

# Data Presentation

## Participant training objectives:

- To understand the purpose of presenting project data to specific audiences, such as key stakeholders, staff, or committees
- To be able to construct a Pareto Chart and Run Chart for the purpose of data presentation

## Target audience:

Staff involved in the solution implementation and evaluation phases of quality projects

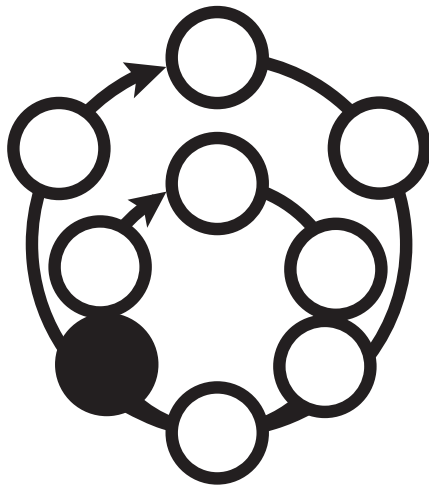
## Type of exercise:

Scenario; group exercise, 65 minutes

## Key concepts:

Data has the greatest impact when presented visually using tools such as the:

- Pareto Chart—bar chart which ranks related categories in decreasing order of occurrence
- Run Chart—line graph of data plotted over time



## The Big Picture:

Within the context of the HIVQUAL model, performance data is presented during Step 5 of the project cycle. By this time in a project, team members have collected baseline data to help focus their problem-solving efforts and reviewed pilot test results to determine the effectiveness of potential solutions. Before proceeding, team members present this information to key stakeholders and solicit their feedback for the final improvement decisions.

SESSION AT-A-GLANCE	WHO	HOW LONG
1. Welcome, Learning Objectives, Agenda	Facilitator	5 minutes
2. QI Background: Pareto and Run Chart Construction	Facilitator	10 minutes
3. Group Exercise: Data Presentation Scenario	Participants	35 minutes
4. Learning Transfer: Worksheet	Participants	10 minutes
5. Wrap-up	All	5 minutes
		65 minutes

## Materials

For this group learning session, you will need the following materials:

- Participant handouts:
  - Examples
  - Scenario
  - Learning Transfer Worksheet
  - Copy of slide presentation
- Flipchart paper and markers
- Overhead projector/LCD panel (optional)
- Wipeboard/chalkboard (optional)

Photocopy the Pareto Chart and Run Chart Examples, Scenario, Learning Transfer Worksheet, and slide presentation for each participant.

Prepare your presentation slides for display:

- Photocopy the slides, or write the slide content on transparencies or on flipchart paper.
- For display using an LCD panel, enter the content into a computer file.

Prepare the training room:

- Arrange the tables and chairs in a circle or square shape, if possible.
- Tear off flipchart paper and make sure you have enough markers for the group(s) to use during the exercise.
- Set up and test equipment (e.g. overhead projector).
- Make sure you have enough chalk or wipeboard markers, if applicable.

## Preparation

To prepare for the group learning session, complete the following tasks:

Familiarize yourself with the session's structure and content:

- Read through the Group Exercise notes in their entirety, including the exercise answer key, presentation slides, and participant handouts.
- Practice the presentation outlined in the Group Exercise notes.

## Notes

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# Data Presentation: Group Exercise

## Welcome and Introductions

To begin the group learning session, welcome participants and thank them for their participation. If necessary, ask individuals to introduce themselves to the group.

### Learning Objectives

Tell participants that by the end of the session they will:

- Understand the purpose of presenting project data to specific audiences
- Be able to construct a Pareto Chart and Run Chart for the purpose of data presentation

## Agenda

Provide a brief description of the session's primary components:

- Presentation of how to construct a Pareto Chart and Run Chart
- Group exercise on how to create a Pareto Chart and Run Chart based on project data
- Learning transfer worksheet to practice chart construction

## Quality Improvement Background

Distribute the Pareto and Run Chart Examples, and a copy of the slides to each participant for note taking and/or future reference.

Begin by explaining that teams present data to specific audiences such as key stakeholders, formal and informal leaders, staff members, or internal/external committees to provide them with the information they need to help team members make the final improvement decisions.

 The data presented typically includes:

- Baseline data (background)—project data that is typically collected to help team members assess the severity of a problem.
- Pilot test results—results of the team's pilot test (i.e. small-scale implementation of a potential solution)

Explain that graphic displays of data, such as charts and graphs, help to convey item results at-a-glance and should be used whenever possible.

Introduce two quality tools which can be used to present data graphically:



**Pareto Chart**—a simple bar chart which ranks related categories in decreasing order of occurrence. The Pareto Chart is based on the Pareto principle which suggests that most effects are the result of relatively few causes, that is, approximately 80% of effects come from 20% of potential causes. Therefore, this tool helps team members identify the "vital few" causes or solutions on which to focus problem-solving efforts.

Walk through the example:

- Response categories are listed on the horizontal axis in order of decreasing frequency.
- "Raw data" (e.g. percentages) are recorded on the left vertical axis.
- Each bar's height represents the frequency of the corresponding category.
- The line from the top of the tallest bar and moving upward from left to right shows the cumulative percent-

ages. This helps highlight those categories with the greatest impact on a given effect. Usually, teams focus on those causes/solutions that account for 80% of the effect.



**Run Chart**—a line graph of data plotted over time. Walk through the example:

- Time increments are listed on the horizontal axis.
- Measurement increments (e.g. percentages) are recorded on the left vertical axis.
- A marked point indicates the measurement or quantity observed at one point in time.
- Data points are connected to help display upward or downward trends in performance.

### Getting Started

Divide the participants into teams of roughly equal size, 4-6 people per group. You can assign participants to teams yourself or ask them to count off by a given number and form teams with other participants who have the same number.



### Scenario Group Exercise

Distribute the scenario to each participant and provide directions for completing the exercise:

- Skim the data individually. (5 minutes)
- As a group, create a Pareto Chart and Run Chart on the flipchart paper using the sample data provided. (20 minutes)

Assist teams who have problems getting started or become stuck on a particular point. Alert participants when 5 minutes remain so that they are adequately prepared to report back.

### Reporting Back

Call time and select teams to walk through the elements of the Pareto Chart and the Run Chart.



### Learning Transfer Getting Started

Distribute the worksheet and give participants 5 minutes to complete it.

### Debrief

If time permits, ask participants to individually share the type of data they selected to display on each chart.



### Wrap-up

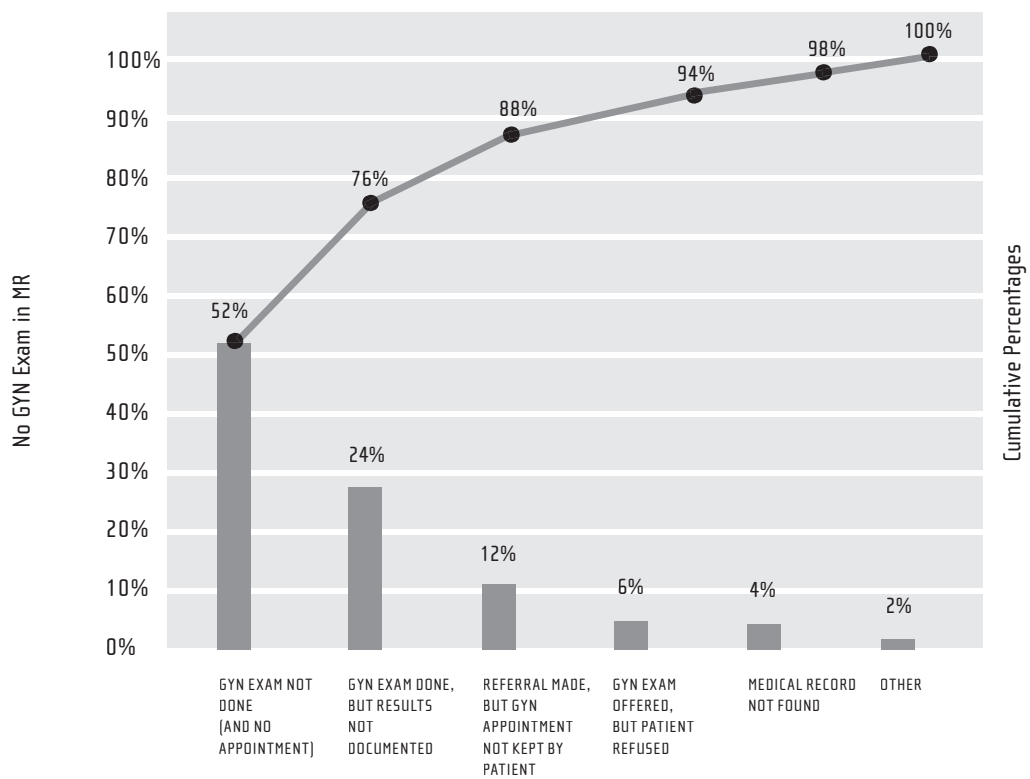
Ask participants to provide feedback on whether or not they have achieved the objectives introduced at the beginning of the group learning session:

- To understand the purpose of presenting project data to specific audiences
- To be able to construct a Pareto Chart and Run Chart for the purpose of data presentation

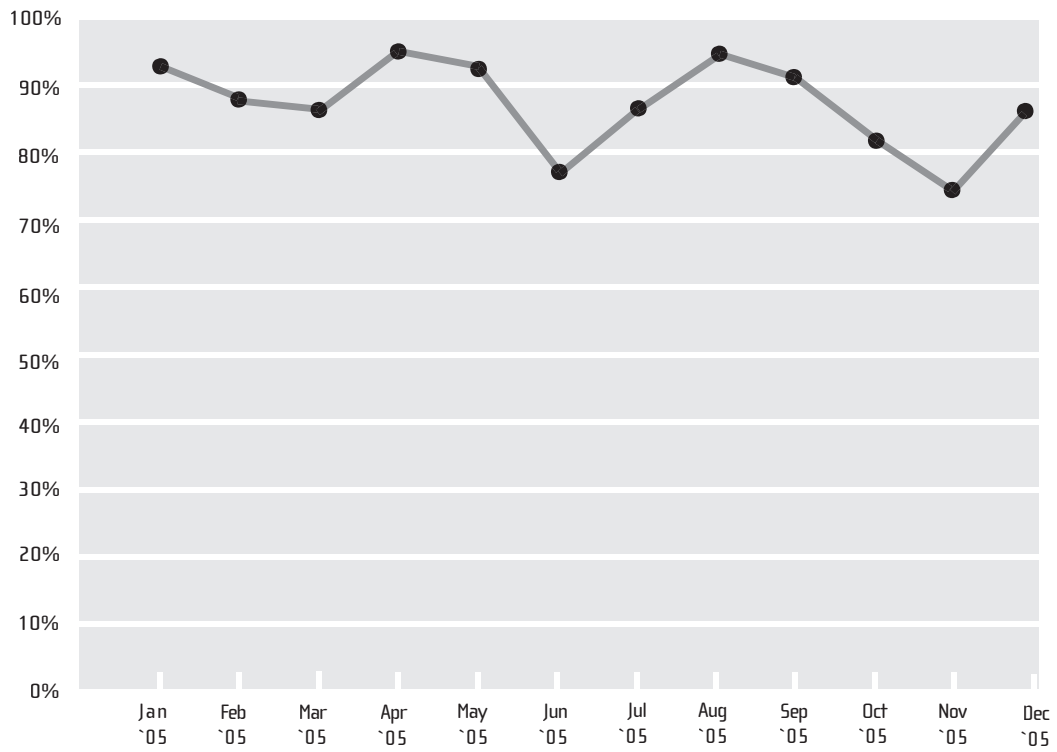
Schedule an informal follow-up session with any participant(s) who has not reached the objectives.

# Data Presentation: Example

Pareto Chart: Reasons for No-GYN Exam in Medical Record



### Run Chart: PCP Prophylaxis



## Data Presentation: Scenario

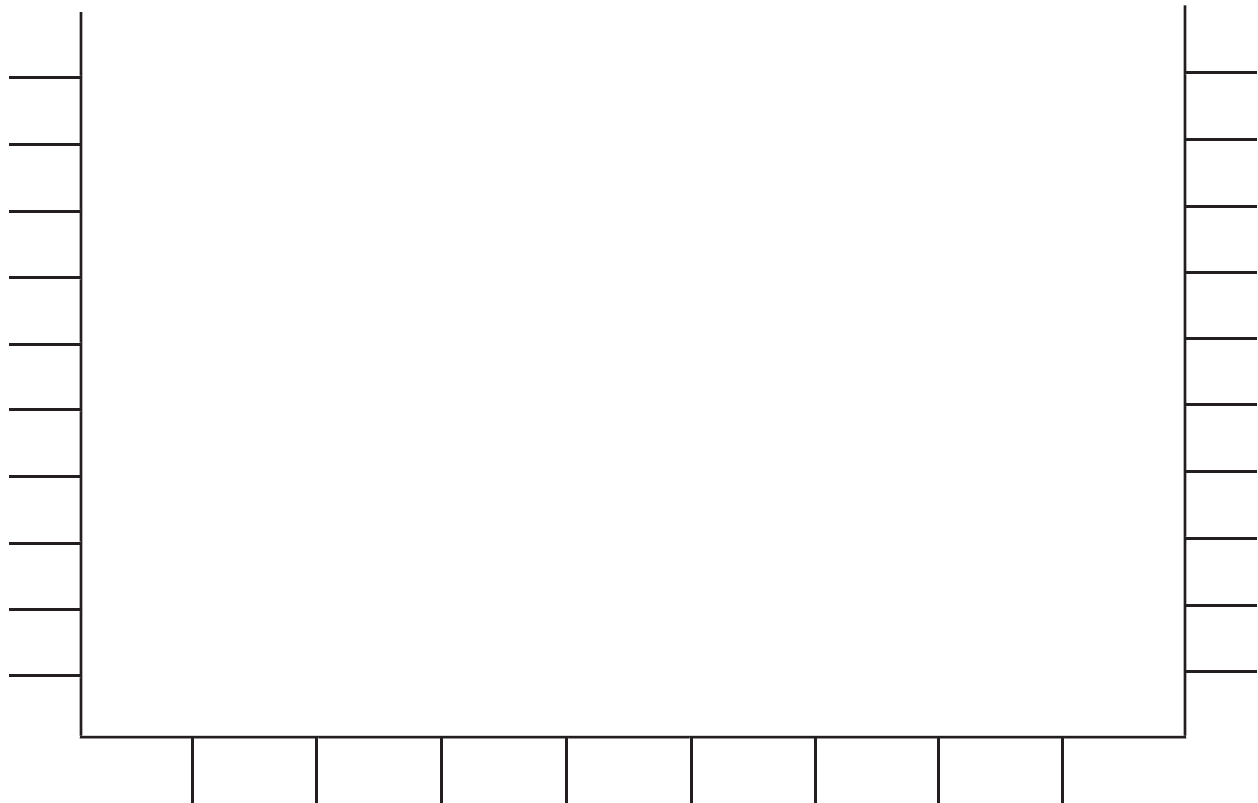
### Instructions:

Create a Pareto Chart and a Run Chart based on the information provided.

### Pareto Chart

After successfully pilot testing a series of adherence interventions, quality improvement team members calculated how much each intervention contributed to the overall increase in patient adherence to ARV medications:

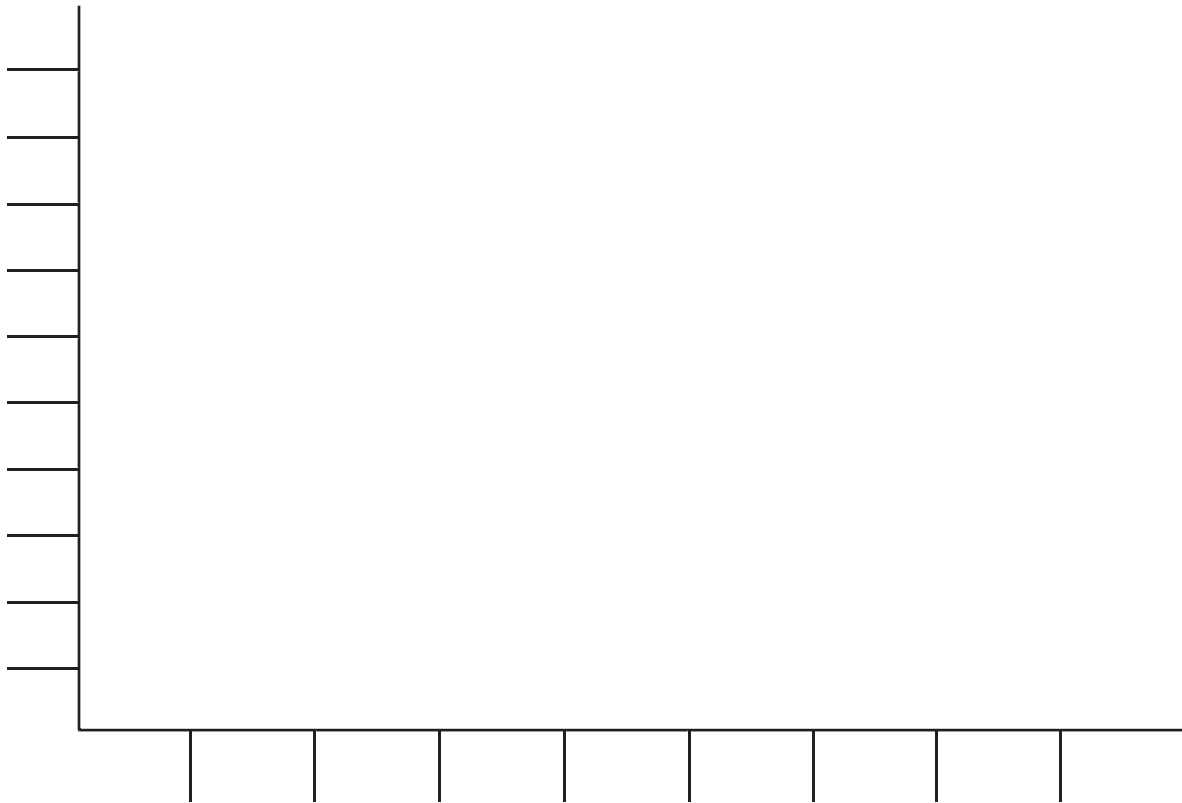
- Attendance of adherence workshop by patient: 21%
- Attendance of peer adherence group: 12%
- Face-to-face conversation with clinician: 35%
- Face-to-face conversation with nurse: 25%
- Handing out of consumer educational brochure: 5%
- Other: 2%



### Run Chart

A PPD quality improvement team collected the following baseline data regarding the facility's annual PPD rate for the year 2005.

- January: 60%
- February: 71%
- March: 74%
- April: 62%
- May: 58%
- June: 63%
- July: 72%
- August: 80%
- September: 79%
- October: 81%
- November: 75%
- December: 87%

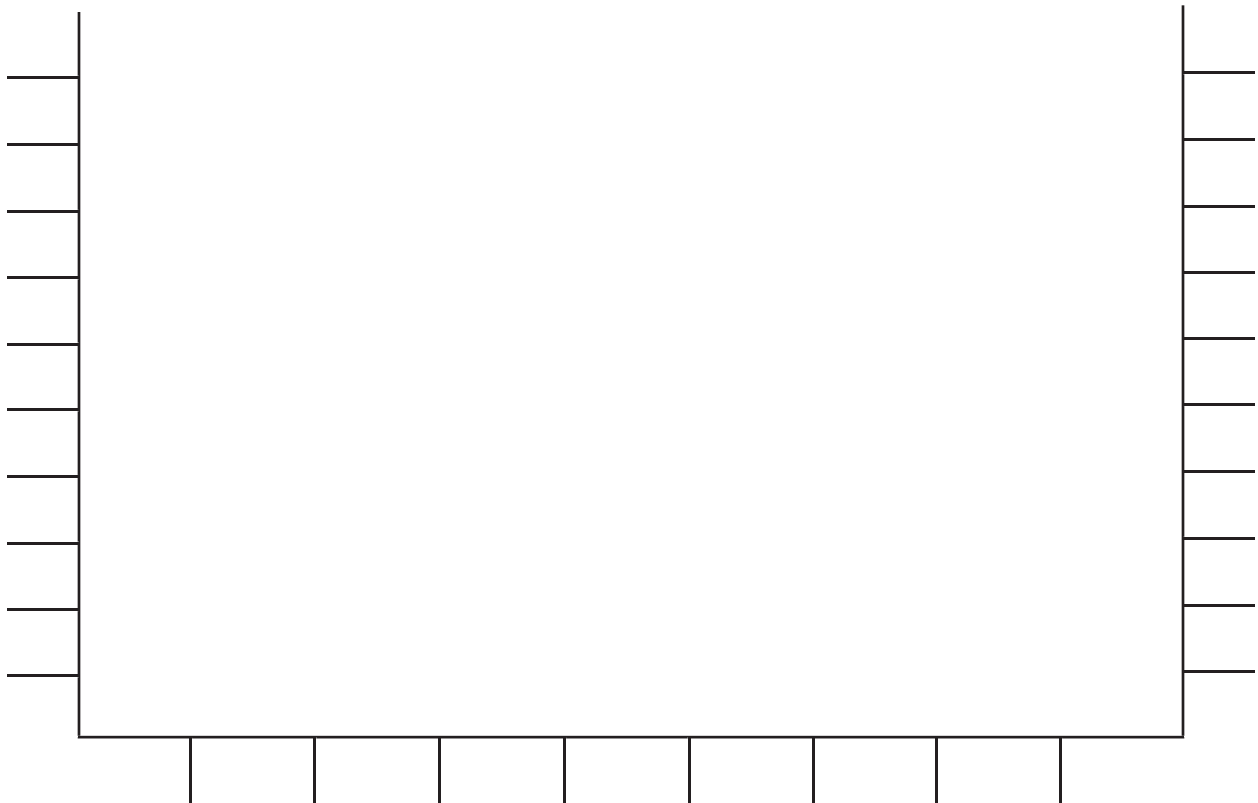


# Data Presentation: Learning Transfer Worksheet

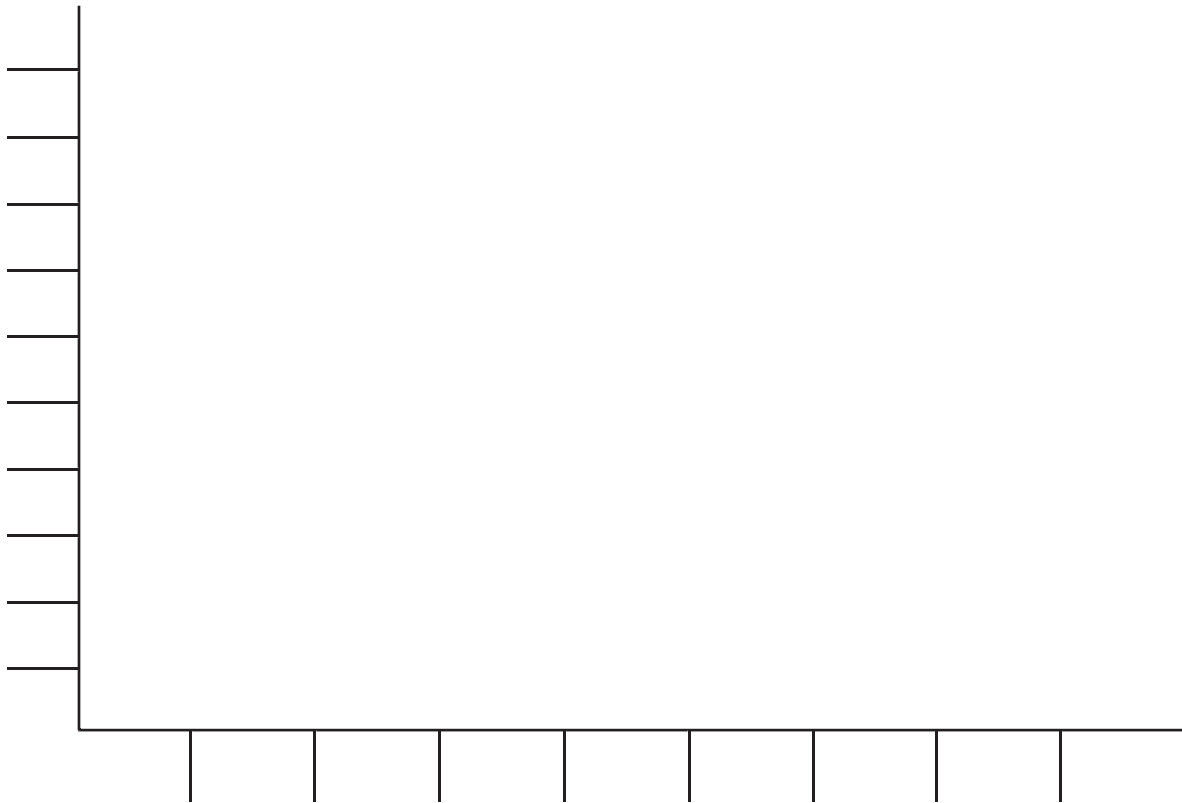
## Instructions:

Think of an improvement project in your facility that is currently underway or was recently completed and consider how the project data could be graphically depicted using a Pareto Chart and Run Chart. Begin constructing the charts by filling in the title and labeling the horizontal and vertical axes provided below.

## Pareto Chart:

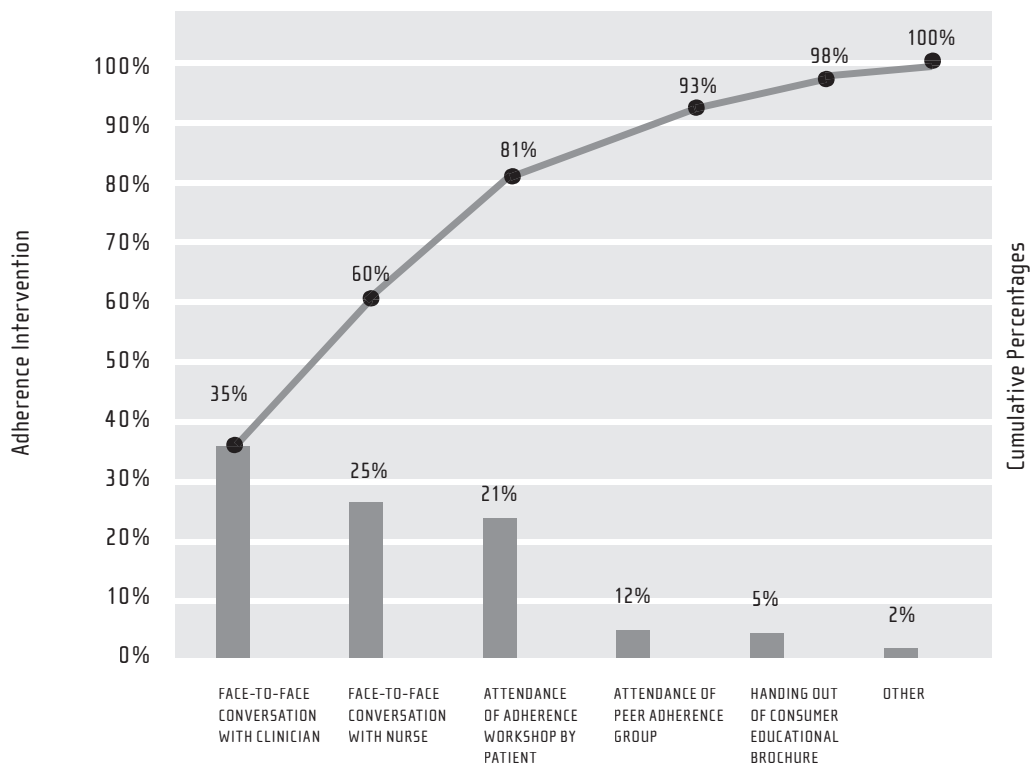


Run Chart:



# Data Presentation: Answer Key

## Pareto Chart: Which Adherence Interventions Work?



### Run Chart: Annual PPD Rate

