The Webscout

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Lay audiences

Are we aware how different from each other presentations for lay audiences and those for professional experts are, even if they cover the same subject? Check these publications on pirfenidone, a drug against idiopathic pulmonary fibrosis:

http://ow.ly/RkeoZ and *http://ow.ly/Rket3*

Whereas the former is a detailed publication for the scientific community the latter is a concise summary aimed at the public. These examples illustrate that presenting or talking to a lay audience necessitates specific considerations regarding language, style, and depth of detail.

But what exactly is a lay audience? You can check thefreedictionary.com for a definition of the term 'lay person': someone lacking specialised or professional knowledge of a subject. In a lay audience there will be people with varying degrees of health literacy due to differing educational backgrounds or different occupations. Some will be non-experts who have gained quite a bit of insight because they have been engaged with the subject, e.g. in patient working groups. For others the subject might be completely new.

There are some simple rules regarding language, style, and grammar to keep in mind when presenting to a lay audience. Let me start with language. Use simple words and short sentences and avoid acronyms and disciplinary jargon whenever possible. The use of plain language eases understanding. Check an earlier edition of the Webscout for a reflection on plain language.[1] You may also find this YouTube webinar on how to address a lay audience helpful:

https://www.youtube.com/watch?v=cafNRpb3vtM

The webinar illustrates how to communicate complex science effectively to a wide range of audiences and contains useful recommendations regarding the focus of such presentations. If technical phrases have to be used they should be explained, e.g. by analogies (a receptor binding a signalling molecule is analogous to a keyhole into which one particular key fits). Whenever there is a simpler word or phrase for a technical term go for the simpler option ('cells proliferate' could be phrased as 'cells grow and multiply'). An excellent presentation about Herceptin illustrates these recommendations:

http://www.breastcancer.org/treatment/targeted_therapies/herceptin/how_works

The above-mentioned YouTube webinar also addresses the structure and style of presentations. The first sentence is important to elicit the listener's or reader's curiosity. Furthermore, it can help to explain the rationale for an investigation and to outline why the work is important. Before going into detail, present the overall picture and the context. Starting with details is the best way to confuse the audience.

Whenever you summarise the existing evidence on a specific topic be sure to emphasise the logical connections between thoughts, paragraphs, or citations using simple conjunctions to accentuate congruence or contrast. This webpage elaborates on conjunctions and their use:

http://www.smart-words.org/linking-words/conjunctions.html

Grammar also contributes to ease of understanding. Long complicated grammatical structures e.g. double negations, should be avoided. Writing and talking in the active voice helps to keep the attention of the audience. Check this page for more advice and several very helpful links:

http://www.dcc.ac.uk/resources/how-guides/write-lay-summary

When it comes to describing results it is important to elucidate their meaning. Again, check the YouTube webinar. Diagrams are helpful only if they are explained well to allow the audience to understand them. Offer an interpretation of the results and an answer to the initial research question. And summarising the results, providing conclusions, and explaining the impact on, for example, clinical care nicely brings the presentation full circle.

Did this Webscout article help you or do you have any questions or suggestions? Please feel free to get in touch and share your thoughts.

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Reference

1. Eichele K. The Webscout. Plain language. Med Writing. 24(1):35.

Design and interpretation of clinical trials: An online course offered by John Hopkins University

There has been a lot of discussion about massive open online courses (MOOCs) over the last few years. This prompted me to investigate a few of these to see if they could be useful learning tools for EMWA members. Courses are available to anyone via the web. In addition to traditional course materials such as filmed lectures, readings, and exercises or quizzes, most MOOCs provide interactive user forums to support interactions between students and lecturers. The subject matter of most courses is not directly related to medical writing, and the quality of the few I have tried varied significantly.

There are three main providers: Udacity, edX, and Coursera. With over 660 courses (approximately 85 of which are active at any one time), Coursera is by far the biggest provider and provides the greatest variety. Coursera acts as an education platform and partners with top universities and organisations worldwide. I reviewed their offerings via their web site (https://www.coursera.org) and, after looking at a couple of courses, I identified one on Design and Interpretation of Clinical Trials which seemed relevant to medical writing. This is a 6 week course requiring approximately 2–3 hours' commitment per week and is run at set times of the year. This means that everyone enrolled is doing the same thing at the same time so the user forum works better. There is currently no date for future sessions but the course has previously run in the first quarter of the year.

The official summary of the course states that it will explain the basic principles for design of randomised clinical trials and how they should be reported, and it does just that. There are two to four lectures each week and weeks 4 and 6 also include selected reading material. Each week there is a quiz with up to 10 questions to check your understanding. The instructors, Janet Holbrook and Lea T. Drye, speak clearly and informatively without the background distractions and self-consciousness seen in the lectures from some courses.

In the first part of the course, students are introduced to the terminology used in clinical trials as well as the most commonly used designs. The advantages and disadvantages of the different designs and the effect on sample size requirements are discussed. Types of trials covered include parallel, cross-over and factorial, equivalence and non-inferiority, group allocation, and adaptive design trials. The concepts of randomisation and selection bias, including a discussion of the different types of randomisation schemes and the importance of blocking and stratification, are covered in week 2, as is the process of blinding or masking. Week 3 covers the different types of clinical trial outcomes, the difference between objective and subjective outcomes, and how to select an appropriate primary outcome variable. It also addresses how clinical trials are analysed and interpreted, including a discussion of the role of subgroup analysis as well as the principle of intention-to-treat. Week 4 covers ethical issues with a review of the essential ethical considerations involved in conducting experiments on people and why these are important. This area is covered mainly by suggested readings followed by quizzes and, in my opinion, is less successful than the lecture approach used in the other parts of the course. Week 5 covers reporting of results from clinical trials and introduces the Consolidated Standards of Reporting Trials (CONSORT) guidelines. Week 6 looks at how to rate the quality of evidence provided by different types of studies. It discusses whether randomised clinical trials should be seen as the gold standard with examples from a couple of areas where results of clinical trials and observational studies provide different results.

The multiple choice quiz questions are particularly useful for ensuring that you have fully understood the topics. These are graded and used to evaluate student performance. You have three attempts at each quiz and are given a clear explanation of the correct answers once you have submitted your final quiz for assessment.

In order to successfully complete the class and receive a Statement of Accomplishment (SOA) signed by the instructors you must complete each quiz and achieve an overall average score of 70% or more. Coursera offers two tiers of SOA, one free and one for a fee. The free SOAs are 'honor system' certificates that don't verify your identity. Verified SOAs require you to use a webcam and an ID to confirm your real identity and that it was you who did the work. This is called Signature Track and costs around $40. You can opt in to it a couple of weeks after a course has started, so you can wait until after you've experienced some of the course before committing.

Periodically questions that highlight different issues in clinical trials are posted on the discussion forum and students are encouraged to participate in the forum. I did not find this particularly useful and stopped looking after a couple of sessions. The majority of students participating came from backgrounds outside of clinical research and had

limited knowledge of clinical trials, and so questions and comments were at a fairly basic level.

Although I did not learn anything new, for me this was an enjoyable refresher on the concepts involved in clinical trial design and interpretation. I would definitely recommend it to medical writers who are new to the area of clinical trials or protocol design.

There has been an enormous expansion in online courses in the last few years and it would be useful to get feedback from EMWA members, both positive and negative, on other online courses relevant to medical writers. If you have experiences you would like to share with other members via Medical Writing, please send your feedback to Karin Eichele at info@mediwiz.de.

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