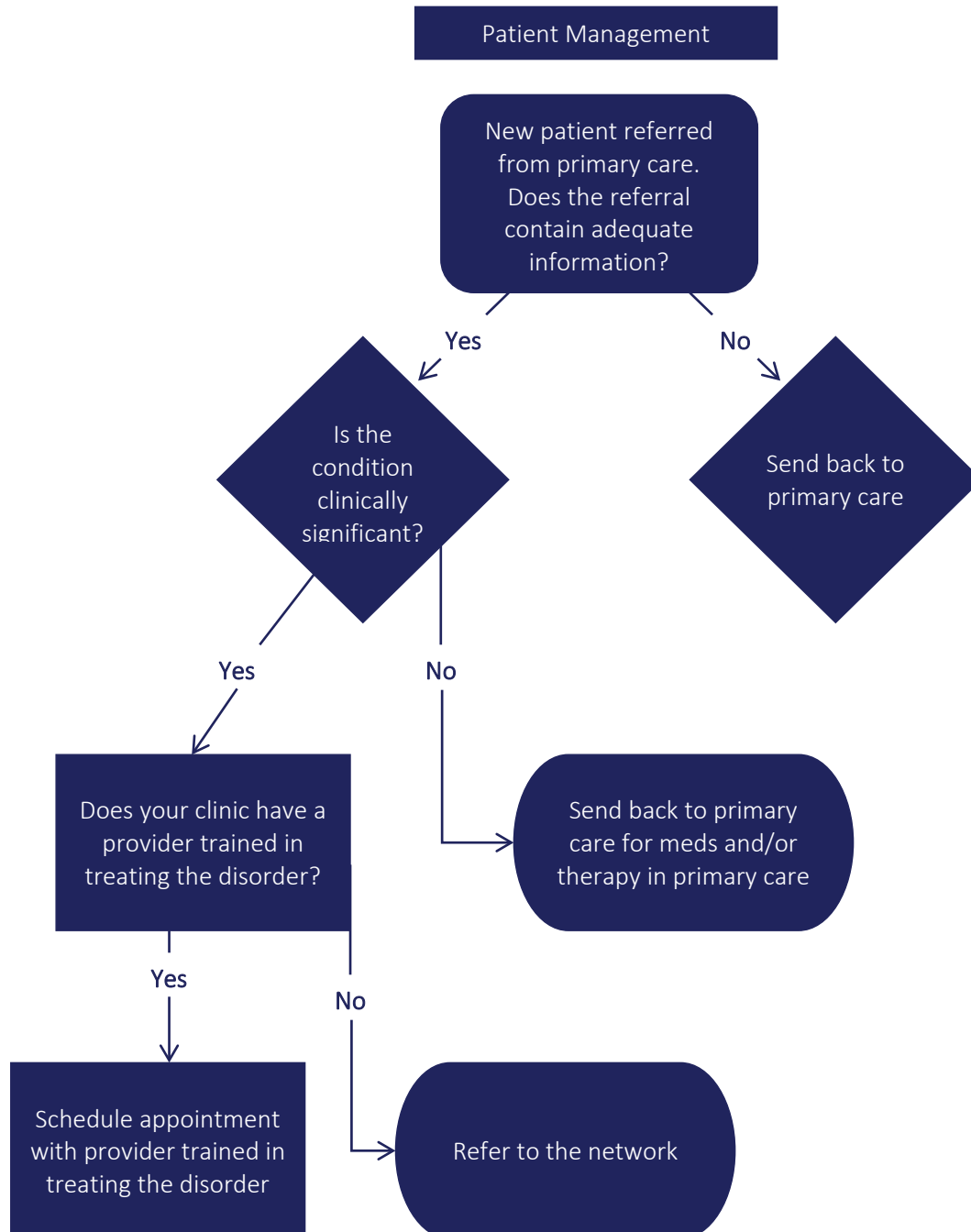


Process Improvement Tools

Flow Charts to Map Processes

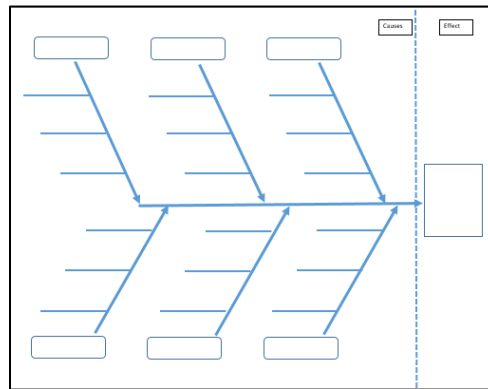
A flow chart is a type of diagram that represents workflow or a process. It shows the steps of the process in boxes and the order is demonstrated through connecting arrows.



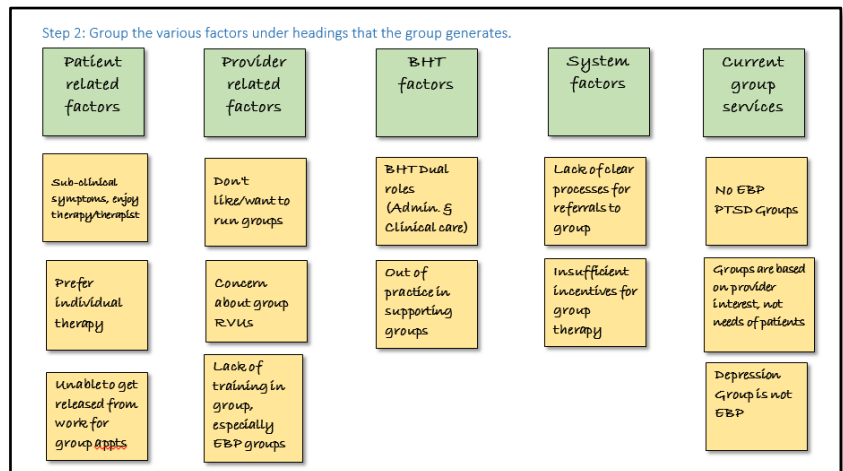
Tools for Conducting a Root Cause Analysis

There are many tools available when performing a root cause analysis as a part of a process improvement project. Here are three options:

- Fishbone Diagram:** The fishbone diagram is considered a fairly structured cause and effect diagram that is created while brainstorming with a team as part of a root cause analysis. Below are the steps to complete the fishbone diagram:
 - The identified problem is placed at the head/mouth of the fish (i.e., under the effect section on the far right). Be sure to write the problem in clear and specific language.
 - The team then determines the appropriate major categories that cause the problem. These will often include staff, patient, and service factors.
 - Brainstorm the possible causes of the problem by asking “why does this happen?” Each of these causes are written on the bones of the fishbone diagram. Causes can be listed under more than one major category, if applicable.



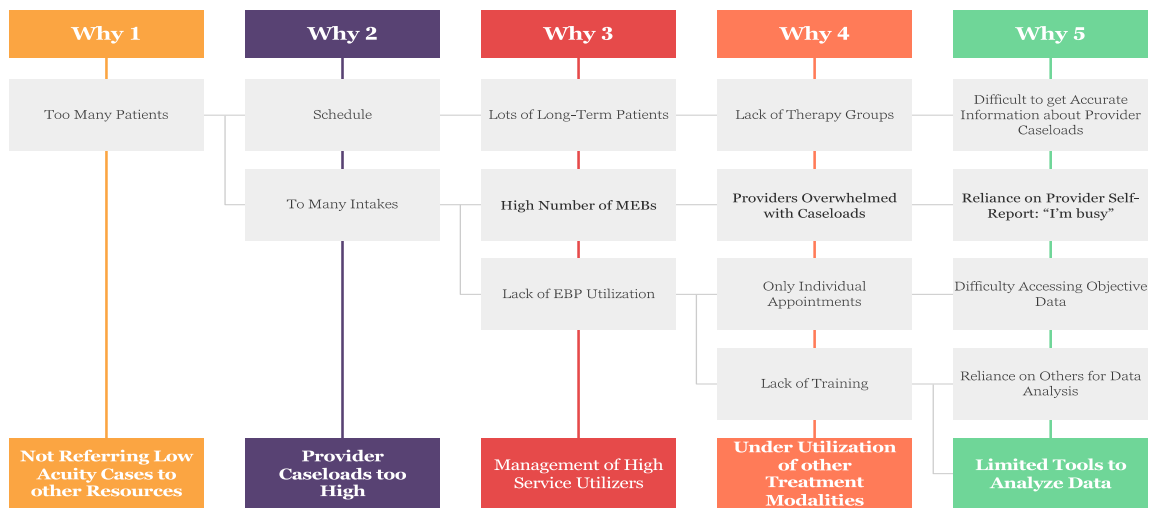
- Affinity Diagram:** The affinity diagram is a tool to organize loose, unstructured ideas that are generated during brainstorming into meaningful categories. Following is a list of steps to implementing the affinity diagram:
 - The first step is to identify the problem.
 - Each team member contemplates the problem independently or in small groups and puts all the possible causes identified on cards/Post-it notes.
 - The team then works together to cluster the cards/Post-it notes and identify major categories that relate to the clustered items.



- 5 Whys:** A simple problem-solving technique, the 5 Whys helps to get to the root of a problem. The 5 Whys can be utilized independently, or in conjunction with the Fishbone Diagram described above. The following steps can be used to carry out the 5 Whys:
 1. Develop a clear and specific problem.
 2. The team is asked by the team lead, “Why did this problem happen?” The team responds with an idea.
 3. To determine if the idea is the root cause, the team asks if this idea were corrected would the problem likely recur? If yes, then the idea is a contributing factor, not a root cause.
 4. If a contributing factor was noted the team continues to ask, “Why did this problem happen?” (as done in step 2) until the team agrees that the root cause is found.

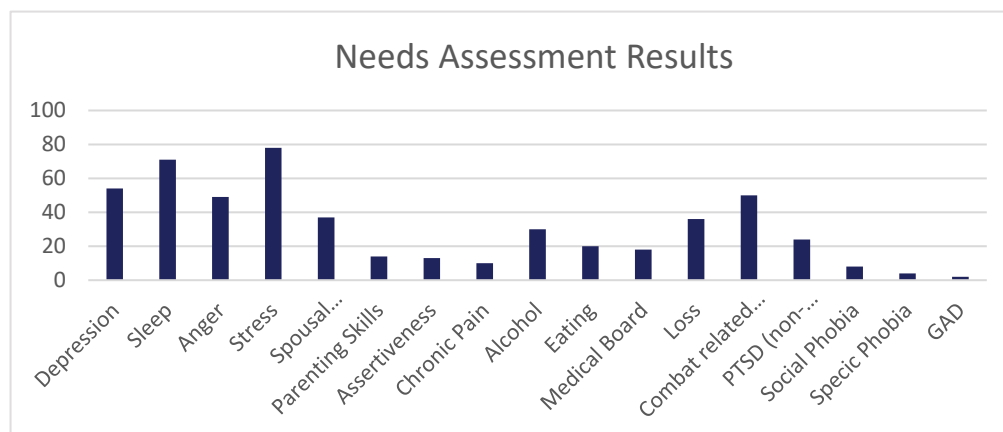
Root Cause Analysis 5 Whys

Problem: Long Wait Times for Follow-Up Appointments

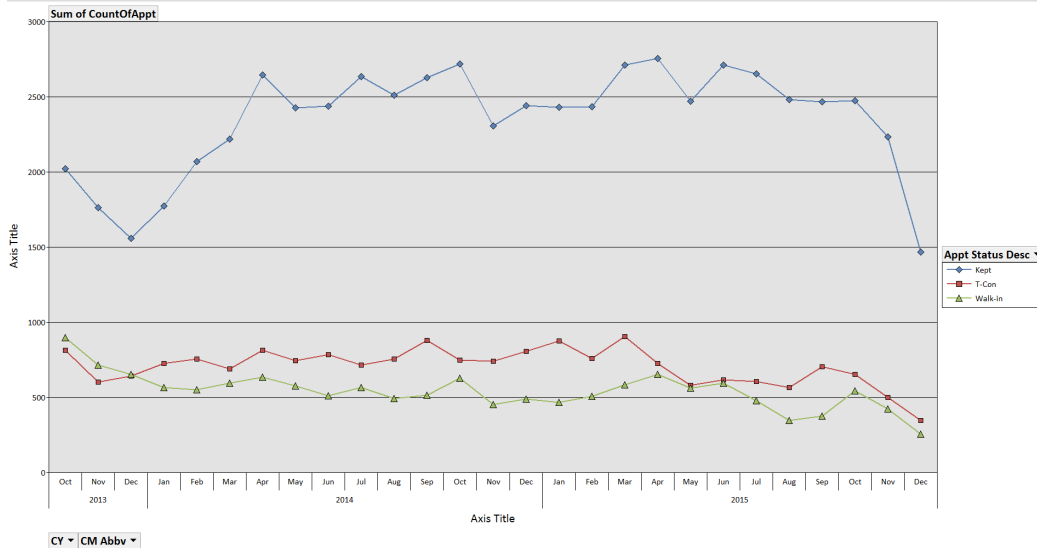


Charts to Display Data

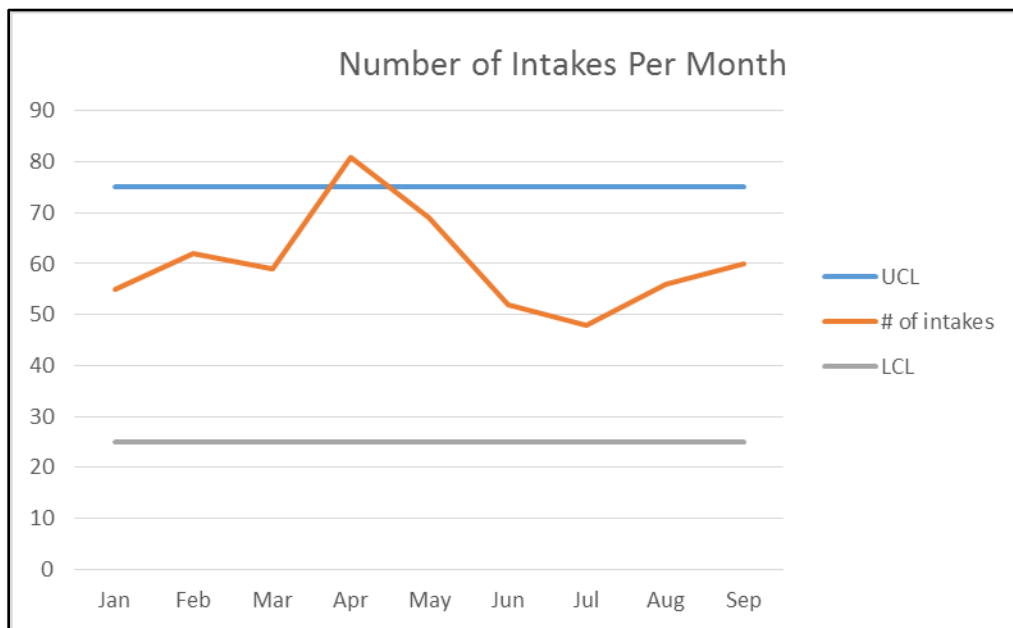
- Bar Chart/Graph:** A bar chart/graph presents grouped data with rectangular bars that have lengths proportional to the values they represent. The bars can be plotted vertically or horizontally.



- **Line Chart/Graph:** A line chart/graph displays information as a series of data points connected by straight line segments. It is a basic type of chart common in many fields.



- **Control Chart:** A control chart is a graph to show the changes in a process over time by tracking historical data. The data is plotted by time. The center line is the average, and there are lines also marking the upper control limit and lower control limit.



- **Pareto Chart:** The Pareto Chart is a series of bars in descending order from left to right. The line on the chart represents the cumulative count for each category. It gets its name from the Pareto Principle, which states that 80% of the trouble comes from 20% of the problems.

