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Research misconduct: now, the movie

http://ori.hhs.gov

Integrity of research is the foundation of respect between the academic world and the public. Nonetheless, misconduct in research can occur. The Office of Research Integrity (ORI), part of the US Department of Health and Human Services, has the important role of promoting integrity in research processes, such as the accuracy of research data and research publications and the prevention of research misconduct (fabrication, falsification, and plagiarism).

Its website offers many useful documents, ranging from forensic tools for quick examination of scientific images and plagiarism to procedures for responding to allegations of research misconduct. It also has a quarterly newsletter created to facilitate pursuit of a common interest in handling allegations of misconduct and promoting integrity in research supported by the (US) Public Health Service.

Most misconduct cases handled by ORI (see the "Case Summaries" section of the website) involve data fabrication or falsification. The quality and accuracy of the data is one of the most important elements in ensuring scientific integrity and public confidence in research results and findings. The theory is well known: data must be valid, reliable, and interpreted and reported correctly. But, what could happen in practice? For example, what might happen if the data of celebrated research conducted by your laboratory are suspected of having been falsified? And what if you are the one who had the responsibility of reviewing these data? Or the one who suspected misconduct?

Walking in their shoes

For those who are interested in discovering the consequences of misconduct, but are too bored to read another article on this topic, ORI has developed an entertaining tool called The Lab. The logo shows four young, good-looking people who could well come from an episode of CSI, and the site explains that "The Lab: Avoiding Research Misconduct is a Virtual Experience Interactive Learning Simulation program".

The simulation allows you to choose one of four roles: Kim, a young graduate student who questions the use of her data by another researcher; Hardik, a postdoc researcher who tries to balance the competitiveness in the laboratory with his home life; Aaron, a principal investigator whose overwhelming responsibilities as a professor, researcher, and grant writer lead to his decline as a responsible mentor; and Beth, the university's research integrity officer.

After choosing their role, participants are asked to make ethical decisions: for example, what would you do if you suspect someone of falsifying data? Do you confront him/her directly or do you seek more advice from those you respect? Which are your personal responsibilities and what is your obligation to the lab?

The right thing to do

The story spins off in different directions depending on your decisions. Unlike in real life, you can go back in time, make a different choice, and find out the consequences of each decision. This helps participants understand how much harm or benefit could come from their actions. Furthermore, they can understand that many factors affect every decision: suppose, for example, that you are requested to review an article, but you sign the permission form without actually reading it. Can your opinion of a colleague influence the accuracy you use in verifying his/her data? Can you be influenced by the stress of time pressure in myour decisions? In misconduct cases, the responsibilities within research teams are particularly important.

Distorted results may represent a great risk if they are then used to develop guidelines and to make treatment choices in clinical practice. On the one hand, the lead investigator has responsibility to guide properly the team, establishing adequate data collection procedures, making sure that all members of the team understands their responsibilities, and providing supervision and training in handling data. On the other hand, every member of the research team should follow the established procedures, and ask questions if there are problems with the data.

The Lab simulator also underlines the importance and the role of the research integrity office in handling misconduct cases. When a case of misconduct occurs, advice from colleagues may be useful, but talking with ORI is the best way to obtain all the support needed. ORI does not directly conduct investigations in misconduct cases, but it provides assistance to institutions at all stages of their reviews of allegations (for example, providing legal assistance or advice on best practice).

Silvia Maina
Editor, SEEd Medical Publishers
silma75@hotmail.com