Animation Script

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In evidence we trust: how do doctors decide which treatments to recommend to their patients?
Dr Romina Brignardello

To make the most out of this script, you could:

- Stick it in your book as a record of watching Romina's animation
- Pause the animation and make notes as you go
- Add your own illustrations to the sheet
- Create your own animation to accompany it
- Add notes from classroom discussions
- Make notes of areas you will investigate further
- Make notes of key words and definitions
- Add questions you would like answered – you can message Romina through the comments box at the bottom of his article:
  www.futurumcareers.com/in-evidence-we-trust-how-do-doctors-decide-which-treatments-to-recommend-to-their-patients

SCRIPT:

These days, if we feel unwell, our doctors are usually able to successfully diagnose our illness and prescribe the best treatments. But this hasn't always been the case. For example, if you needed a blood transfusion in the late 19th century, there's a good chance that your veins would have been pumped full of cow's milk![1] Thankfully, things have improved since then, largely because modern medicine is based on evidence.

Dr Romina Brignardello and her team from McMaster University use systematic reviews to evaluate medical research and ensure that doctors have access to the best available evidence.

To study potential new treatments, medical researchers conduct randomised clinical trials in which participants are randomly divided into two groups. Throughout the trial, the two groups are treated in exactly the same way, except for the intervention that they receive, either the new treatment that is being tested or a 'comparator', which could be the best existing treatment at that time, or an inactive treatment, called a placebo. Therefore, any differences in health outcomes at the end of the trial can only be attributed to the new medicine.

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When doctors want to know whether a new treatment is better than the existing one, they need to consider all the trials that have compared the two treatments. This can be done by conducting a systematic review that evaluates all of the evidence and allows researchers like Romina to draw conclusions about whether a single treatment is better than another, or about how multiple options compare.

During the COVID-19 pandemic, Romina and her team conducted a systematic review of all the randomised clinical trials that compared treatments for the virus. Due to the global scale of the pandemic, researchers from all over the world were conducting trials and producing new evidence every week. In order to make sense of all of this information, Romina and her team carried out a living network meta-analysis which allowed them to compare all the treatments at the same time and learn which of them resulted in more benefits or more harms than others.

They continuously updated their project as new evidence was produced, which allowed healthcare professionals and decision-makers to stay up-to-date with the latest treatments. This analysis was the main source of information that the World Health Organization used to make their recommendations for the treatment of COVID-19 which were followed by healthcare professionals across the world.

Romina's team is now conducting tests to increase the efficiency of their methods and moving on to other projects that focus on different topics such as antimicrobial resistance.

What could you achieve as a health research methodology researcher?

[1]Oberman, H.A. (1969), Early History of Blood Substitutes: Transfusion of Milk. Transfusion, 9: 74-77. https://doi.org/10.1111/j.1537-2995.1969.tb04920.x