Guidance for Researchers on Optimal Methods for Conducting Comparative Effectiveness Research with Observational Data

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What was the research about?

Comparative effectiveness research compares two or more treatments to see which one works better for which patients. In some studies, researchers assign patients by chance to several treatments or to have or not have a treatment. But approaches that assign patients by chance are not always suitable. For example, assigning patients to a new treatment may not be good medical care.

For this reason, researchers sometimes do studies using data collected when patients and their doctors choose the treatments. Data from such studies are observational data. When using observational data for research, it can be hard to know if the effect of a treatment is because of the treatment or other factors, such as patients' age, gender, or health history. In these cases, researchers use statistical methods to understand the effect of the treatment. Depending on the study's focus and design, some methods work better than others.

In this study, the research team developed guidance for researchers to help them choose methods for their study.

What were the results?

The research team created an online guide. The guide explains the differences between various methods for doing research and gives options for analyzing observational data. It also includes links to other articles and websites. The guide could help

researchers choose the method that would be the right fit for their study.

What did the research team do?

First, the research team searched for published articles that describe methods for using observational data to analyze the effects of treatments. Next, they analyzed data to compare the methods to see how they did for finding out treatment effects. Finally, the research team used these results to develop the online guide for other researchers.

What were the limits of the study?

The research team looked only at certain types of methods and studies. For example, the team looked only at articles for studies that compared two treatments. Searching for other types of studies may have led to different ideas for the guide.

Future studies could expand the guide to include other methods. The team could also update the article list in the guide as new research becomes available.

How can people use the results?

Researchers using observational data to compare treatments can use the guide to decide on the design and analysis for their research. Results from studies that use the guide can help patients and doctors compare treatments.

To learn more about this project, visit www.pcori.org/Landsittel141.