Fishbone (Ishikawa) Diagram (Example)

Use of a Fishbone Diagram to explore potential root causes of a public health problem.

Example problem: Low utilization of dental services by adults
Performance measure: Percentage of adults (aged 18 years and older) who visited a dentist during the previous year
Standard: 56% (Healthy People 2010, Objective 21-10)
Baseline: 30% (Population: adult residents in all zip codes within the jurisdiction)

This Fishbone Diagram shows how a public health team could delve into one potential root cause of low utilization of dental services by adults throughout the jurisdiction: "Dental visits are inconvenient to many residents."
**Instructions**

The following steps describe how to carry out a root causes analysis using the fishbone diagram.

1. Agree on a problem statement. Be specific, and use data to specify the problem where possible. Place it in a box on the right side of a writing surface. Allow plenty of space.

   *Examples of problem statements:*
   “Only 40% of notifiable disease reports are submitted within required time frames”
   “No community health profile is produced regularly as described in NPHPSP indicator 1.1”

2. Brainstorm the major categories of causes of the problem, or use generic headings such as the following. Draw a line from each category to the backbone of the fishbone chart.
   - Methods/Procedures
   - Motivation/Incentives
   - Materials/Equipment (including technology)
   - People (including personnel, patients, partners, or providers)
   - Information/feedback
   - Environment
   - Policy

3. Brainstorm all the possible causes of the problem. Ask: “Why does this happen?” As each idea is given, the facilitator will write it as a branch from the appropriate category. Causes can be written in several places if they relate to several categories.

4. Again ask, “Why does this happen?” about each cause. Write sub-causes branching off the causes. Continue to ask “Why?” and generate deeper levels of causes. Push for deeper understanding but know when to stop.

5. Look for causes that appear repeatedly within or across major categories. When the group runs out of ideas, focus attention to places on the chart where ideas are few.

Adapted from the American Society of Quality, [http://www.asq.org](http://www.asq.org), and Goal QPC, [http://www.goalqpc.com](http://www.goalqpc.com).