

HRSA Ryan White HIV/AIDS Program

CENTER FOR QUALITY
IMPROVEMENT & INNOVATION

Drilling Down and Visualizing Data to Address Barriers

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HRSA Ryan White HIV/AIDS Program

CENTER FOR QUALITY
IMPROVEMENT & INNOVATION

TOO MUCH DATA



Which barrier to address first?



Costs



Medication



Experience



Mental Health



Transportation



Polypharmacy



The Pareto Principle

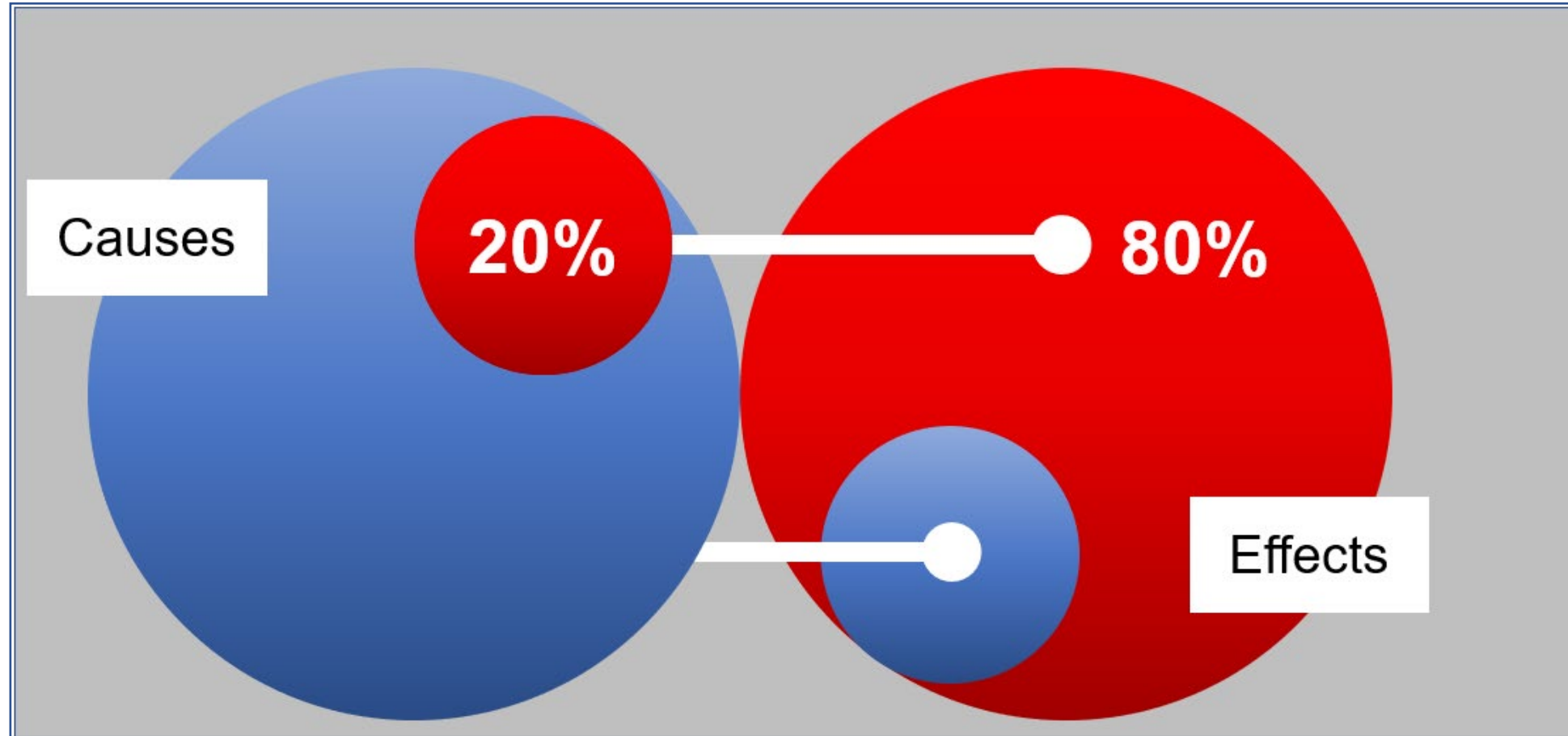
The **Pareto Principle** states that roughly 80% of consequences come from 20% of causes

- The 20% of causes are known as the "**vital few**"
- The remaining 80% are known as the "**useful many**"

The "**vital few**" causes are important to address at the systems-level because they are having such an effect (80%)

The "**useful many**" still describe barriers to care and should be addressed but they are not likely caused by the system

Pareto Principle



Causal “Sorting Hat”

How can we determine which causes are our biggest problems?





Drilling Down Data



What is Drilling Down Data?

Drilling Down Data is a process of ...
analyzing your clients care data ...
in increasing detail ...
to understand who is getting the expected
outcome and who is not.

National Quality Center Technical Assistance Call “Drilling Down the Data and Developing Intervention” September 17, 2015 Accessed on 12/15/15 from <http://nationalqualitycenter.org/nqc-activities/past-ta-calls/>

Steps to Drilling Down Data

1

Identify clients who do not meet the measure criteria

2

Assess reasons each client does not meet the criteria

3

Make a table and tally the reasons to create a pareto chart

4

Develop plans to the address the most common issues

Adapted from: <http://www.hivguidelines.org/wp-content/uploads/2015/04/drilling-down-data-to-understand-barriers-to-care-03-31-2015.pdf>





Drilling Down Data *In Action*



Step One

Select a measurable outcome of interest

Example: Viral Suppression, Retention to Nutrition Services,
Screening for Negative Social Determinants of Health

Run the measure to identify those clients who are not in
the numerator of the report

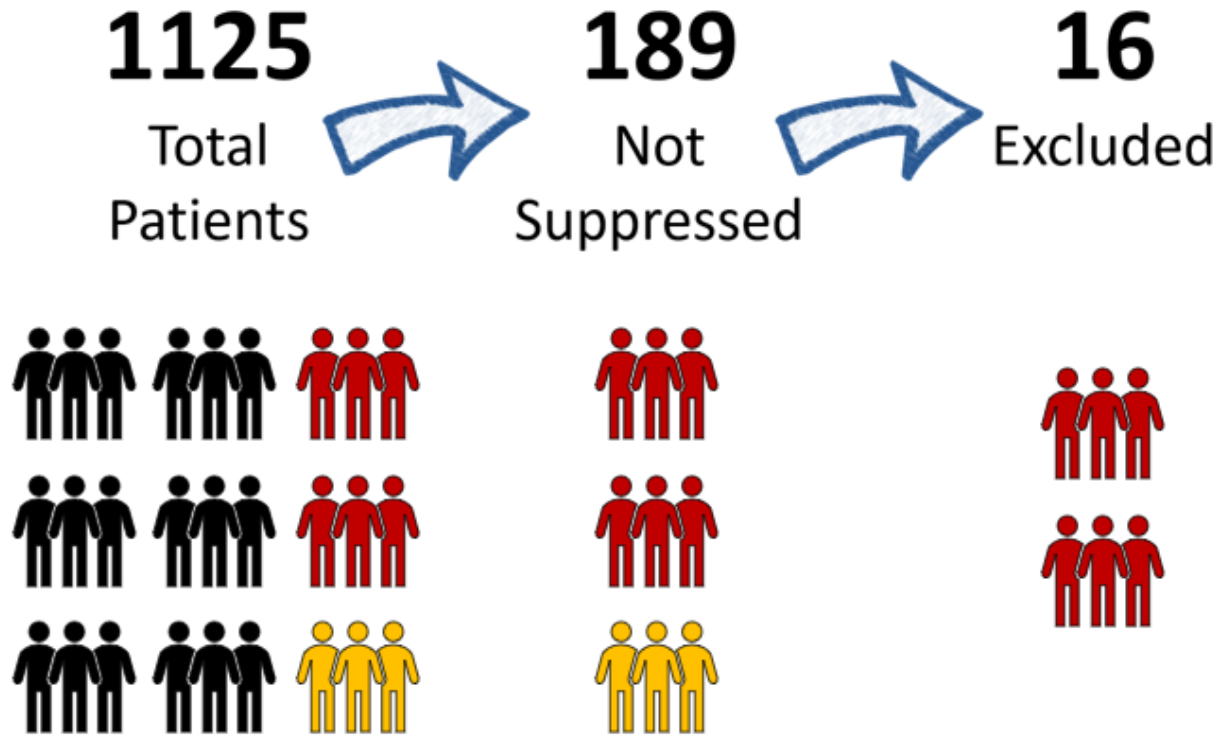
These are the clients not getting the expected outcome and
are likely experiencing barriers



Source: <http://www.hivguidelines.org/wp-content/uploads/2015/04/drilling-down-data-to-understand-barriers-to-care-03-31-2015>



Denominator Development



Measurement Period: 09/01/14 to 08/31/15, Client: Any person with at least one medical visit in the measurement period; Suppressed: <200 copies per ml; Denominator Exclusions: Incarcerated, Transferred Care, Deceased, Moved

Step Two

Prepare client data for the team to review.

Convene the multi-disciplinary team to identify client barriers

Discuss potential barriers and document the discussion and findings using a standardized tool



Drill Down Sessions

Preparations

- Staff prepared a case review tool which included a mix of client data (demographic, clinical, service utilization, psychosocial)
- Staff were assigned to present the client to the team
- The team asked questions and documented identified barriers and potential strategies

Multidisciplinary Team

- Physician
- Nurse Care Manager
- Medical Case Manager
- Patient Navigator
- Linkage Specialist
- Client (Person with HIV)

Case Review Tool

Document important data

Next Medical Visit

Most Recent Viral Load

Track Identified Barriers

Document discussions for follow-up

GARDEN STATE INFECTIOUS DISEASES ASSOCIATES
VIRAL SUPPRESSION PLAN TRACKER

Date	
Patient	
Physician	
Case Manager	
Next Visit	

ASSESSMENT

- Insurance Barriers
- Substance Use
- Mental Health
- Multi-Drug Resistant Virus
- Long Term Non-Progressor/Elite Controller
- Declined Treatment
- Suppressed
- Lost to Care

REFERRAL

- Refer to Patient Navigation
- Refer to Case Management
- Refer to Nursing
- Refer to Physician

ACTION

- Schedule Medical Visit
- Order Current Labs
- Other (See Notes)

Notes:

Referred to: _____
Date: _____

Outcome:

GSIDA Staff: _____ Date: _____

Standardize the Collection of Barriers

Using a prepared template with common barriers can increase Drill Down Session efficiency and save time aggregating the data.

As teams discover new barriers, revise the template to include the new categories.

- Untreated Mental Health Disorder
- Active Substance Use
- Unstably Housed
- Un-/Underinsured
- Transportation
- No Next Medical Visit Scheduled
- No Laboratory Test Ordered
- Multi-Drug Resistant Virus

Step 3 Create a Table

Using data collected during the sessions, the team creates a table which lists the barriers, the number of times it was present, and what percentage of all barriers it represents.

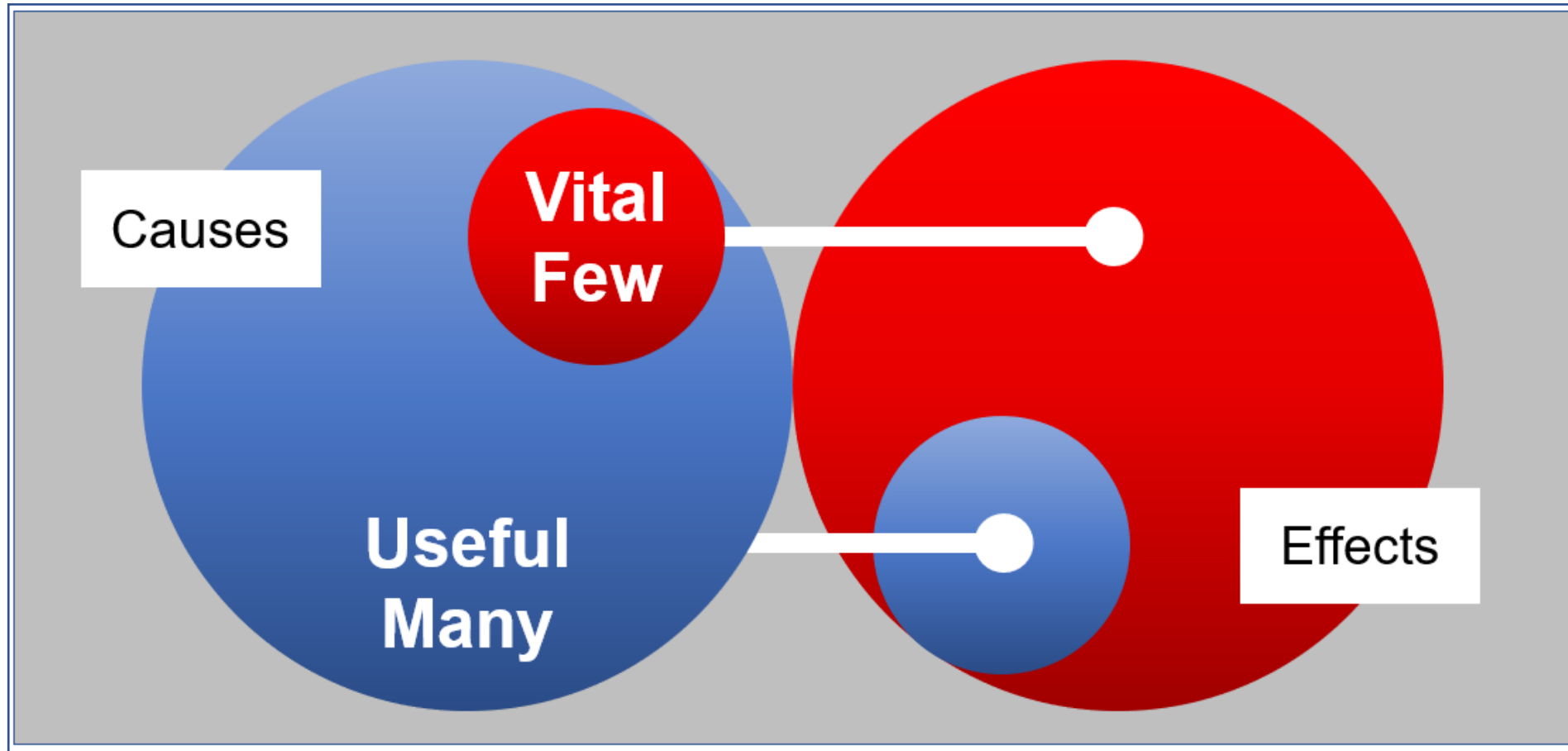
This helps the team better identify those barriers which are causing most of the problems.

Barrier	Number	%
Barrier	#	X%
Barrier	#	X%
Barrier	#	X%
Barrier	#	X%
Barrier	#	X%
Barrier	#	X%
Barrier	#	X%
Total	#	100%

Table of Barriers

Barrier	Frequency	Percentage
No Scheduled Medical Visit	39	49%
Untreated Mental Health Disorder	12	15%
Insurance (un/under-insured)	9	11%
Lost to Care & Follow-up	8	10%
Active Substance Use Disorder	7	9%
Multi-Drug Resistant Virus	2	3%
Long-Term Non-Progressor	1	1%
Declined Treatment	1	1%

Remember the Pareto Principle

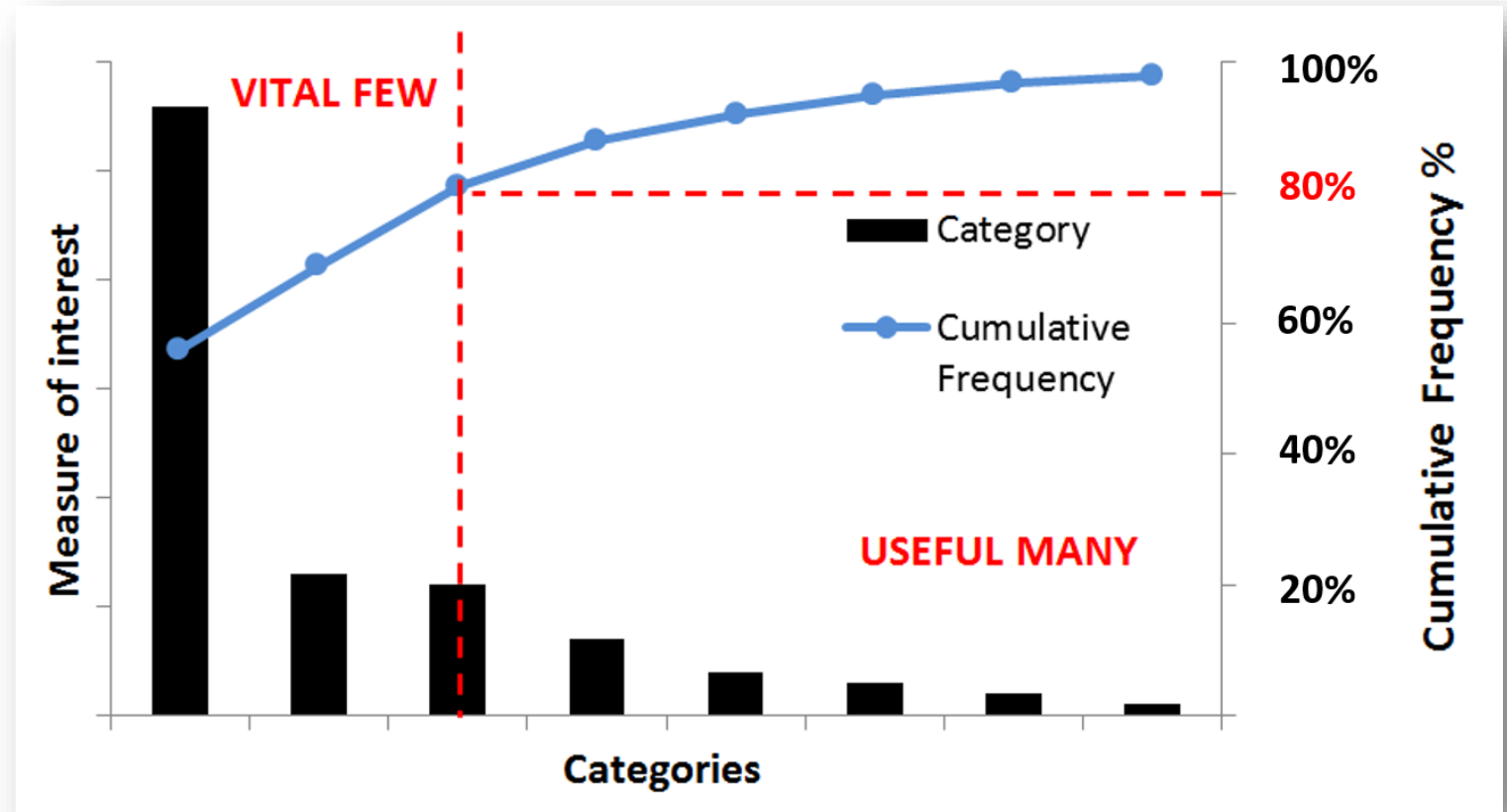


The Pareto Chart

A pareto chart is a specialized bar graph with a run chart.

The bars indicate the frequency of an event.

The run line represents the cumulative total.



Graphic from the National Health Service available from: <https://qi.elft.nhs.uk/resource/pareto-charts/>

Pareto Chart

A pareto chart can help to **distinguish between those causes that are affecting a lot of patients and those which might only be affecting a few patients**

Causes affecting a lot of patients indicate potential **systems issues**

Causes affecting a few clients might represent intersectional barriers unique to the client's experience which might be best mitigated through **tailored care and treatment**

Adapted from: https://qualityamerica.com/LSS-Knowledge-Center/qualityimprovementtools/interpreting_a_pareto_chart.php

Table of Identified Barriers

Barrier	Frequency	Percentage
No Scheduled Medical Visit	39	49%
Untreated Mental Health Disorder	12	15%
Insurance (un/under-insured)	9	11%
Lost to Care & Follow-up	8	10%
Active Substance Use Disorder	7	9%
Multi-Drug Resistant Virus	2	3%
Long-Term Non-Progressor	1	1%
Declined Treatment	1	1%

Barrier	Frequency	Percentage
No Medical Visit	39	49%
UnMH	12	15%
Insurance	9	11%
Lost to Care	8	10%
SUD	7	9%
MDR	2	3%
LTNP	1	1%
Declined	1	1%



Input Data into Excel

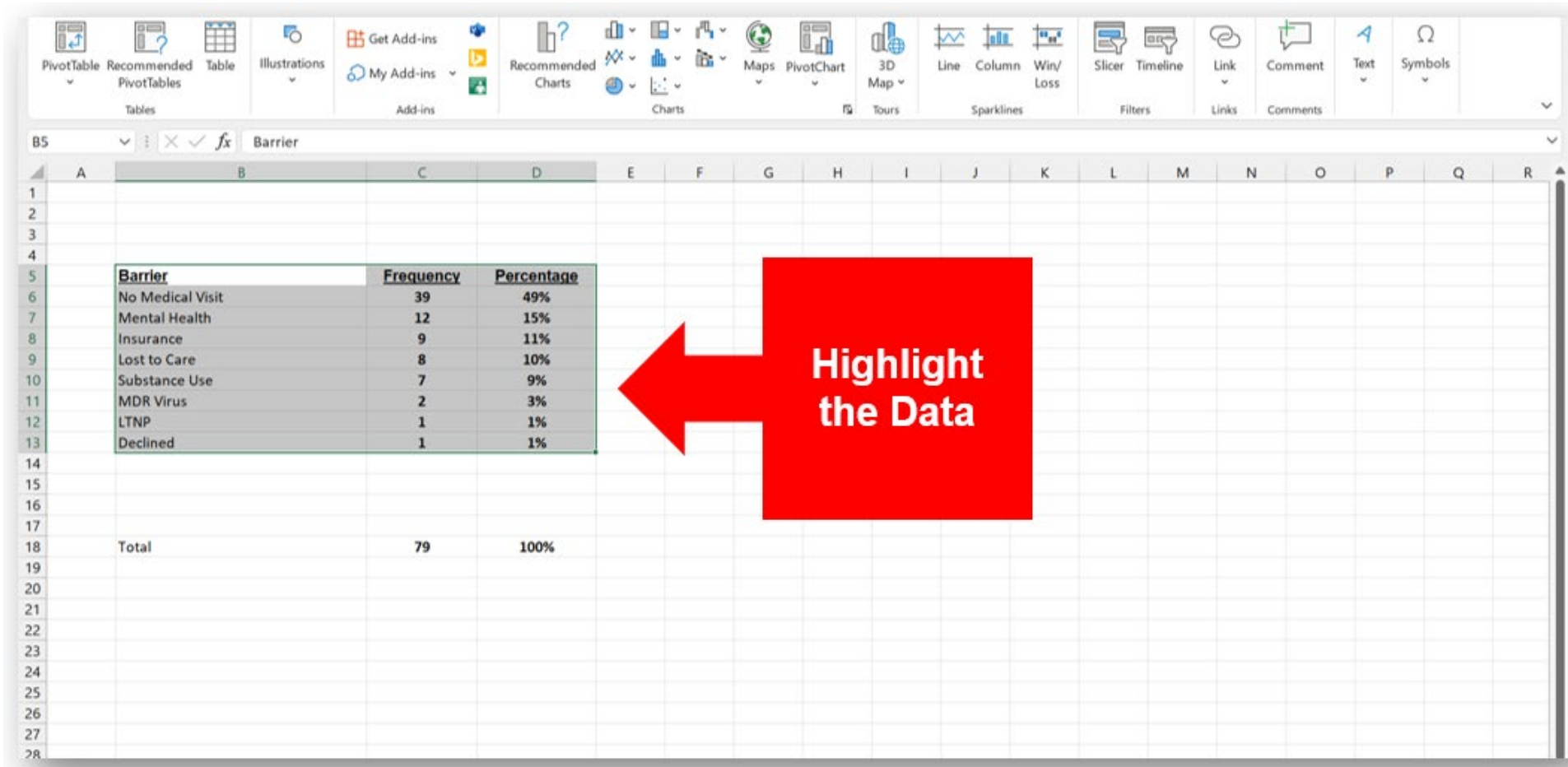
	<u>Barrier</u>	<u>Frequency</u>	<u>Percentage</u>
	No Medical Visit	39	49%
7	Mental Health	12	15%
8	Insurance	9	11%
9	Lost to Care	8	10%
10	Substance Use	7	9%
11	MDR Virus	2	3%
12	LTNP	1	1%
13	Declined	1	1%
14			
15			

List of barriers →

Number of times the barrier was listed →

← Percent of all the barriers it represents

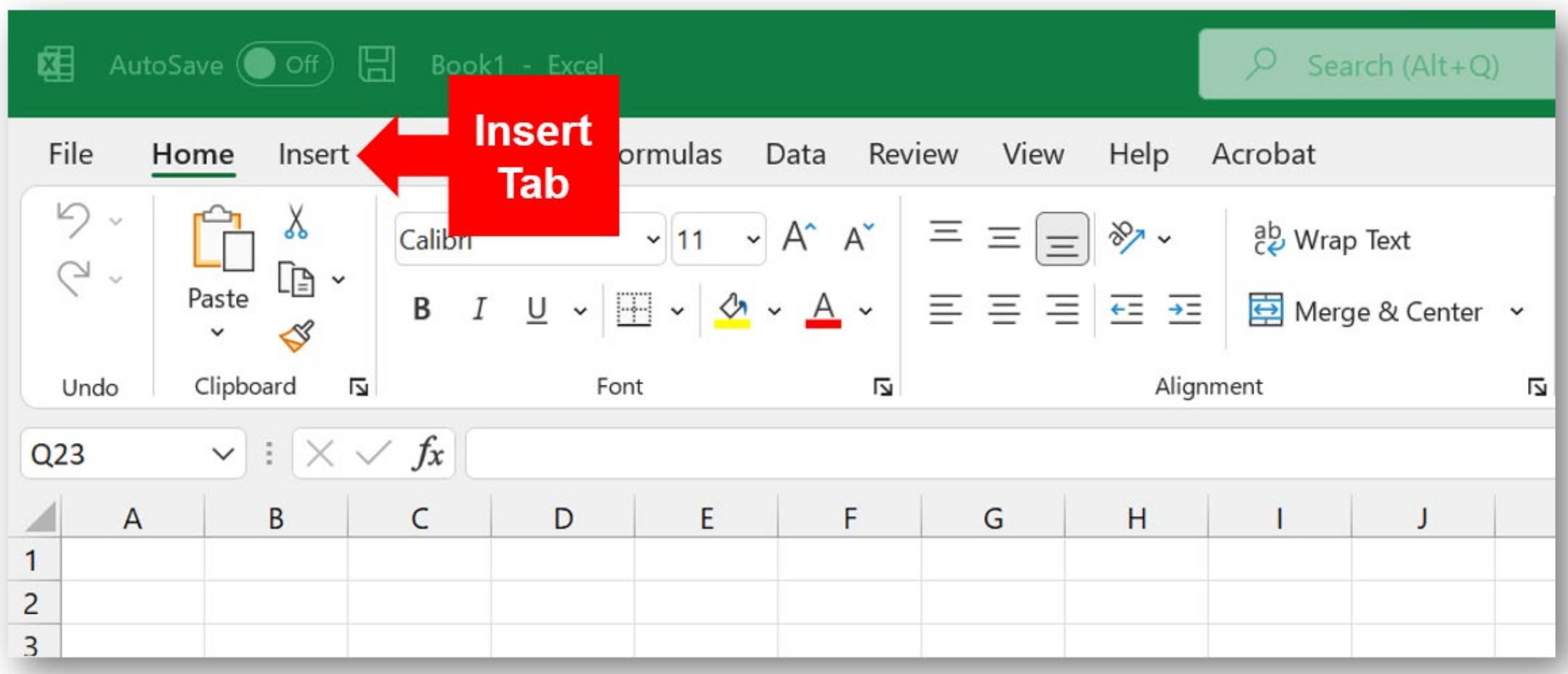
Highlight the Data in Excel



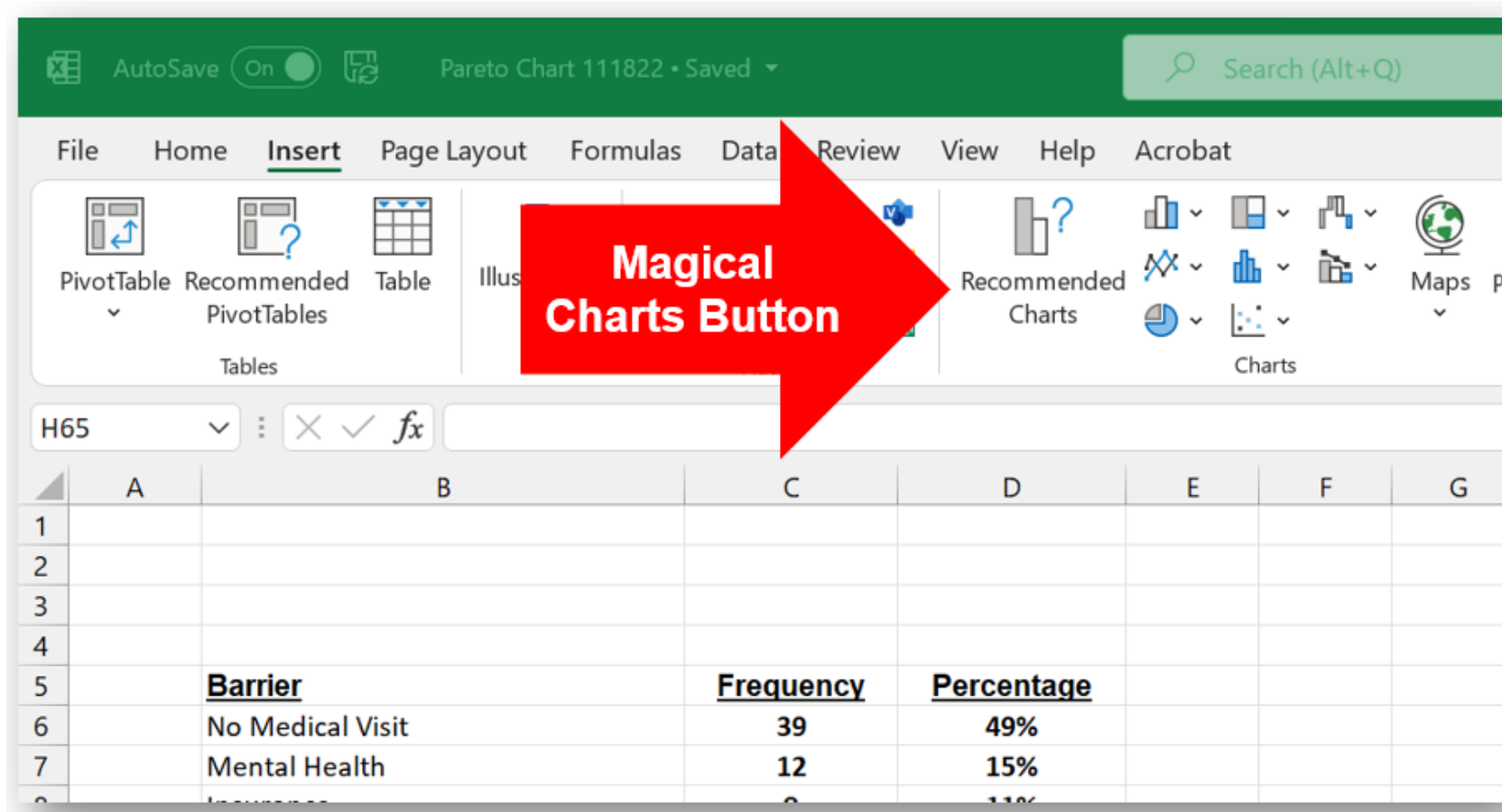
The screenshot shows an Excel spreadsheet with a table of barriers. The table is highlighted in grey. A red arrow points from a red box containing the text "Highlight the Data" to the table.

Barrier	Frequency	Percentage
No Medical Visit	39	49%
Mental Health	12	15%
Insurance	9	11%
Lost to Care	8	10%
Substance Use	7	9%
MDR Virus	2	3%
LTNP	1	1%
Declined	1	1%
Total	79	100%

Select the Insert Tab from the Toolbar



Click on “Recommended Charts”



The screenshot shows the Microsoft Excel interface with the 'Insert' ribbon selected. A red arrow points to the 'Recommended Charts' button in the 'Charts' group. The spreadsheet below shows a table with the following data:

	A	B	C	D	E	F	G
1							
2							
3							
4							
5		Barrier	Frequency	Percentage			
6		No Medical Visit	39	49%			
7		Mental Health	12	15%			
8		Insurance	9	11%			

Chart Type: Pareto

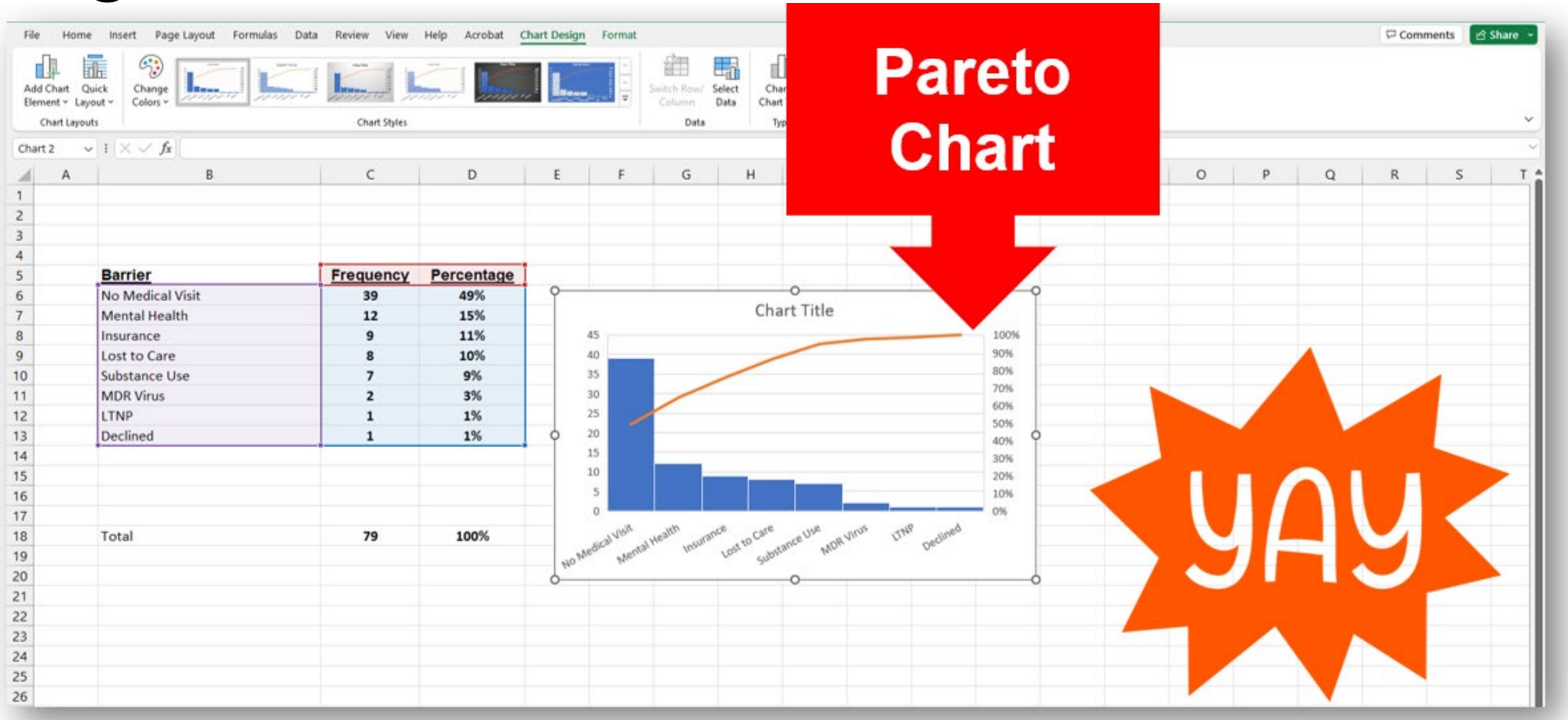
Click OK

Scroll down the list of charts and select the Pareto Chart

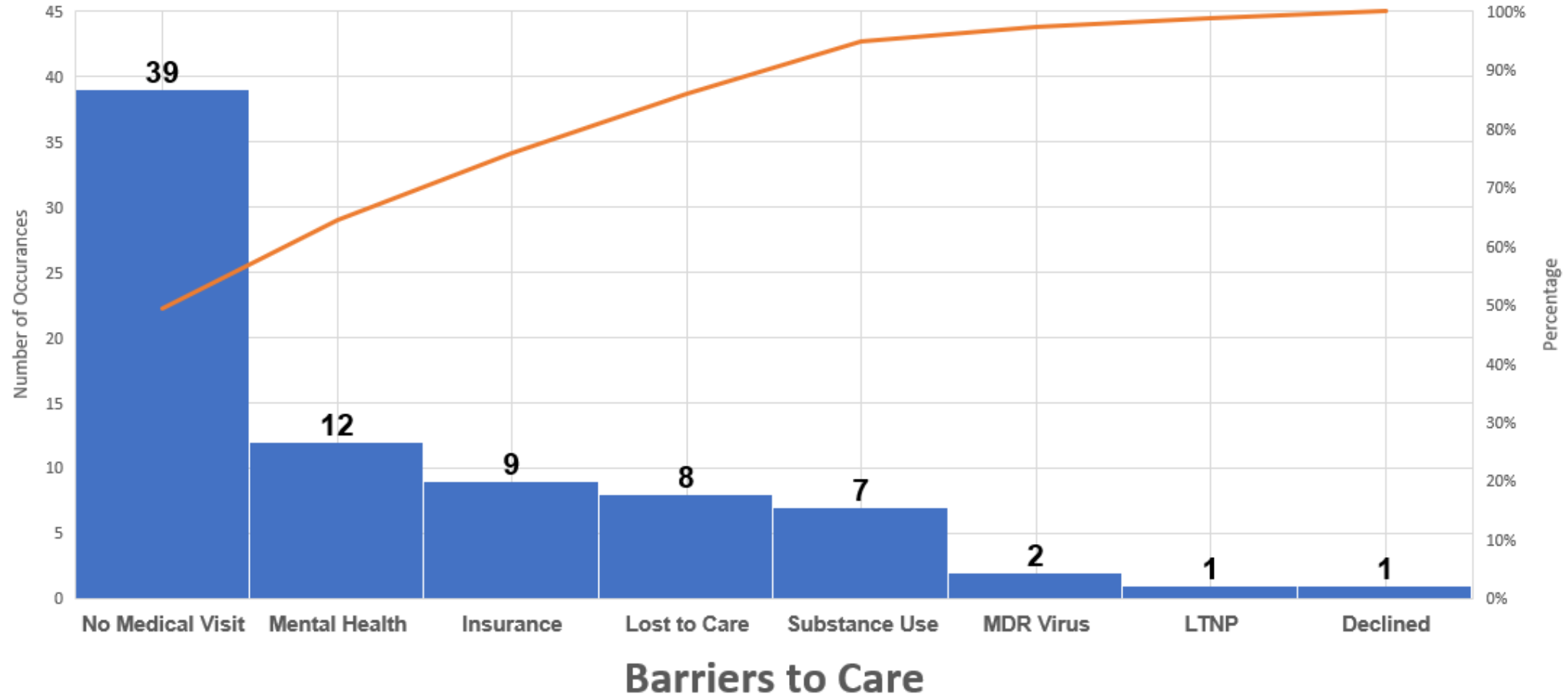
Barrier	Frequency
No Medical Visit	39
Mental Health	12
Insurance	9
Lost to Care	8
Substance Use	7
MDR Virus	2
LTNP	1
Declined	1
Total	79

A Pareto chart plots the distribution of the data in descending order of frequency, with a cumulative line on a secondary axis as a percentage of the total.

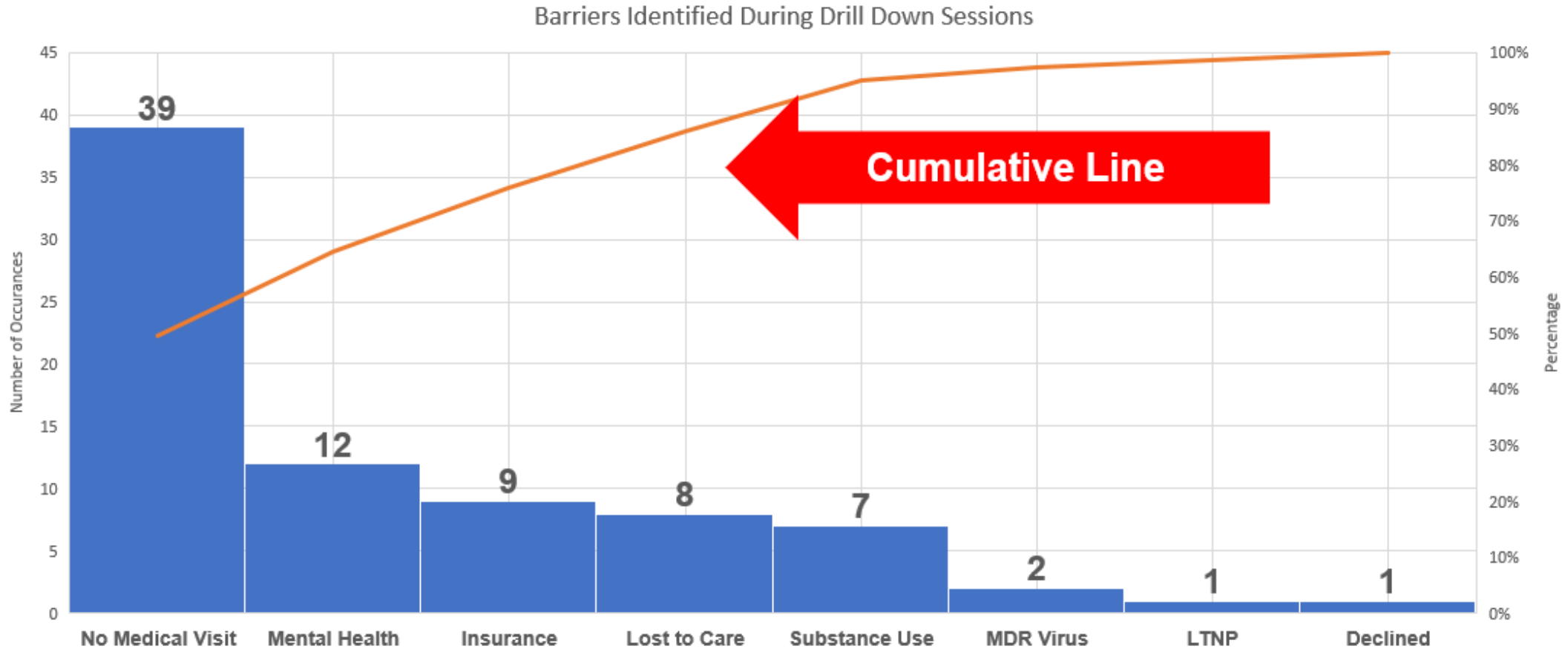
Magical Charts Button



Pareto Chart



Interpreting Pareto Charts



The Cumulative Line

If the cumulative line is steep, with a lot of arch to it, this shows that the first few problem areas rapidly add to a high percentage of the total problems.

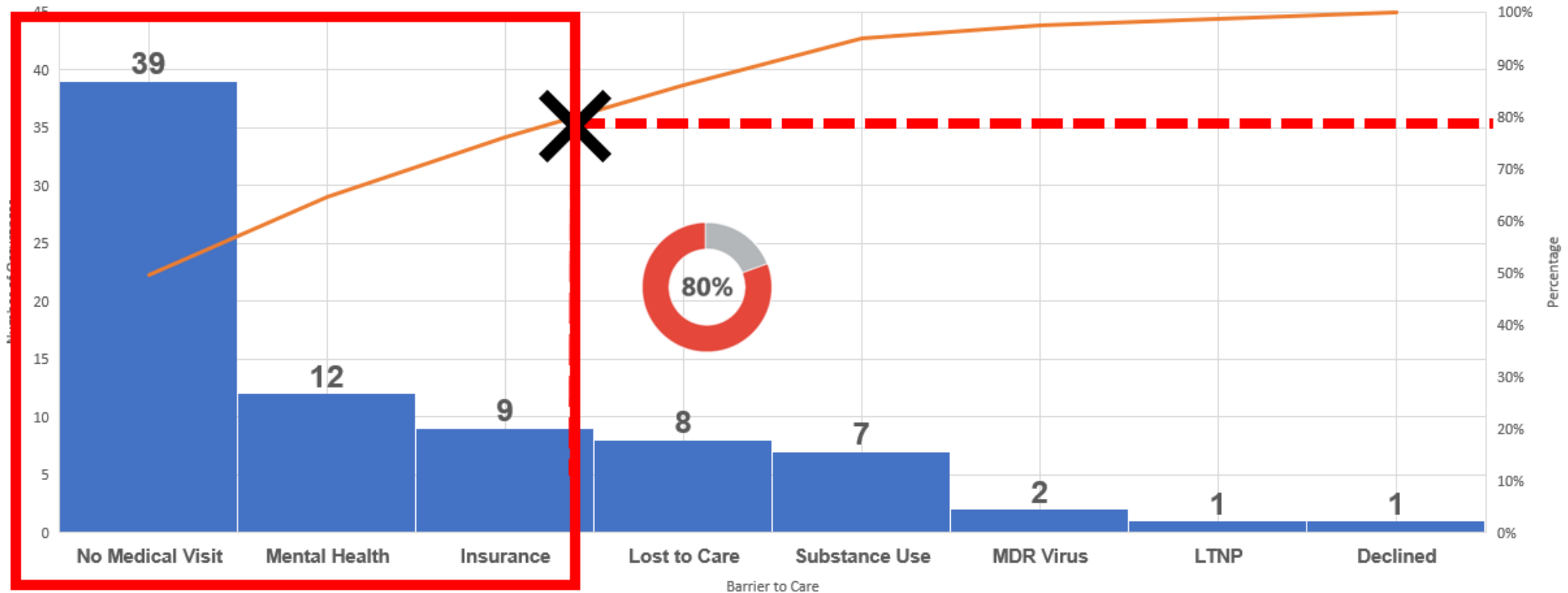
If the cumulative line is straight, it is telling us that the contribution from each successive bar (after the first) is about even.

This says that no problems stand out as being more bothersome than the rest, which does not help much for problem solving.

Adapted from: https://qualityamerica.com/LSS-Knowledge-Center/qualityimprovementtools/interpreting_a_pareto_chart.php

Interpreting Pareto Charts

Barriers Identified During Drill Down Sessions



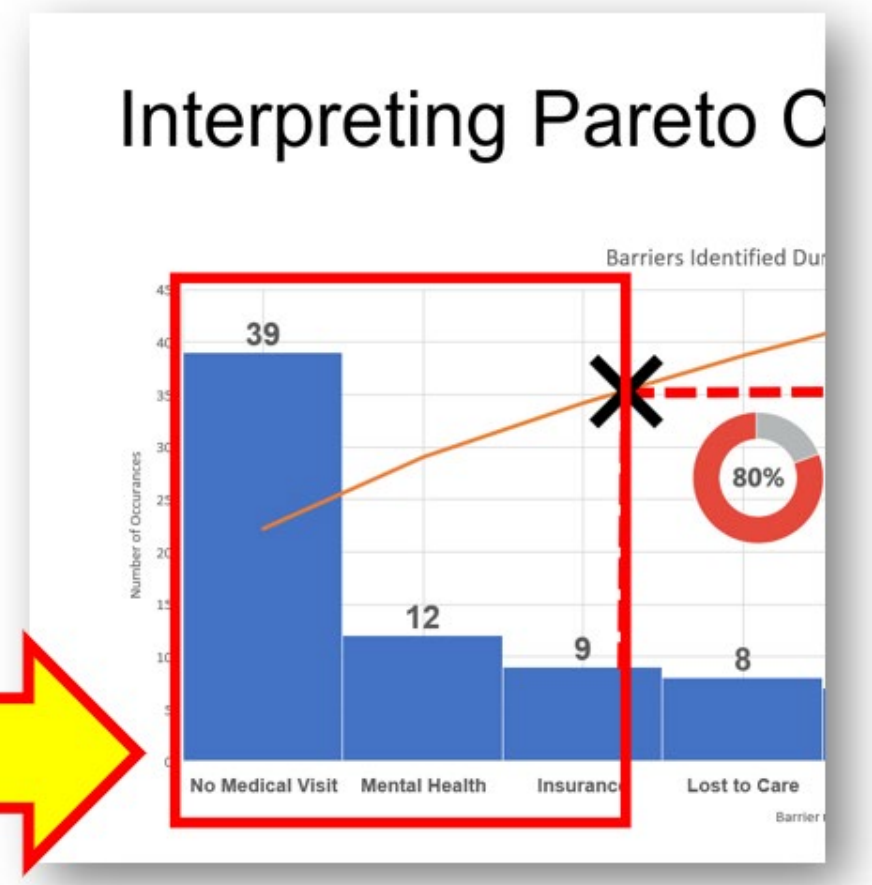
Data from Kennedy EIP Quality Management Team Viral Load Suppression Plans

Interpreting Pareto Charts

The pareto chart is telling us that if we address:

- (1) No Medical Visit
- (2) Mental Health
- (3) Insurance

that **we will address 80% of our problem.**



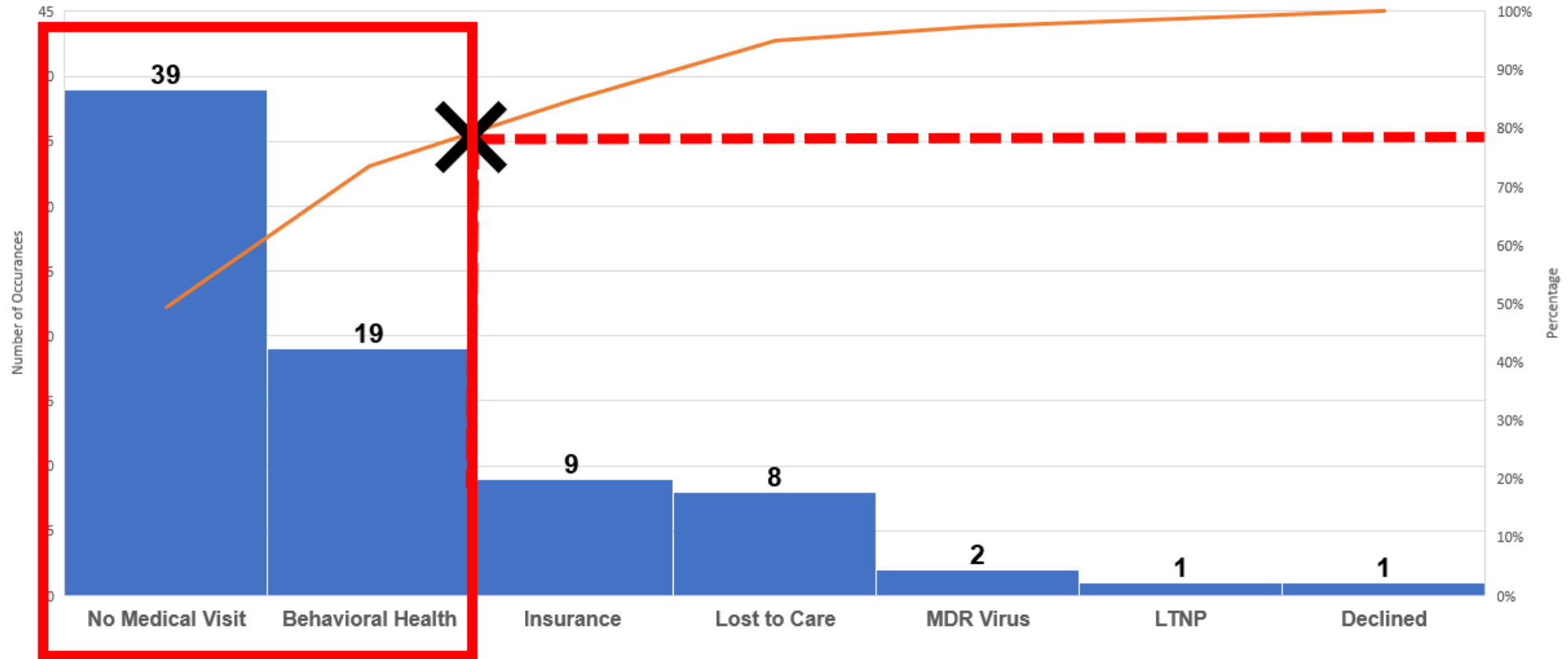
Categorize Thoughtfully

Barrier	Number	%
No Scheduled Medical Visit	39	49%
Behavioral Health Disorders	19	24%
Insurance (un/under-insured)	9	11%
Lost to Care & Follow-up	8	10%
Multi-Drug Resistant Virus	2	3%
Long-Term Non-Progressor	1	1%
Declined Treatment	1	1%
Total	79	100%

Mental Health & Substance Use Disorder Recategorized as Behavioral Health

How barriers are categorized affects the results.

New Pareto Chart



Acting on Pareto Chart Findings

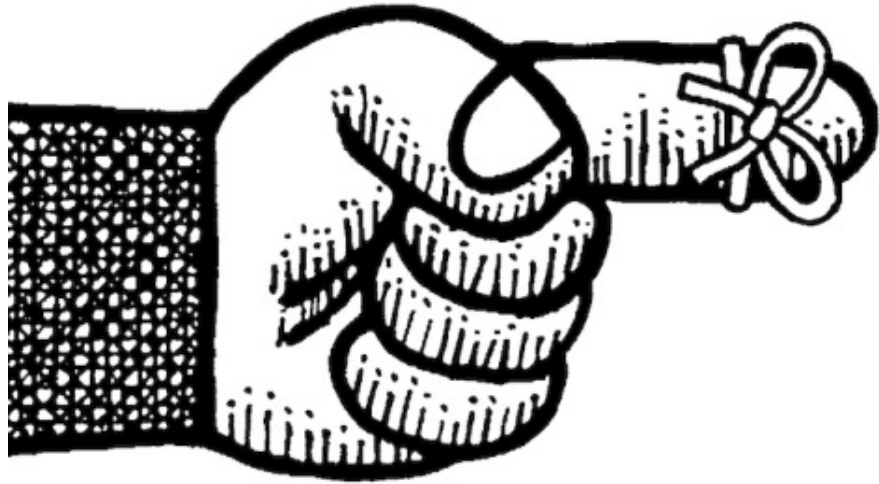
For those causes which affected most clients, address through traditional quality improvement efforts

- The most prevalent causes of an outcome are the “vital few” causes that when addressed should improve system performance

For those causes which affected only a few patients, develop tailored plans designed to address the specific barriers of the patient or subpopulation.

- These less prevalent causes from a systems perspective are the “useful many” because solutions to these problems are likely not systems-level issues but are useful in addressing individual client barriers

Step 4



Now that the team knows which barriers are causing most of the problems, they can begin to address the specific barrier with a targeted plan to:

- (1) address those currently experiencing the barrier
- (2) prevent others from experiencing it in the future**

Addressing No Scheduled Medical Visits

Fix

- Create “not-in-numerator” report of clients with no next medical visit
- Refer clients to Linkage to Care Coordinator (LTCC)
- LTCC schedules visits for clients
- LTCC supports or refers as appropriate

Prevent

- Create “Cue to Action” for client and provider
- Physician Cues
- Client Cues
- Quality Team will review Not-in-Numerator Report bi-monthly



Performance Improvement

53%





Activity Time!

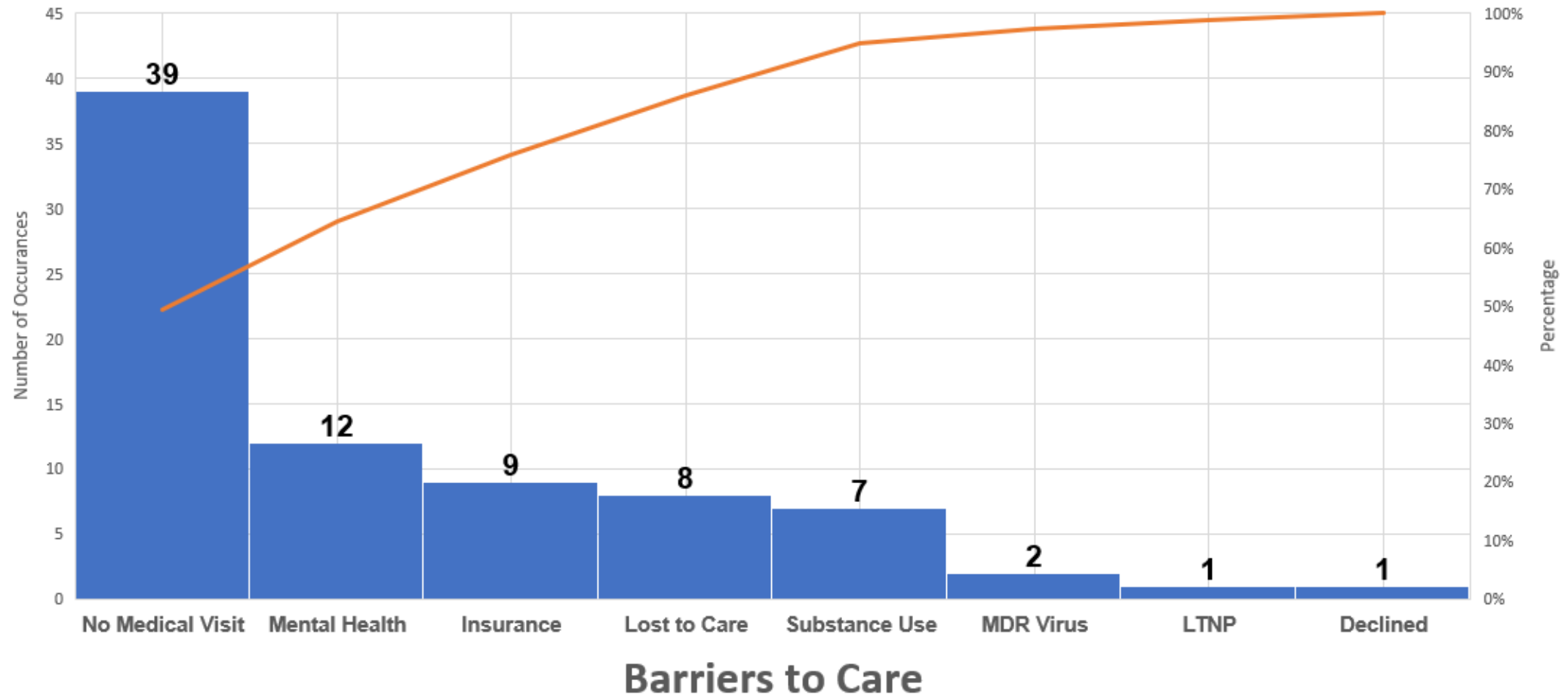
Create and Interpret a Pareto Chart



Instructions

1. In your breakout group, quickly identify a facilitator and chart creator
2. Use the Excel dataset provided in the email prior to TA Call
 - a. You can also access here (see the link in the chat)
3. Create a Pareto Chart
4. Interpret the Cumulative Line
5. List the “Vital Few” Causes to Address with Systems Improvement
6. BONUS -- If you have time or wish to, try to “re-categorize” items

Completed Activity – Pareto Chart



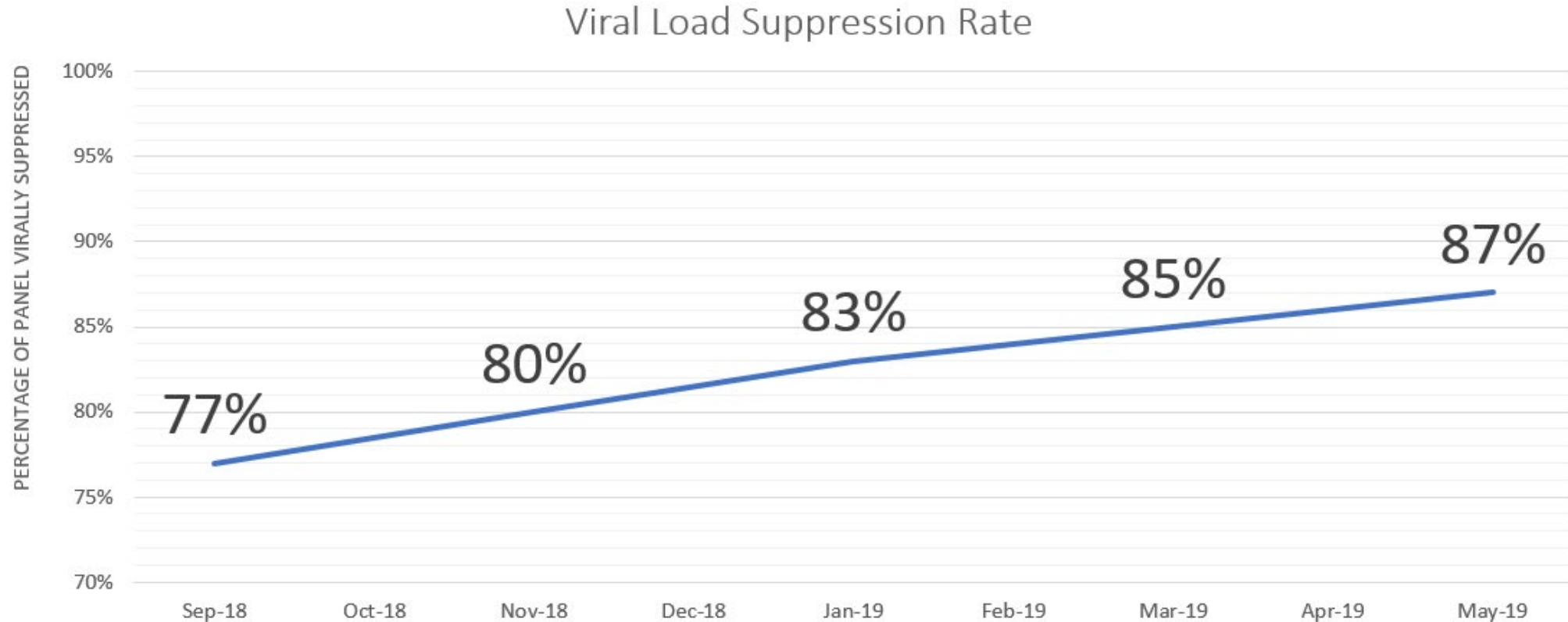
Activity Reflections

1. What was easy? What was hard?
2. What vital few causes did you identify?
3. Did you re-categorize any of the items?
 - a) Which ones?
 - b) What did the re-categorization tell you?
4. What are the top things you learned from this exercise that you want to share with team members that aren't able to participate today?

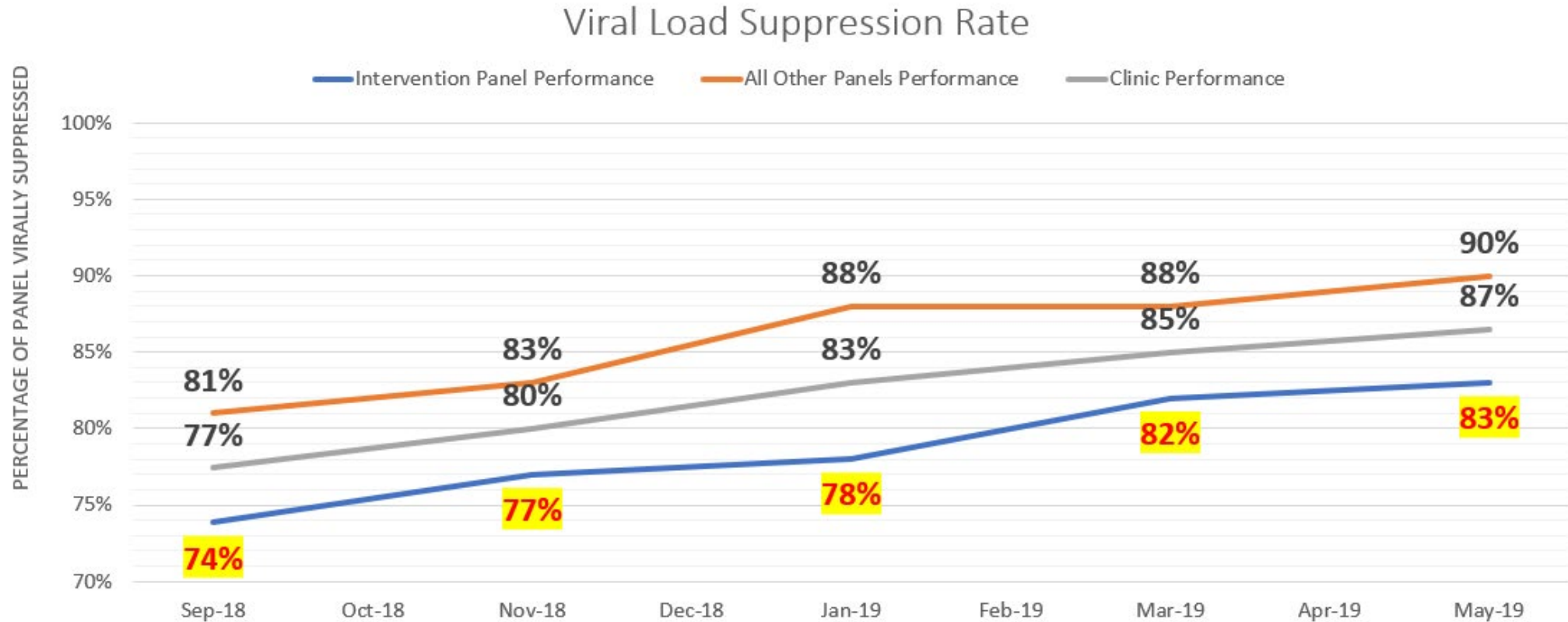
Drilling Down Data

Version 2.0

Clinic Viral Load Suppression



Panel Suppression Rates



Panel Comparison

Intervention Panel

- More likely to be African American (67%)
- Higher percentage of female clients (37%)
- Higher percentage below 100%FPL (46%)
- Twice as likely to have unstable housing (14%)
- Less likely to be Gay, Bisexual, or other Men who have Sex with Men (36%)

All Other Providers Panels

- Less likely to be African American (43%)
- Lower percentage of female clients (24%)
- Lower percentage below 100% Federal Poverty Level (33%)
- Predominantly stable housing (92%)
- More likely to be Gay, Bisexual, or other Men who have Sex with Men (51%)

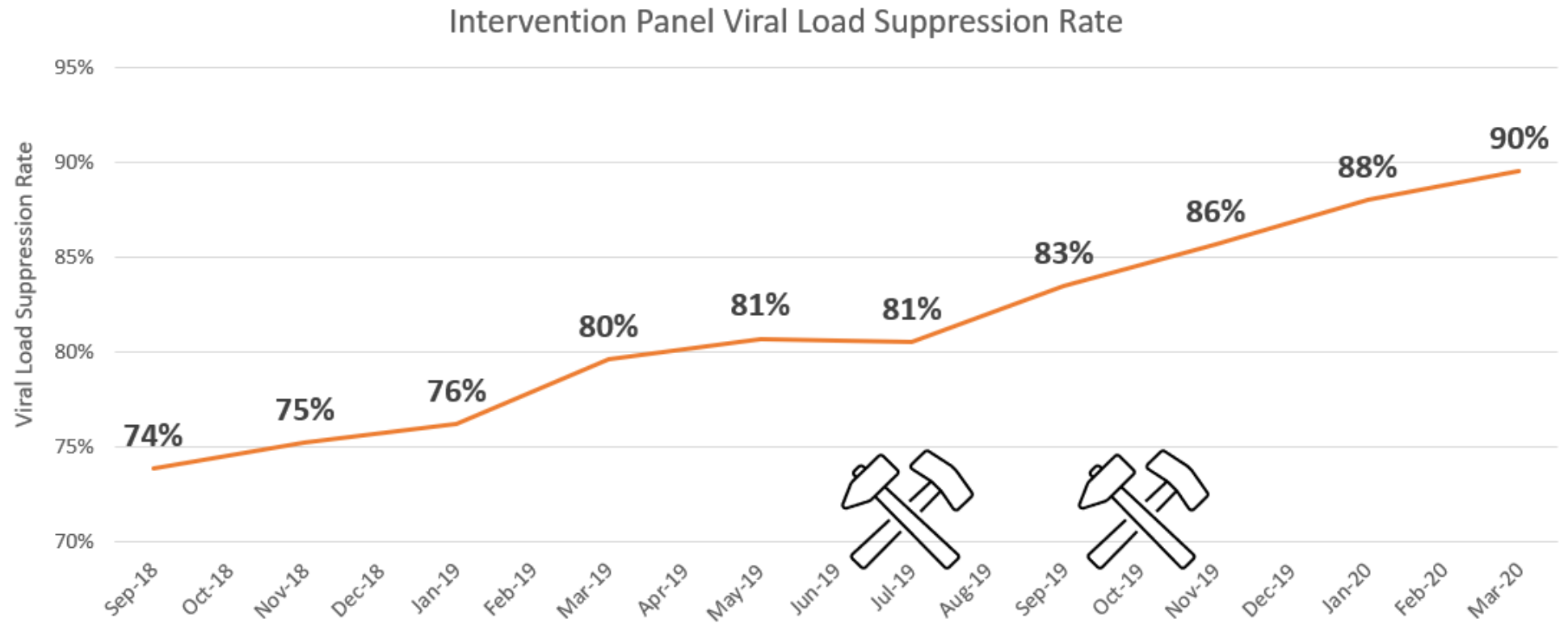


Drilling Down the Data (Client-Level)

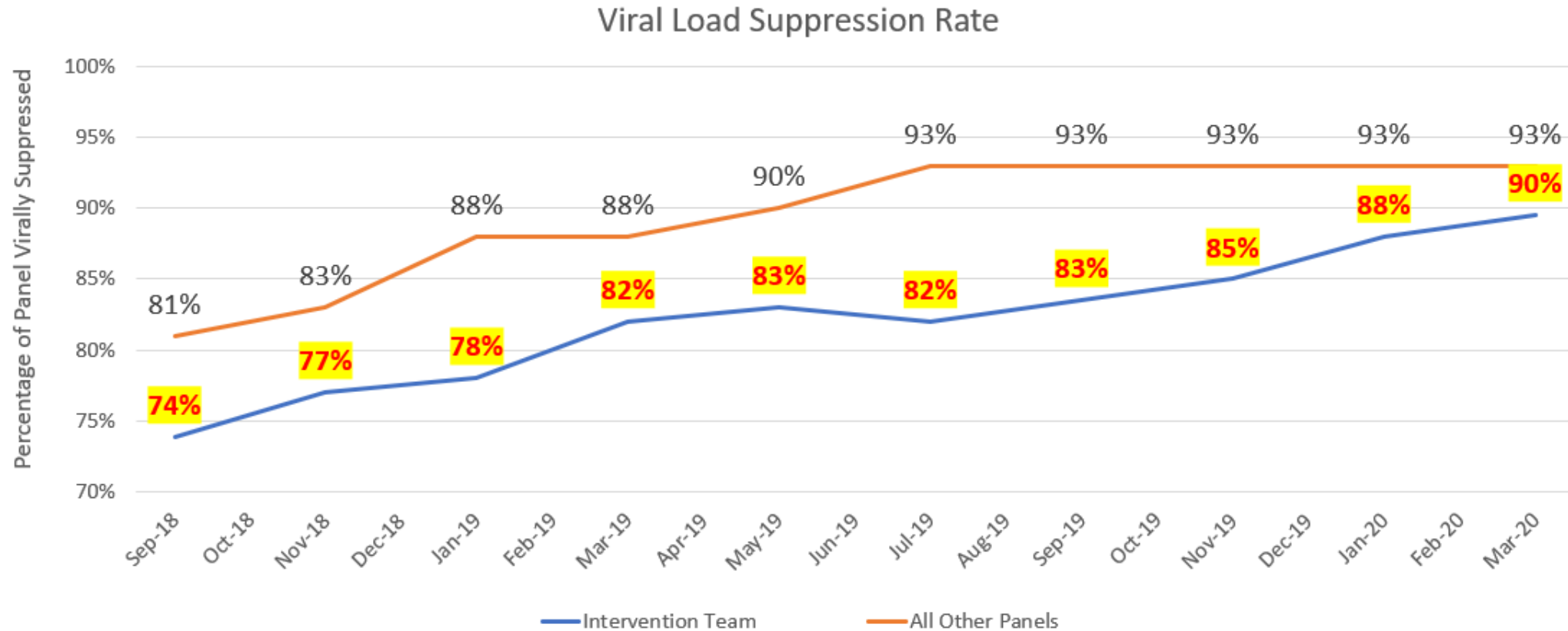
- Identify Area of Interest
- Determine Measure(s)
- Convene Multi-disciplinary Team
 - Hypothesize about Key Drivers of Outcome
 - Create a List of Potential Interventions
 - Prioritize and Select Intervention
- Implement Intervention
- Evaluate Outcome
 - Additional or Different Strategies



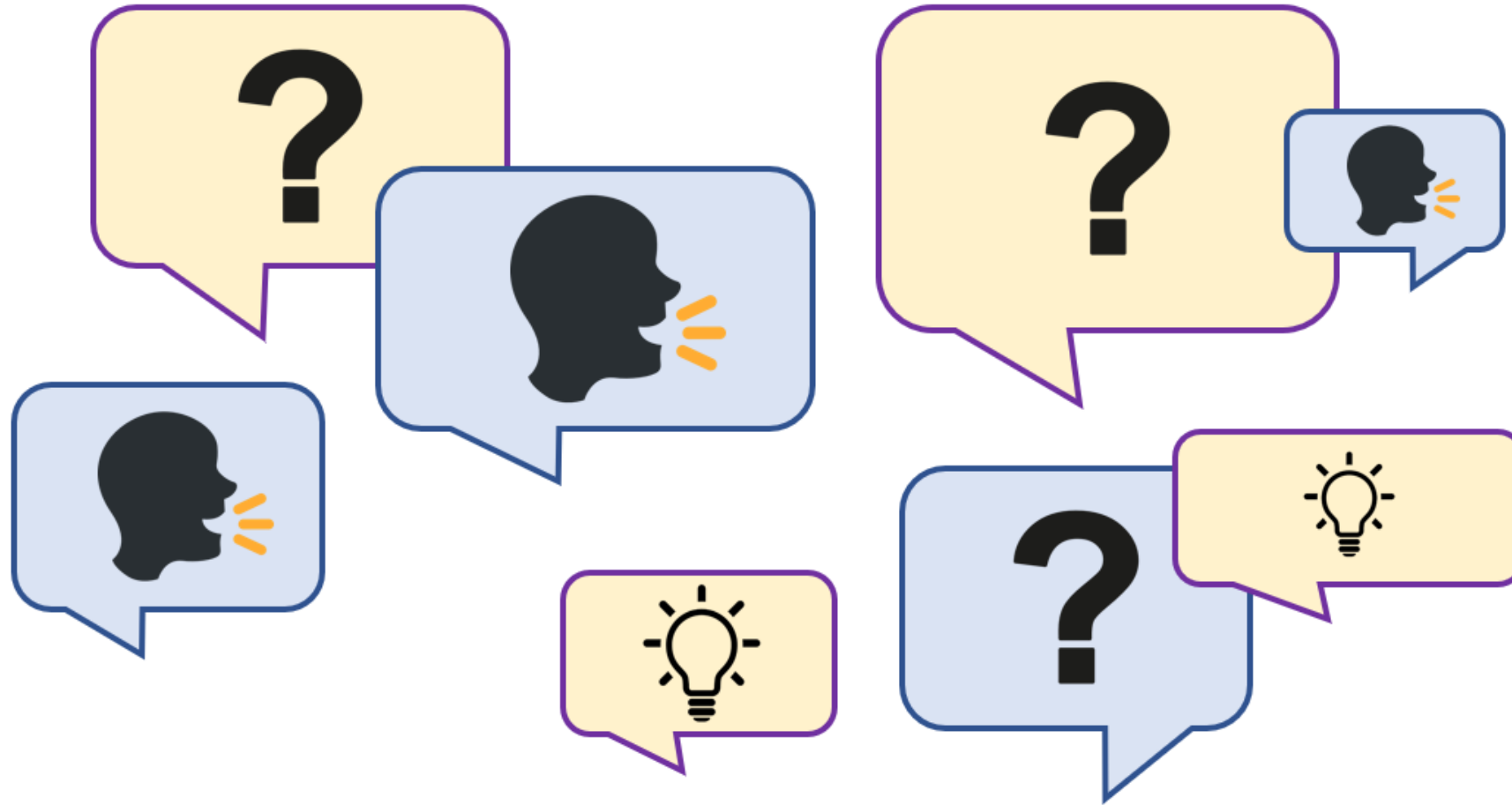
Suppression in Intervention Panel



Viral Suppression Rates



Questions or Comments



THANK YOU

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