
 - reader should understand upon **first reading**





Simple STRUCTURE

1. Write down all findings/messages
2. Choose **3 most important findings**
 - list in order of importance to your reader
3. Plan logical flow of information
 - don't introduce new ideas late in the text



Keep it LIVELY



Active versus Passive

- Use an **active** voice, not passive
 - **active** = the “doer”
 - direct, clear and concise
- **passive** = the “receiver”
 - wordy and awkward



i'm lovin' it

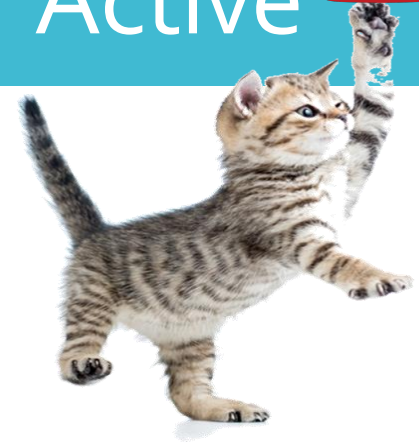
~~**It is being loved
by me**~~

Passive



subject – verb – object
“I see you”

Active



- A new planet was found by scientists.
- The DNA was subjected to analysis.
- To investigate the source of nutrients, eggshell membranes were compared.
- Scientists found a new planet.
- We analyzed the DNA.
- We compared eggshell membranes to investigate the source of nutrients.



PRO TIP



To check for passive voice ...
add **"by zombies"** after the
verb



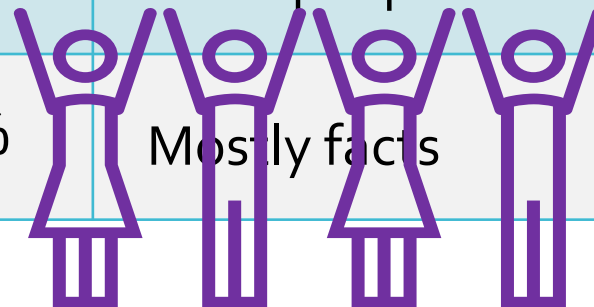
... by zombies.

- A new planet was found ~~by scientists.~~
- The DNA was subjected to analysis ... by zombies.
- To investigate the source of nutrients,
eggshell membranes were compared ... by zombies.

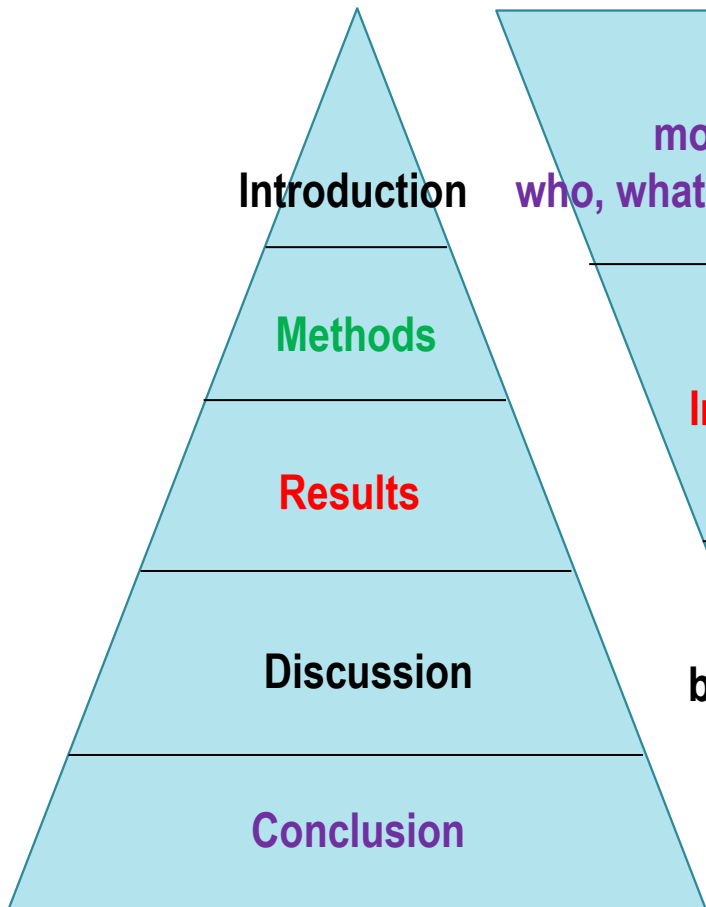


Passive voice: the shift

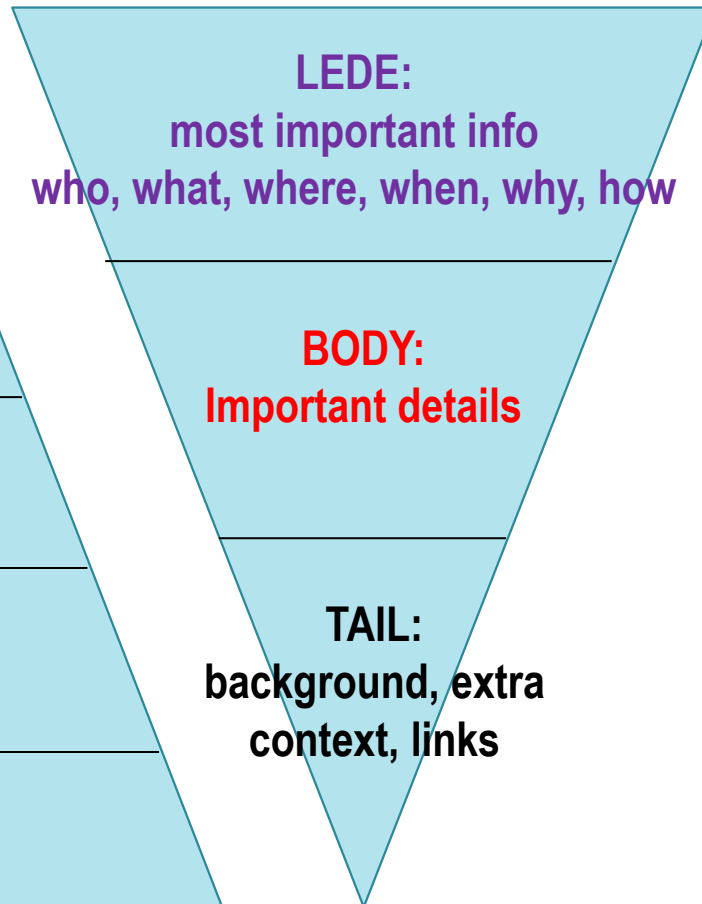
Type of writing	% passive	Emphasis
Novels	2-14%	People
Magazines	10-20%	Mostly people, some facts
Business writing	25-25%	Mix of people and facts
Technical and scientific writing	35-45%	Mostly facts



Writing models



Scientific article
“pyramid”



Media article
“inverted pyramid”



Lay summary
“hourglass”



Primary Researchers

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Children's Hospital Research
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Citation

Azad MB, Vehling L, Lu Z, et al.
Breastfeeding, maternal
asthma, and wheezing in the
first year of life: a longitudinal
birth cohort study. *European
Respiratory Journal* 2017; 0:
1602019.

Keywords

breastfeeding, wheezing,
maternal asthma, CHILD Study.

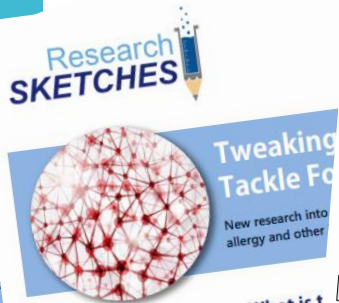
What is this research about?

Wheezing—a whistling
infants are hospitalized
of infants experience
reduced lung func-
to reduce this risk
particularly in the
Research on this
in collecting pr
influence whe
association be

What did the researchers do?

The study
Canadian
CHILD St
babies, i
their ba
at three
The ri
numl
of the stu-

The researchers also carefully



Primary Researchers

WOJCIECH DAWICKI
Department of Medicine,
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JOHN GORDON
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University of Saskatchewan

Citation

Dawicki W, Li C, Town J, Zhang
X, Gordon J. Therapeutic
reversal of food allergen
sensitivity by mature retinoic
acid – differentiated dendritic
cells induction of IL63+
CD49b+Foxp3+ regulatory T
cells. *The Journal of Allergy
and Clinical Immunology*. 2017;
139(5): 1608 – 1620.

Keywords



Primary Researchers

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ANNE ELLIS
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Citation

North ML, Ellis AK, Brook JR, et
al. The Kingston Allergy Birth
Cohort: Exploring parentally
reported respiratory outcomes
through the lens of the
exposome. *Annals of Allergy
Asthma and Immunology*.
2017 Apr;118(4):465-473. doi:
10.1016/j.annal.2017.01.002.

Keywords

Exposome, environmental
exposures, lung health,
The researchers



Primary Researchers

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BSc
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MALCOLM SEARS
Department of Medicine,
McMaster University

Citation

Tran MM, Lefebvre DL, Dai D,
et al. Timing of food
introduction and development
of food sensitization in a
prospective birth cohort.
*Pediatric Allergy and
Immunology*. DOI:
10.1111/pai.12738.

Keywords

cow's milk, egg, peanut,
allergy, birth cohort, CHILD
Study, food introduction,
sensitization, skin prick test

What is this research about?

Food allergy is a case of "mistaken identity" where the immune system overreacts to a food or a substance in a food, triggering an allergic response that may include symptoms such as a rash, itching, hives or swelling, digestive problems and, in more severe reactions, shortness of breath, chest tightness and a severe drop in blood pressure. About 7.5% of Canadians report having a food allergy and the problem appears to be growing.

The question of when to feed potentially allergenic foods to infants has been hotly debated and research on this topic has produced inconsistent results. Most infant feeding guidelines now state that parents should not delay the introduction of foods such as milk, egg and peanut beyond four to six months of age; however, recent studies have suggested otherwise, particularly for the introduction of egg.

To the researchers' knowledge, this is the first general population-based observational study to report on how the timing of introduction of egg affects the risk of developing a food allergy among infants.

What did the researchers do?

The researchers used data from 2,124 infants and their parents participating in the Canadian Healthy Infant Longitudinal Development (CHILD) Study, a study that tracks children from before birth to school age to identify the root causes of asthma, allergy and other chronic conditions.

Parents enrolled in the CHILD Study provided detailed information about their babies' diets at three, six, 12, 18 and 24 months of age. The researchers categorized the timing of introduction of cow's milk products, egg, and peanut as: a) before six months of age; b) between seven and 12 months of age; or c) avoided during the first year of life.



Before you begin ...

- Who is your audience?
- What does your audience want to know?
- Write down **3 most important findings** from your study



What is this research about? 5-7 sentences



When should parents feed potentially allergenic foods to their infants?

New Canadian research suggests that delaying the introduction of milk, egg and peanut may actually increase the risk of food allergy among infants.

What is this research about?

Food allergy is a case of "mistaken identity" where the immune system overreacts to a food or a substance in a food, triggering an allergic response that may include symptoms such as a rash, itching, hives or swelling, digestive problems and, in more severe reactions, shortness of breath, chest tightness and a severe drop in blood pressure. About 7.5% of Canadians report having a food allergy and the problem appears to be growing.

The question of when to feed potentially allergenic foods to infants has been hotly

Primary Researchers

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MALCOLM SEARS
Department of Medicine,
McMaster University

- **"so what"** relevance to your reader
 - why does the research matter?
- does research fit into a bigger picture the reader can relate to?
- define terms, use analogies



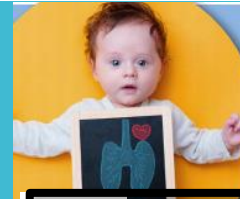
EXAMPLE

So why do those hips break? This is a question of great importance, as hip fractures are debilitating. Repairing one requires traumatic surgery that, even if successful, may not enable a patient to regain the full mobility they had beforehand.

So, understanding how hip fractures occur, and ultimately preventing them is vital for improving the quality and length of life or our aging population.



What did the researchers do? 5-7 sentences



Can asthma be diagnosed in infancy?

Researchers have tested a new method for identifying infants and preschoolers at risk for asthma.

What did the researchers do?

Researchers used data from 2,124 infants and their parents participating in the Canadian Healthy Infant Longitudinal Development (CHILD) Study, a study that tracks children from before birth to school age to identify the root causes of asthma, allergy and other chronic conditions.

Infants enrolled in the CHILD Study provided detailed information about their babies' diets at three, six, 12, 18 and 24 months of age. The researchers categorized the timing of introduction of cow's milk products, egg, and peanut as: a) before six months of age; b) between seven and 12 months of age; or c) avoided during the first year of life.

- # of participants
- what questions did you ask?
- how did you collect the data?
- use active voice



EXAMPLE

What did the researchers do?

The researchers studied 403 infants and their mothers who are participating in the Canadian Healthy Infant Longitudinal Development (CHILD) Study—a national study that is following 3,500 Canadian children and their families from before birth to school age and beyond to identify the root causes of asthma, allergy and other chronic conditions.

Mothers in the study completed detailed questionnaires about their distress levels throughout their pregnancy and after their babies were born. Mothers and caregivers also provided information about their breastfeeding and infant feeding practices, medication use and home environment.

When the infants were three months old, the researchers measured sIgA levels in their stool and compared the babies' sIgA levels and their mothers' level of distress to look for a relationship between the two.



What did the researchers find? 7-10 sentences

What did the researchers find?

INFANTS WHO AVOIDED COW'S MILK PRODUCTS, EGG, AND PEANUT DURING THEIR FIRST YEAR OF LIFE WERE MORE LIKELY TO HAVE ALLERGIC SENSITIZATION TO THOSE FOODS AT AGE ONE.

- Infants who avoided cow's milk products in the first year were **nearly four times as likely to be sensitized to cow's milk** compared to infants who consumed cow's milk products before 12 months of age.
- Infants who avoided egg or peanut in their first year were **nearly twice as likely to be sensitized** to those foods compared to infants who consumed them before 12 months of age.

After controlling for other factors that may affect allergy risk—geographic location, sibling order, duration of breastfeeding, parental ethnicity and self-reported parental allergies—delayed introduction of these foods still increased the likelihood

- explain 3 main findings
- illustrate findings with clear evidence/data
- narrative, no graphs or tables (unless designed for lay audience)



EXAMPLE

What did the researchers find?

The researchers found that the new dendritic cells turned off the allergic response to peanut and egg white protein. Within four weeks, mice that received the dendritic cell treatment had a 50% to 90% lower anaphylactic response compared to those treated with saline.



How can this research be used? 3-7 sentences

How can this research be used?

This study's findings support infant feeding guidelines that promote the introduction of foods such as cow's milk products, egg and peanut between four to six months of age.

This represents an important shift in thinking away from avoidance of potentially allergenic foods, toward their early introduction to reduce the risk of food allergy later on.

- importance of findings
 - relevance to reader?
- suggest how research may be used by specific groups (parents, doctors, policymakers)
- what's next?



EXAMPLE

How can this research be used?

This research suggests that mothers, including those with asthma, can help their babies develop healthy lungs and reduce their risk of wheezing by breastfeeding. The protective effect is stronger with longer and more exclusive breastfeeding; however, even partial breastfeeding can be beneficial.

Title



Question format

- "Are girls really better readers?"
- "Are children's and youth's diets affected by their environment?"

Statement format

- "Gender, Race and the Chances of Promotion"
- "Listening to the Brain When the Body Cannot Speak"

Simple version of original title

- "Missing in Action: Fathers in Child Welfare"



Subheading



When should parents feed potentially allergenic foods to their infants?

New Canadian research suggests that delaying the introduction of milk, egg and peanut may actually increase the risk of food allergy among infants.

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MAXWELL TRAN

BHSc

University of Manitoba

What is this research about?

Food allergy is a case of "mistaken identity" where the immune system overreacts to a food or a substance in a food, triggering an allergic response that may include symptoms such as a rash, itching, hives or swelling, digestive problems and, in more severe reactions, shortness of breath, chest tightness and a severe drop in blood pressure. About 7.5% of Canadians report having a food allergy and the problem



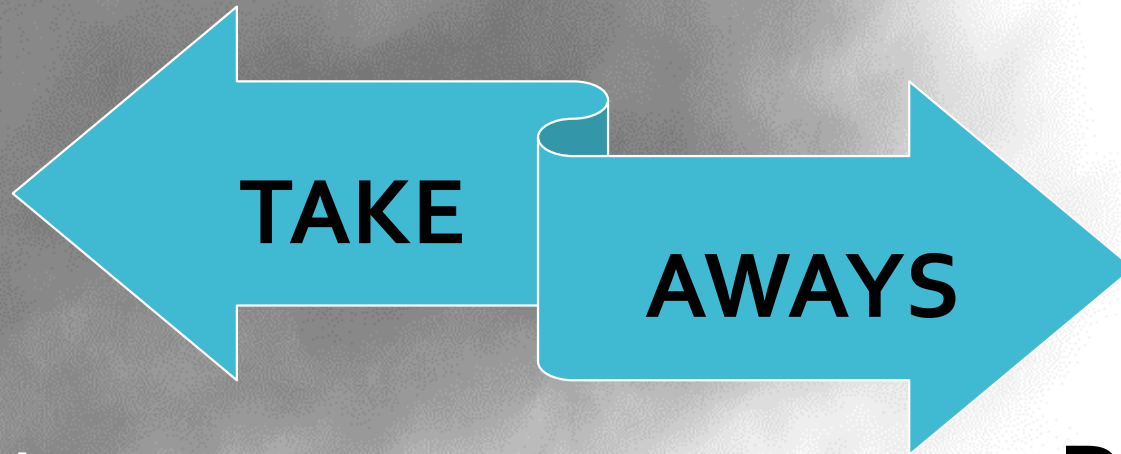
18-point checklist



- ☐ Have I kept sentences and paragraphs short?
- ☐ Have I used everyday words in place of complex words?
- ☐ Have I avoided using jargon or technical words where possible? If I have had to use jargon or technical words, have I explained them in plain language?
- ☐ Have I minimized my use of acronyms, and explained any that I used?
- ☐ Have I checked that the readability is at a Grade 10 level?
- ☐ Have I created a logical flow of information from the reader's point of view?
- ☐ Have I used the active rather than the passive voice?
- ☐ Have I used the strongest form of verbs and minimized the use of "hidden verbs"?
- ☐ Have I established a "hook" in the subheading to engage the reader?
- ☐ Have I focused on what the reader needs to know?
- ☐ Have I clearly explained the main findings of my study?
- ☐ Have I included the "so what?" implications of my research?
- ☐ Did I write the title and subheading after writing the **Research SKETCH**?
- ☐ Have I given my **Research SKETCH** to a lay person who is unfamiliar with my work (e.g. friend, family member) to read?
- ☐ Have I read my **Research SKETCH** aloud to test for a smooth flow and a logical story?

Have I ...

- kept sentences and paragraphs short?
- written at Grade 10 level?
- used everyday words?
- focused on what the reader wants to know?
- shared the "so what"?



Scientists

Public

Keep it SIMPLE

Keep it LIVELY

Use the MODEL

- What is the research about?
- What did we do?
- What did we find?
- How can it be used?



Resources for clear language writing

- [Clear Language and Design \(CLAD\) thesaurus](#)
- [Plain language.gov](#)
- [Plain Language, Clear and Simple](#): a handbook intended by Gov. of Canada that outlines how to write using plain language, available in English and French
- [CancerHelp UK Glossary](#)
- [Readability calculator](#) [Microsoft Word built-in readability statistics](#)
- [Duke University Scientific Writing Resource](#)
- [Biomedical Editor](#)
- [Access to Understanding: Promoting understanding of biomedical research](#)
- [Going public: Writing about research in everyday language](#)
- [How to Write a Lay Summary](#)
- [Writing about biomedical and health research in plain English: A guide for authors](#)



Acknowledgements

Research*SKETCHES* was informed by and developed with permission from:

- ResearchImpact at York University
<http://www.researchimpact.ca/researchsearch/>
- McMaster ResearchSNAPS at McMaster University
<https://snaps.mcmaster.ca/>



Q&A



Resources used for this presentation

- Access to Understanding (2014, Nov). Writing about biomedical and health research in plain English. A guide for authors. Retrieved from: http://www.access2understanding.org/wp-content/uploads/2014/11/Access-to-Understanding-writing-guidance_v1.pdf
- Cramm, H *et al.* Writing the lay summary-basics. Journal of Military, Veteran and Family Health, Vol. 3, No. 1.
- Carr-Harris, S. Summary Writing Guide Checklist, Ontario Education Research Exchange (OERE). Retrieved from <http://oere.oise.utoronto.ca/>.
- ChildBrainHealth (formerly NeuroDevNet) Research Snapshots materials, 2015
- Dynarski, M; Kisker, E. (2014). Going public: Writing about research in everyday language (REL 2014–051). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Analytic Technical Assistance and Development. Retrieved from <http://ies.ed.gov/ncee/edlabs>.
- Keane, T., Malloy, P., Fairbank, J. (1984) Empirical development of an MMPI subscale for the assessment of combat-related posttraumatic stress disorder. 1984. Journal of Consulting and Clinical Psychology, Vol 52(5), 888-891. <http://dx.doi.org/10.1037/0022-006X.52.5.888>
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