

➤ Cause and Effect Diagram

A cause and effect diagram, also known as an Ishikawa or “fishbone” diagram, is a graphic tool used to explore and display the possible causes of a certain effect. Use the classic fishbone diagram when causes group naturally under the categories of Materials, Methods, Equipment, Environment, and People. Use a process-type cause and effect diagram to show causes of problems at each step in the process.

A cause and effect diagram has a variety of benefits:

- It helps teams understand that there are many causes that contribute to an effect.
- It graphically displays the relationship of the causes to the effect and to each other.
- It helps to identify areas for improvement.

This tool contains:

- ▢ Directions for making a Cause and Effect Diagram
- ▢ Cause and Effect Diagram: “Fishbone”
- ▢ Cause and Effect Diagram: Process-Type



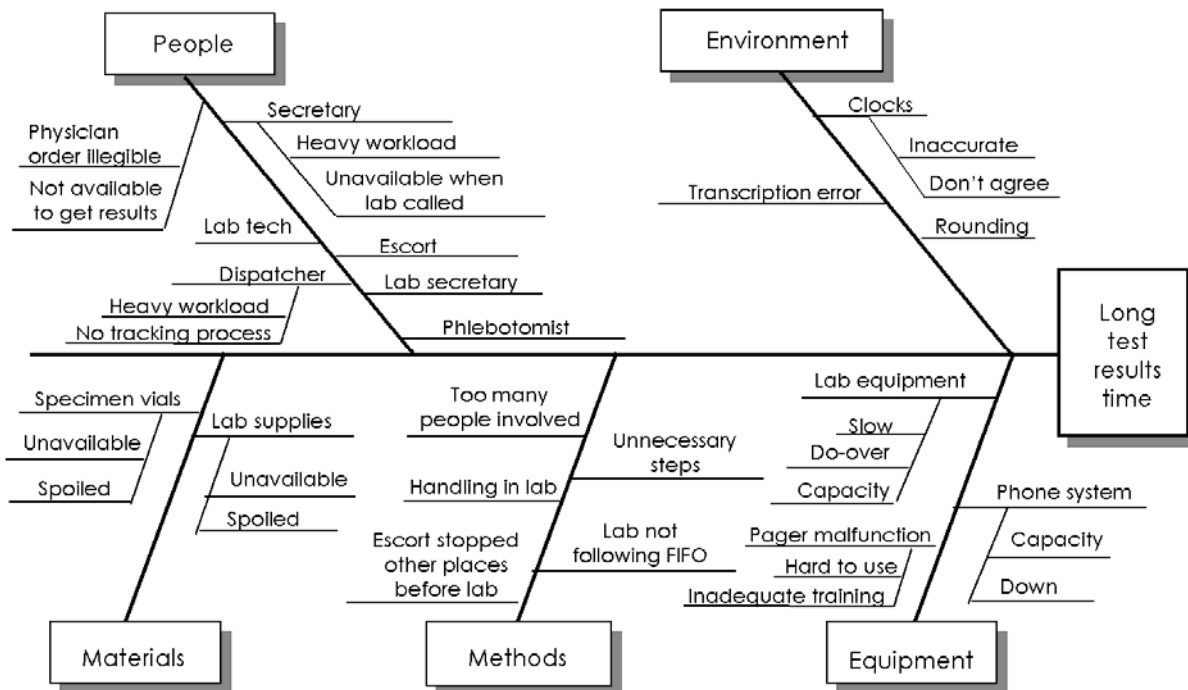
Cause and Effect Diagram

Directions

1. Write the effect in a box on the right-hand side of the page.
2. Draw a horizontal line to the left of the effect.
3. Decide on the categories of causes for the effect. Useful categories of causes in a classic fishbone diagram include Materials, Methods, Equipment, Environment, and People. Another way to think of categories is in terms of causes at each major step in the process.
4. Draw diagonal lines above and below the horizontal line (these are the “fishbones”), and label with the categories you have chosen.
5. Generate a list of causes for each category.
6. List the causes on each fishbone, drawing branch bones to show relationships among the causes.
7. Develop the causes by asking “Why?” until you have reached a useful level of detail—that is, when the cause is specific enough to be able to test a change and measure its effects.

Cause and Effect Diagram

Cause and Effect Diagram: "Fishbone"



Cause and Effect Diagram

Cause and Effect Diagram: Process-Type

