

Tips for writing a lay summary

A lay summary or plain language summary is used to describe research to the intended audience - patients, members of the public, researchers in a different fields, funders, practitioners or policy makers who are not specialists in a particular field or subject. Lay summaries convey relevant information about research projects in a clear and accessible manner that is most relevant for the target audience.

Top tips to improve the structure

- Give your document an explicit structure using headings, subheadings and paragraphs to allow for content to be organised in a logical order.
- Subheadings guide the reader through the text, helping them to easily locate and focus on sections of the text.
- To add emphasis, use bolding rather than capital letters or italics as these can be difficult to read.
- Use short sentences and paragraphs to help readers absorb information easily and quickly.

Tips to improve readability

- Write in an active voice and present tense.
- Avoid long words; use short sentences (15-20 words) and bullet point lists.
- Explain technical terms using common everyday words.
- Avoid unnecessary words, complex scientific, medical or technical terms.
- Do not use an abbreviation unless you plan to use it repeatedly and make sure it is written in full first time.
- Do not assume that the reader has prior knowledge of the research area.
- Avoid expressions or idioms specific to geographic areas.
- Don't use jargon or complex phrasing. For example:
 - efficacy of X – how well X works
 - probability – how likely X is to happen
 - participate in – take part in
 - prior to – before
 - discontinue – stop
 - in the event of – if
 - inform – tell
 - scheduled to undergo – due to have
 - accordingly/ consequently – so
 - with reference to/with regard to – about
 - if this is the case – if so
 - facilitating – helping
 - hypothesise - suggest

Lay summary template

Here is an example of how you could structure your lay summary using 5 main sub-headings and some suggestions of content that you should consider for each section:

1. Lay title

- A lay title should be descriptive, while avoiding promotional or biased language.
- It avoids the use of abbreviations, acronyms or overly technical terms.
- Include the specific condition, disease, population and/or main research theme.

2. Background (“Why and who”)

- The (clinical) context for your project
- Why is the research important and why should it be of interest to your audience?
- Depending on your audience, you may need to provide information about the research area. What is the scale of the issue? Who is affected? How many people are affected?
- What is already known about research in this area?

3. Aims (“What”)

- What is the research about? What are you aiming to find out?

4. Planned work (“How”)

- Describe (in simple terms) the design and method you have chosen
- What was or will be studied, compared, developed etc?
- Include details of your participants if applicable. Are they specific to a geographical area?

5. Expected benefits (“So what”)

- What are the potential benefits for people affected by this condition now/in the future?
- What is this project’s intended impact? When will benefits be realised?
- How might others use this research (if applicable)?

Further guidance can also be found on [NIHR](#) & [CRUK](#) websites

Examples of lay summaries

Below are examples of what good lay summaries look like, these are based on previous submissions to the Centre for funding or studentships. They have been reviewed by the Centre's [Patient & Public Involvement](#) panel and have been highlighted to use as examples of good lay summaries.

Example 1:

Title: Modulation of tumour immunogenicity by IGFs in prostate cancer

Lay Summary

Prostate cancer is the commonest cancer in men in the UK and the second commonest cause of cancer deaths. The risk of prostate cancer is higher in men with high blood levels of a hormone called IGF-1. We think high IGF-1 can help cancers avoid detection by the immune system. We will test these ideas in 3 ways. First, we will see if high IGF-1 causes changes in the cancer cells themselves or in the main

types of immune cell: killer cells that destroy cancer cells, and blocker cells that stop killer cells from working. Secondly, we will grow pieces of prostate cancer in the lab. We will see if adding IGF-1 affects the type of immune cells and how near they can get to the cancer cells. If the killer cells can't get very close, they can't destroy cancer.

Thirdly, we will test tissue samples from men in a clinical trial of a new anti-IGF drug given before prostate surgery. We will compare the number and type of immune cells in prostate tissue before and after the trial drug. This project may lead to better treatment, by helping men with prostate cancer benefit from immune boosting drugs. The results may also help us figure out how to reduce the risk of men developing prostate cancer in the first place.

Example 2:

Title: Exploiting synthetic defects in metabolism and DNA repair to improve the treatment of glioma and AML

Lay Summary

The most common forms of brain tumour remain very hard to treat effectively, as do advanced blood cancers. We have discovered a change in the biochemistry of both these cancers that might mean they can be treated in a new, unexpected way. This new approach would involve targeting the cellular machinery that normally helps cell keep their chromosomes in pristine condition. In this project, we will comprehensively explore the potential of this new approach and work with chemists to generate agents that might enable the development of new drugs.

Example 3:

Title: Germline genetic variation and immunotherapy: personalised predictors of response and toxicity

Lay summary

Background: Our immune systems protect us from infection and also act to prevent cancer. Avoiding detection by immune cell is therefore very important for cancers to grow and by the time cancers are large enough to require treatment they have usually escaped the immune response. Cancer immunotherapy consists of drugs which help the immune system 'see' the cancer again. Though we know these drugs work well across groups of patients, we can't predict how patients will respond at an individual level in terms of their tumours shrinking or whether they will develop serious side-effects. Predicting this before starting treatment, or very early on in treatment, may help guide the use of immunotherapy. Recent research shows differences in patients' genetics may impact differences in response to treatment. Changes in white blood cell levels might show this happening and help us change treatment in real time. The same research showed there might be a new role for B-cells, a type of immune cell not previously considered important in immunotherapy, in response.

Objectives: We want to see if changes in types of white blood cell numbers during early treatment can predict response to immunotherapy in lots of cancers and treatment combinations. We will look to see if these changes are controlled by individual variation in patient genes. We will also look at whether B-cells are very important in the response to immunotherapy and whether the individual gene changes are part of this.

Translational potential: If we know about gene changes pre-treatment that can predict side-effects or response to treatment, or see responses to immunotherapy early in treatment, we can use these to guide choices about timing and intensity of immunotherapy treatment in cancer. If we know why some people don't respond as well to immunotherapy, it may also help guide new treatments to boost immunotherapy.