

## From Numbers to Visuals: Unleashing the Power of Data to Create Narratives for CBO Impact Case Study: Family Guide Center – Visualizing Mental Health Service Impact

Family Guidance Center is a behavioral health CBO that provides counseling, support groups, and educational programs to families in an underserved urban community. They want to create an effective data visualization to showcase the impact of their services over the past year. The audiences they want to focus on are:

- **Internal stakeholders** - The center's staff, leadership, board members, etc. who need to understand the impact, reach, and utilization of their services.
- **The local community served** - Residents, families, and community members themselves should have transparency into how the center's resources are utilized and who is being served.

### Step 1: Choose the Right Visualization Type

The CBO has multiple data storytelling objectives:

1. Show the trend of overall service utilization over time
2. Compare utilization of their three main service types
3. Illustrate demographic breakdown of participants

### Raw Data for reference

#### Line Graph - Total Participants by Month in 2022:

Month	Total Participants
January	85
February	92
March	110
April	135 ( <i>Launched social media campaign</i> )
May	125
June	100
July	90
August	155 ( <i>Hosted community health fair</i> )
September	175
October	145
November	130
December	160 ( <i>Started school outreach program</i> )

#### Bar Chart - Participants by Service Type in 2022:

Service Type	Participants
Counseling	550
Support Groups	425
Education Programs	325

## Pie Chart - Participant Age Group Breakdown in 2022

Age Group	Percentage
Under 18	18%
18-34	42%
35-54	29%
55+	11%

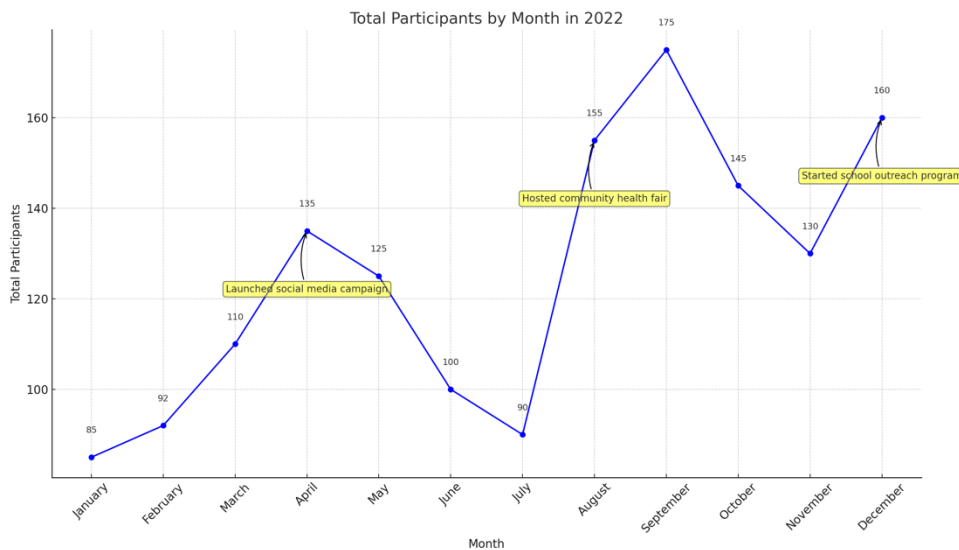
## Total Participants in 2022 - 1,300

Based on the data visualization design process, they will use a combination of visualizations:

- A line graph to depict the trend of total participants over 12 months.
- A grouped bar chart to compare number of participants across counseling, support groups, and education programs.
- A pie chart to show the percentage breakdown of participants by age groups.

## Step 2: Simplify and Focus with Context

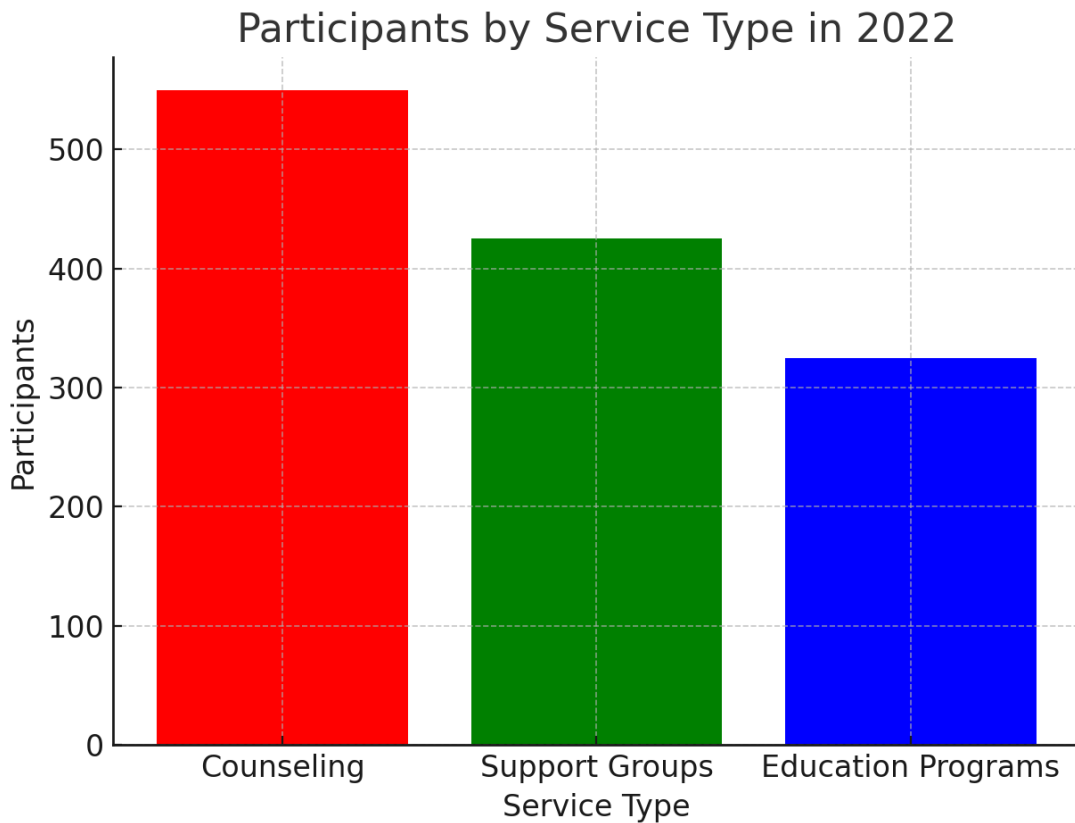
- For the line graph, they will use a single-color line to represent total participants, avoiding excess clutter. Brief annotations will mark community outreach efforts.



**Narrative** - In 2022, Family Guide Center witnessed a transformative year. Starting in January with 85 families served, our outreach efforts, like the social media campaign in April and community health fair in August, visibly propelled our impact, peaking at 175 families in September. Each line on the graph isn't just a number—it represents families finding support, a testament to our collective effort and the community's growing trust in us.

"The social media campaign let me know there was support out there for parents like me. I'm so grateful I reached out to Family Guidance Center." - Sandra M., Client (***this testimonial quote highlights how Family Guidance Center's outreach efforts opened doors***)

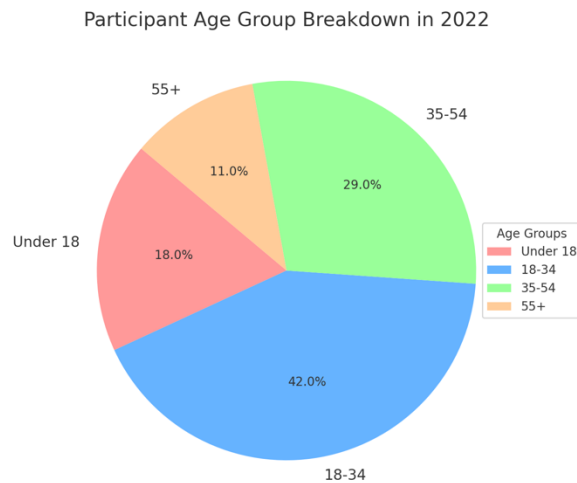
- The bar chart will use a simple color palette - one color per service type. No unnecessary text or graphics.



**Narrative** - Last year, our services touched lives across the board—550 individuals found solace in counseling, 425 built resilience through support groups, and 325 expanded their horizons with educational programs. This simple bar chart illustrates not just the diversity of our offerings but the widespread need and acceptance of mental health support in our community. Each bar represents a pathway to healing and growth for our participants.

"My counselor at Family Guidance provided me coping tools to manage my anxiety in a way I never could before. I don't know where I'd be without them." - Juan R., Client (***to reinforce the importance of the counseling services***)

- The pie chart will have a clear title describing what demographic segment it shows. A sidebar will provide numbers behind the percentages.



**Narrative** - Our services reached across generations in 2022, from the young under 18 making up 18%, to those 55 and older at 11%. The largest slice belongs to the 18-34 age group, at 42%, highlighting our significant impact on young adults. This pie chart reflects our center's role in supporting diverse age groups, underlining the universal need for mental wellness and the inclusivity of our programs.

"Family Guidance's inclusive, life-cycle approach to mental wellness has been invaluable for our city's residents of all ages and backgrounds." - Dr. Maya Wilson, Memorial Hospital Partner **(to underscore their community-wide impact across age groups, a succinct quote from a community partner)**

### Step 3: Ensure Accessibility and Engagement

High color contrast and detailed alt-text descriptions will be used for accessibility.

- Using colors with sufficient contrast between elements (like bar colors and background) aids those with visual impairments or color vision deficiencies in distinguishing the visualized data.
- Providing descriptive alt-text allows those using screen readers or text-to-speech tools to understand the visualization and the insights it conveys.
- This ensures the visualizations are perceivable and understandable to audience members with disabilities, following guidelines for accessibility.

To encourage engagement in the static format, they will:

- Include an individual data table for each of the three visualizations.
- Use distinctive bar/slice colors and labels to allow viewers to easily cross-reference between visuals and tables.
- Cultural consideration will be used for color choices across all visualizations.

#### **Step 4: Test, Gather Feedback, and Refine**

Family Guidance will present drafts of all three visualizations to community members, staff, and advisory groups for feedback via:

- Hosted sessions reviewing each graphic
- Questionnaires focused on clarity, accessibility, impact

#### **Data Visualization Feedback Questionnaire**

1. Did the line graph clearly show the trend of increasing total participants over the 12-month period?
  - Yes
  - Somewhat
  - No
  - If no, what could make it clearer?
2. Did the annotations linking utilization spikes to outreach efforts provide helpful context?
  - Yes
  - Somewhat
  - No
  - If no, what other context is needed?
3. Was the bar chart effective in comparing utilization of the counseling, support, and education services?
  - Yes
  - Somewhat
  - No
  - If no, what could improve it?
4. Did the pie chart and supplemental data table clearly communicate the age demographics served?
  - Yes
  - Somewhat
  - No
  - If no, what could make this clearer?
5. Please rate the accessibility of the visualizations for those with visual impairments or color blindness:
  - Excellent
  - Good
  - Fair
  - Poor
6. What suggestions do you have for improving the visualization colors, text, labeling, or other design elements?
7. Any other feedback?

Feedback will be implemented to refine colors, text, layouts, and any other suggested improvements.

Throughout the process, they will follow the equity guidelines:

- Use authentic data sources representing their full community.
- Avoid visualizations that distort, stereotype, or misrepresent any groups.
- Maximize accessibility for those with disabilities or language barriers.
- Be transparent about data limitations.

### **Data Visualization Feedback Results**

Family Guidance Center circulated the visualizations and questionnaire to a diverse group of 25 community members, staff, and advisors. The feedback was:

- 22 said the line graph clearly showed the utilization trend (2 said "somewhat")
- 20 found the annotations provided helpful context (5 wanted more context)
- 21 said the bar chart effectively compared service types (4 wanted adjustments)
- 23 said the pie chart/table clearly showed age demographics
- 18 rated accessibility as "excellent" and 7 as "good"

### **Some of the suggestions received:**

- Add numerical values to the height of bar chart
- Make pie chart slices more differentiated
- Increase font size and thickness for visibility

By utilizing a multi-visualization approach thoughtfully designed with this process, Family Guidance can create an informative, ethical, and engaging package to showcase their impact and reach in the community.