

# **Sharing with Programmes & Outcomes Committee**

15th April 2024 | By Sri Manikantan



# Agenda

- 1 Introduction to Team SUDS
- 2 Project Overview & Goals
- 3 Key Deliverables:
  - Formatting PHQ Questionnaires
  - Building Dashboards based on WC&S Data
  - Automating Data Processing & Reporting
- 4 Conclusion + Q&A



# About **TEAM SUDS**



# About Team SUDS

“

**Students Using Data for Social Good** (SUDS) is a student group at **Carnegie Mellon University** dedicated to both generating awareness and creating practical solutions for social justice issues. We do this by **collaborating with non-profits** and government organizations on data-driven projects that **help better the lives of people in and around the Pittsburgh community.**

”

# Project Overview



# Project Overview

Aims to **gain a comprehensive understanding of domestic violence survivors** using the data WC&S collects as part of its Women Shelter Program.

**Research Focus:** Given the limited literature on domestic violence, we aim to **fill the research gaps** which can help **contribute to academic knowledge and inform discussions on domestic violence.**

**Program Focus:** Alongside research, we also aim to **assess the impact of WC&S Shelter services.** This can **provide actionable insights to refine programs and address the diverse needs** of domestic violence survivors.

# Key Deliverables



# **1) Formatting**

## **PHQ\***

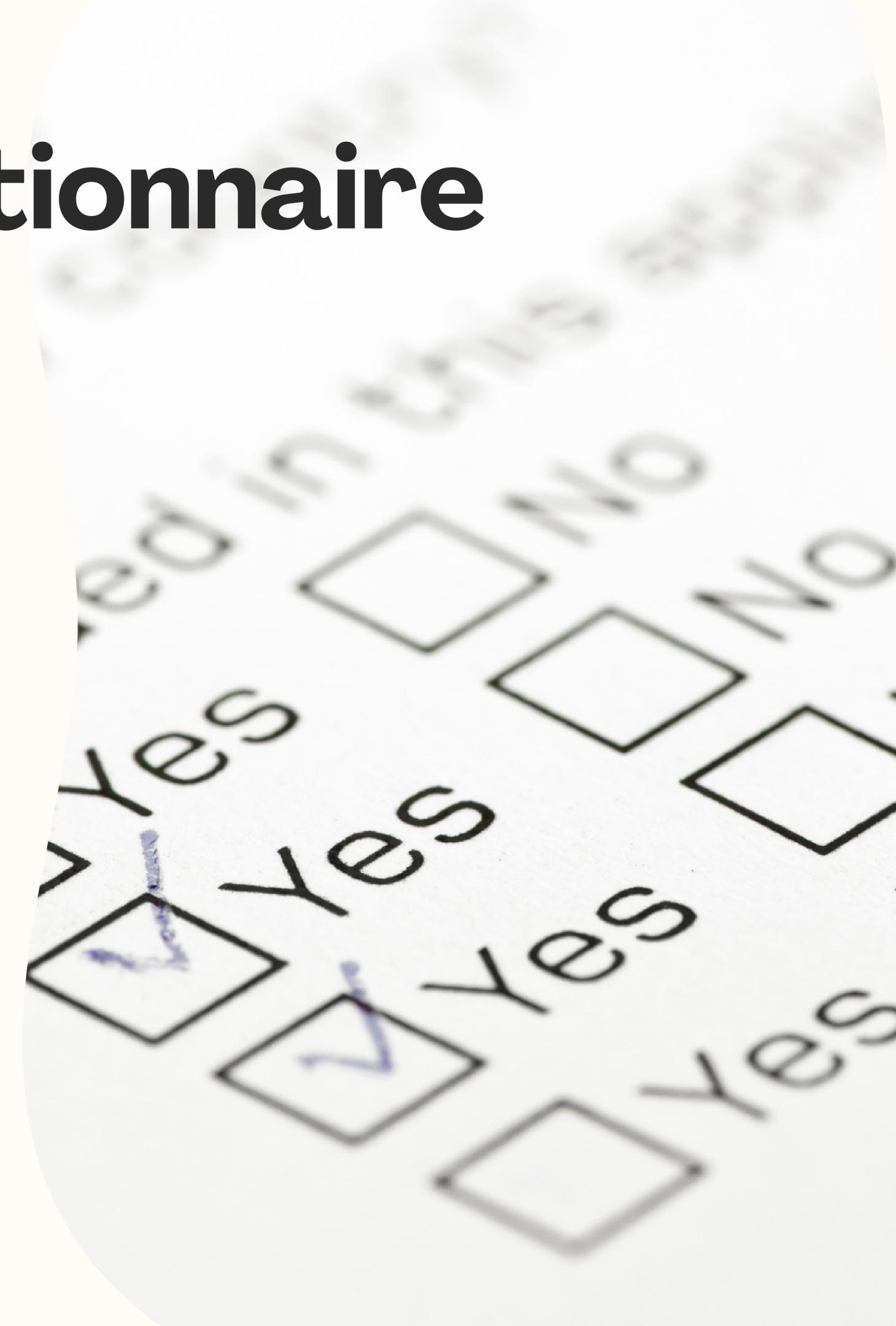
# **Questionnaire**

\*Patient Health Questionnaire is a depressive diagnostic tool introduced in 2001



# Formatting PHQ Questionnaire

We have helped to **streamline data entry process** for PHQs, transitioning from labor-intensive paper-based PHQ Surveys to simpler online-based Salesforce Surveys



# Formatting PHQ Questionnaire

Made data entry easier for  
the already overworked  
ground staff in WC&S

Ensures data is collected  
accurately, preserving data  
integrity for future analysis



# Formatting PHQ Questionnaire



**Removed unnecessary fields**



**Changed all questions to a “required” field**



**Changed all questions from numeric to picklist type**



**Created a new field called “Level of Depression”**

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# **2) Building Dashboards based on WC&S Data**



# Building Dashboards based on WC&S Data

S/N	Dashboard Name	Focus	Purpose
1	Demographics Dashboard	Research	To analyse the sociodemographic characteristics of WC&S clients and their violence status
2	Income Sources Dashboard	Research	To analyze the different income sources & changes in income level for WC&S repeat clients
3	Depression Level Dashboard	Program	To analyze the impact of WC&S Shelter program on improving depression levels of clients
4	PHQ Scores Dashboard	Program	To measure the changes in PHQ Scores over time for different PHQ Assessment Type
5	Response Rates Dashboard	Program	To analyze response rates of survey questions



## Women's Center & Shelter of Greater Pittsburgh

# DEMOGRAPHICS DASHBOARD

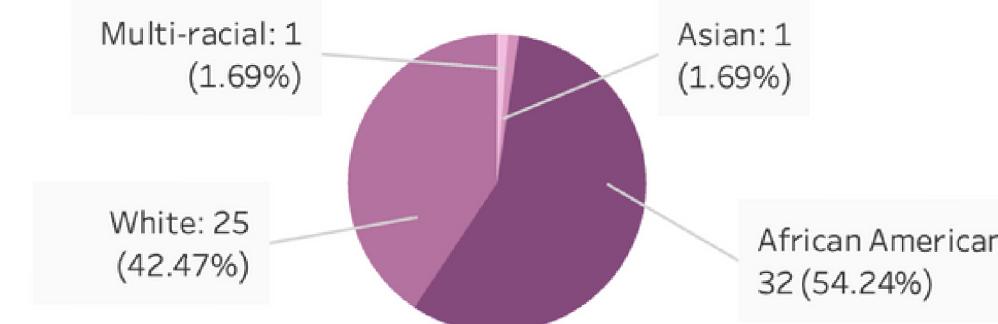
To analyze the social demographic characteristics of WC&S clients and their violence status

### Assessment Date

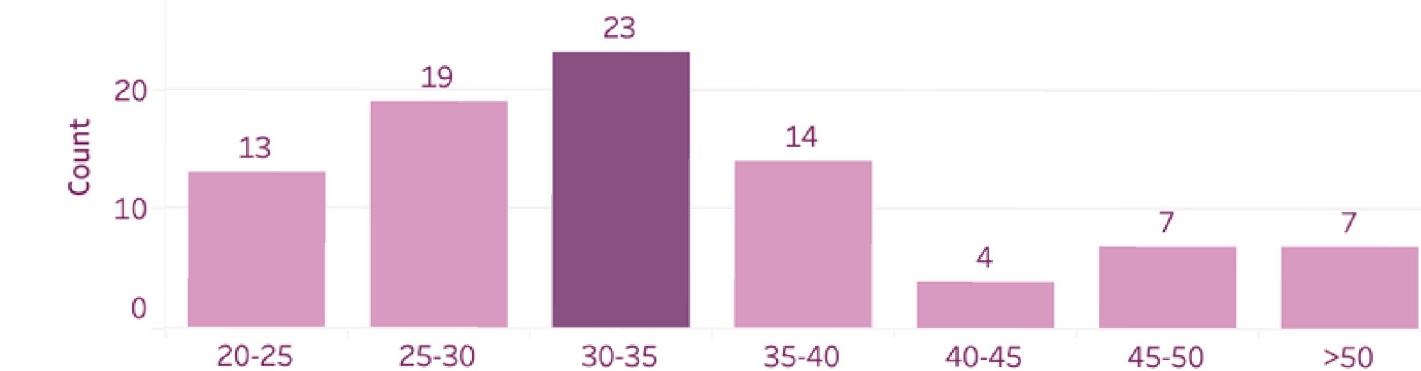
12/11/2022  8/14/2023

Last 3 years

### Race

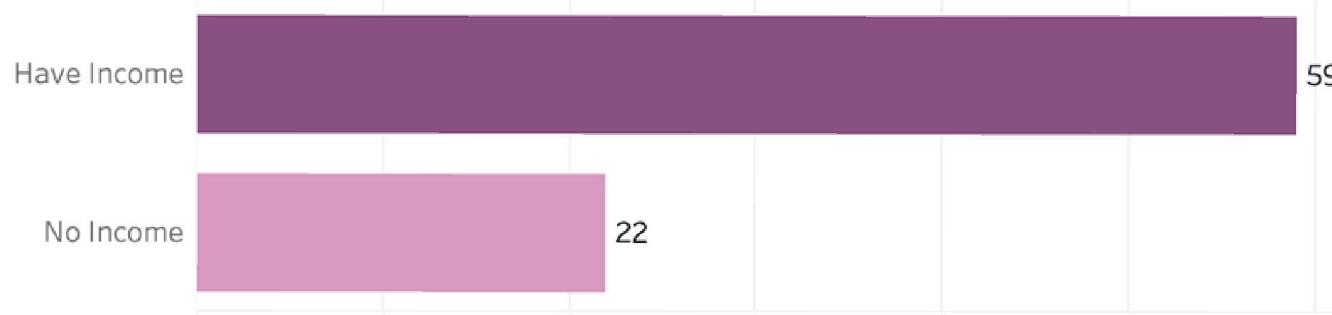


### Age

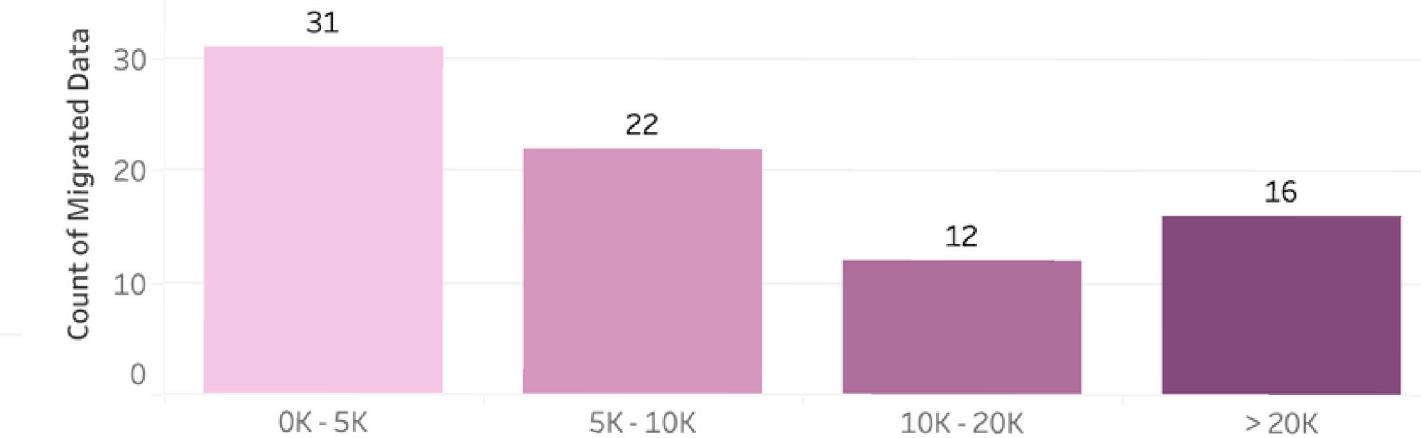


### Income Status

Based on annualized income status



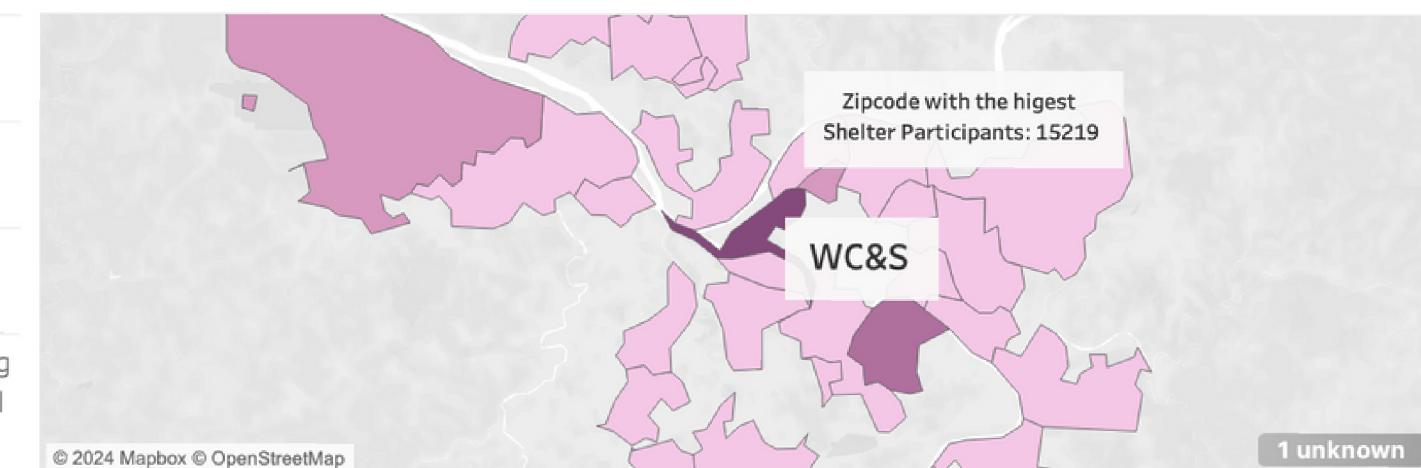
### Total Income Distribution



### Violence Experienced



### Location Distribution





## Women's Center & Shelter of Greater Pittsburgh

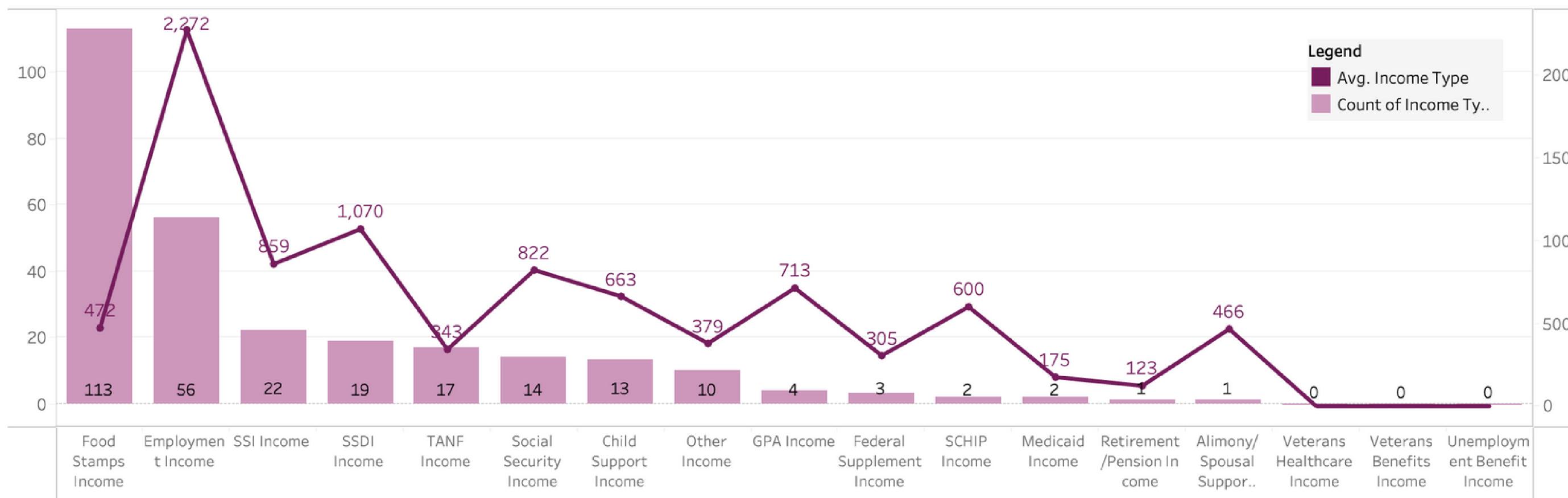
# INCOME ANALYSIS DASHBOARD

To analyze the different income sources and changes in income level for WC&S Repeat Clients

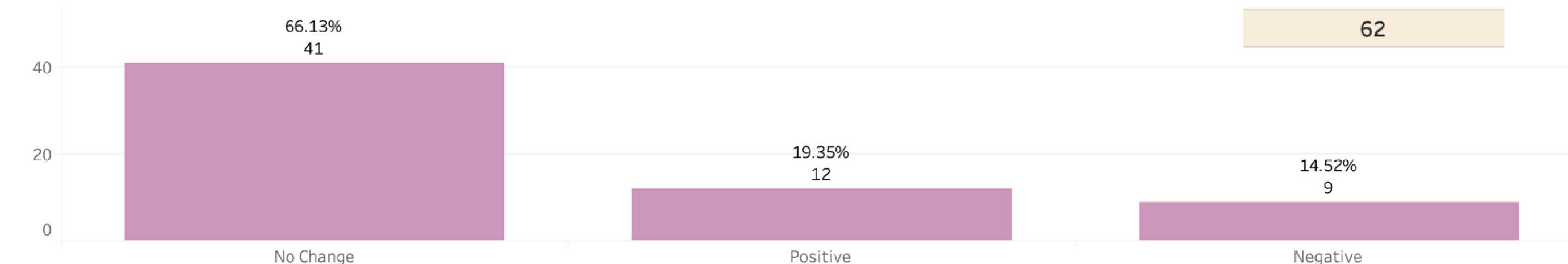
### Assessment Date

1/1/2022  3/31/2024  ▾

### Sources of Income



### Changes in Income for Repeat Clients





## Women's Center & Shelter of Greater Pittsburgh

# DEPRESSION LEVEL DASHBOARD

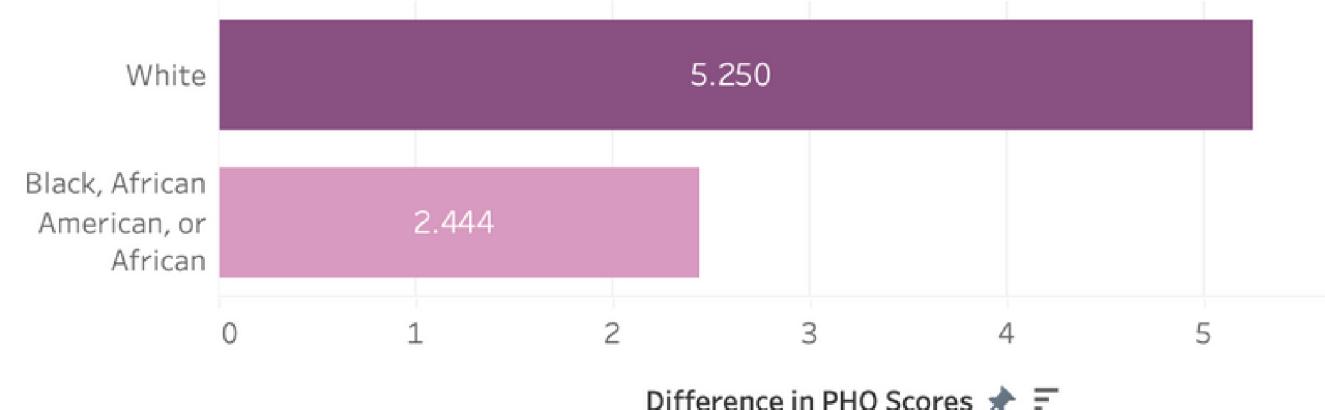
To analyze the changes in depression levels through the PHQ Surveys - where larger differences indicates bigger improvement

### Assessment Date

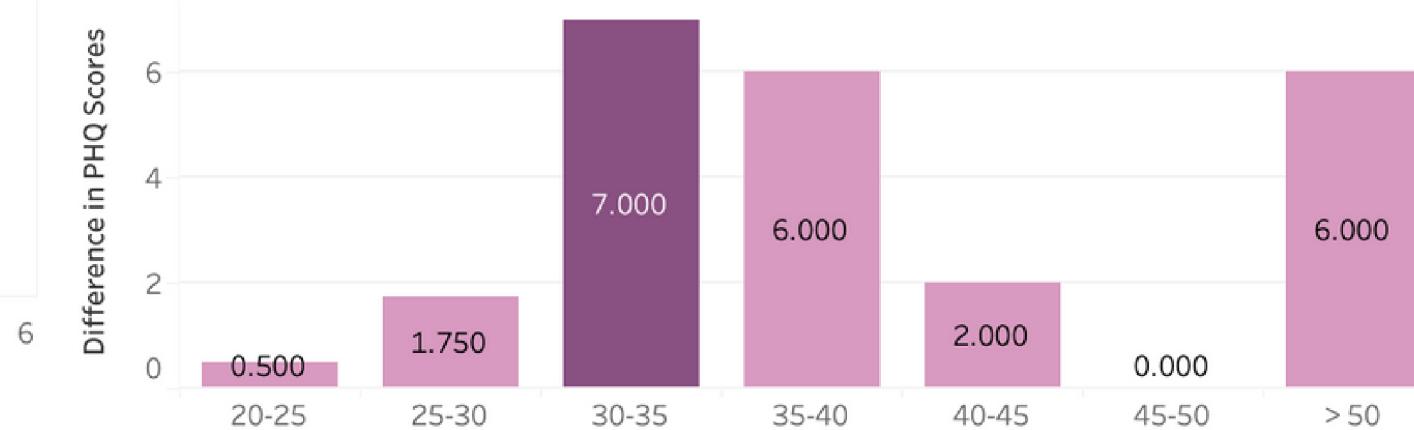
12/23/2022  7/28/2023

Last 5 years

### Race

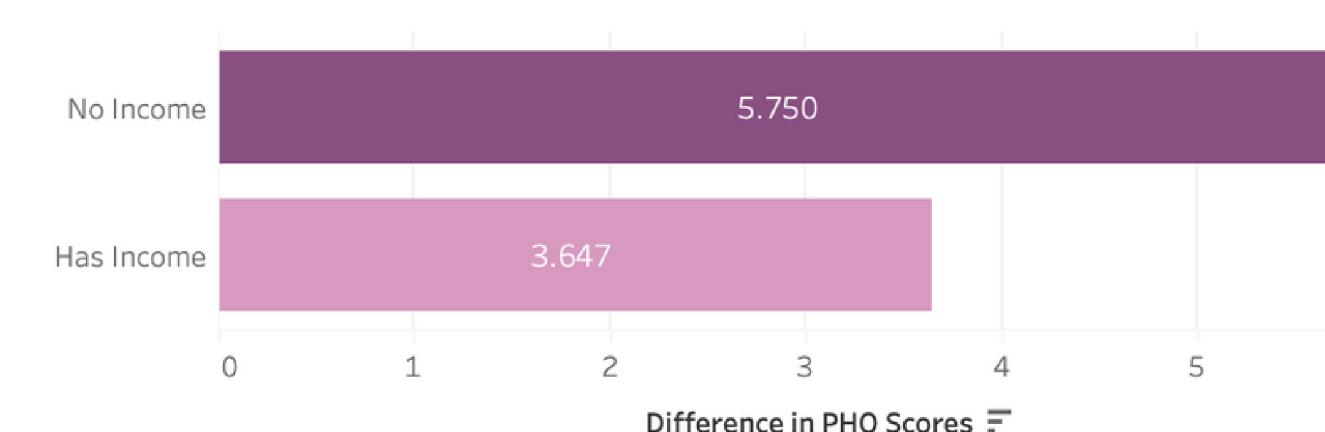


### Age

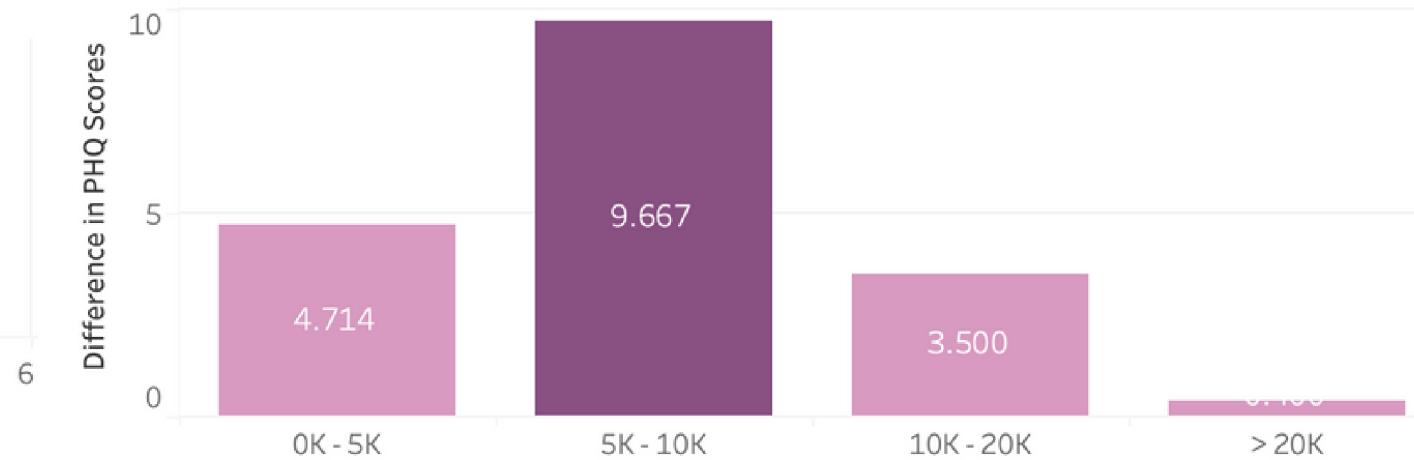


### Income Status

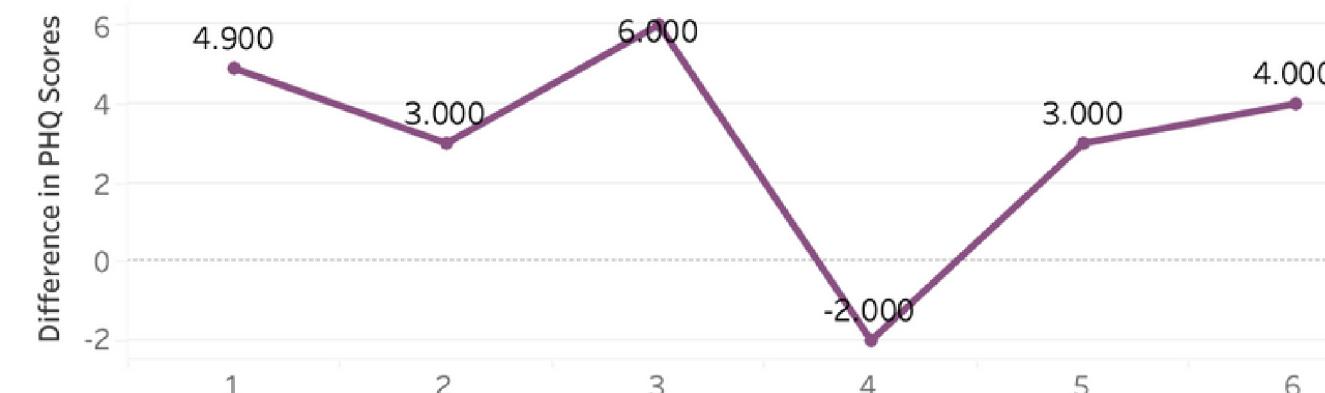
Based on annualized income status



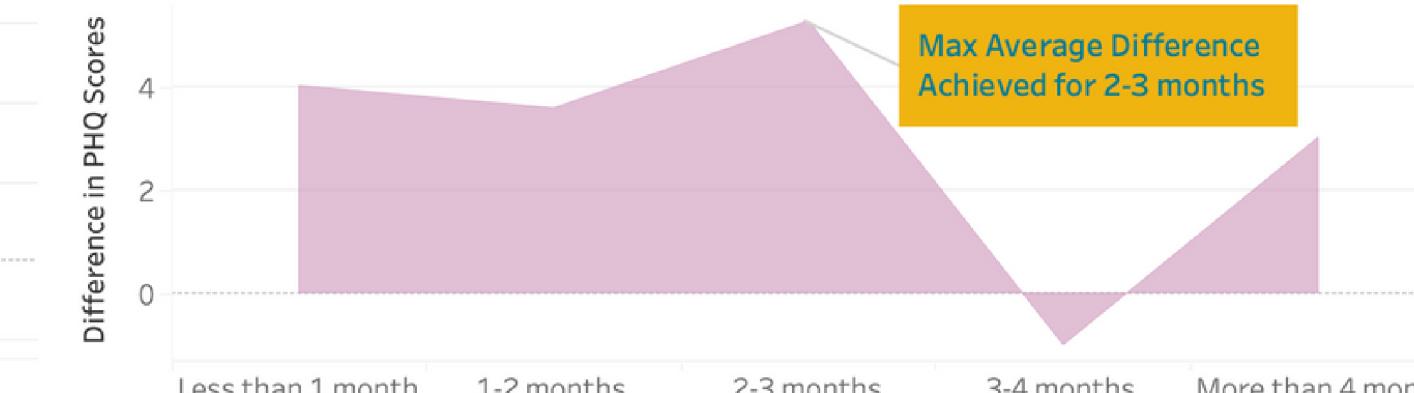
### Total Income Distribution



### Number of Household Members



### Length of Stay





**Women's Center & Shelter  
of Greater Pittsburgh**

## PHQ SCORES DASHBOARD

To measure the changes in PHQ Scores for the different assessment types

Assessment Date

10/1/2022

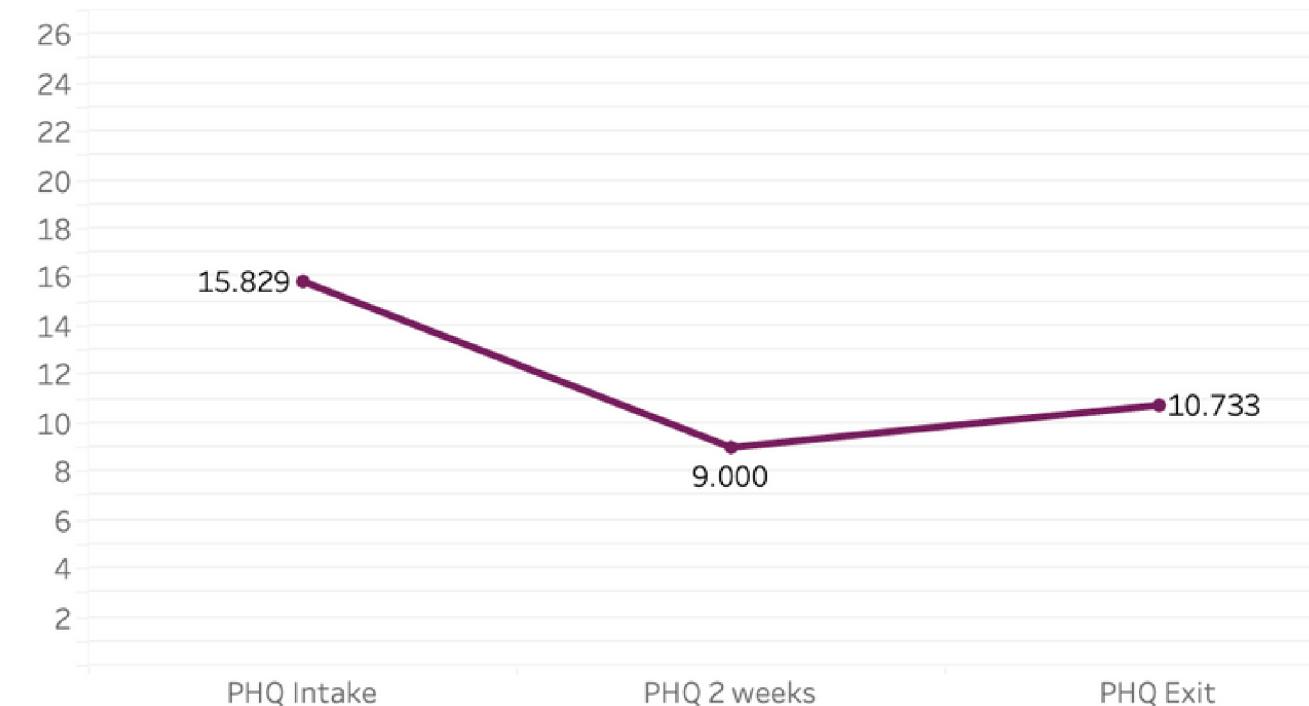


D

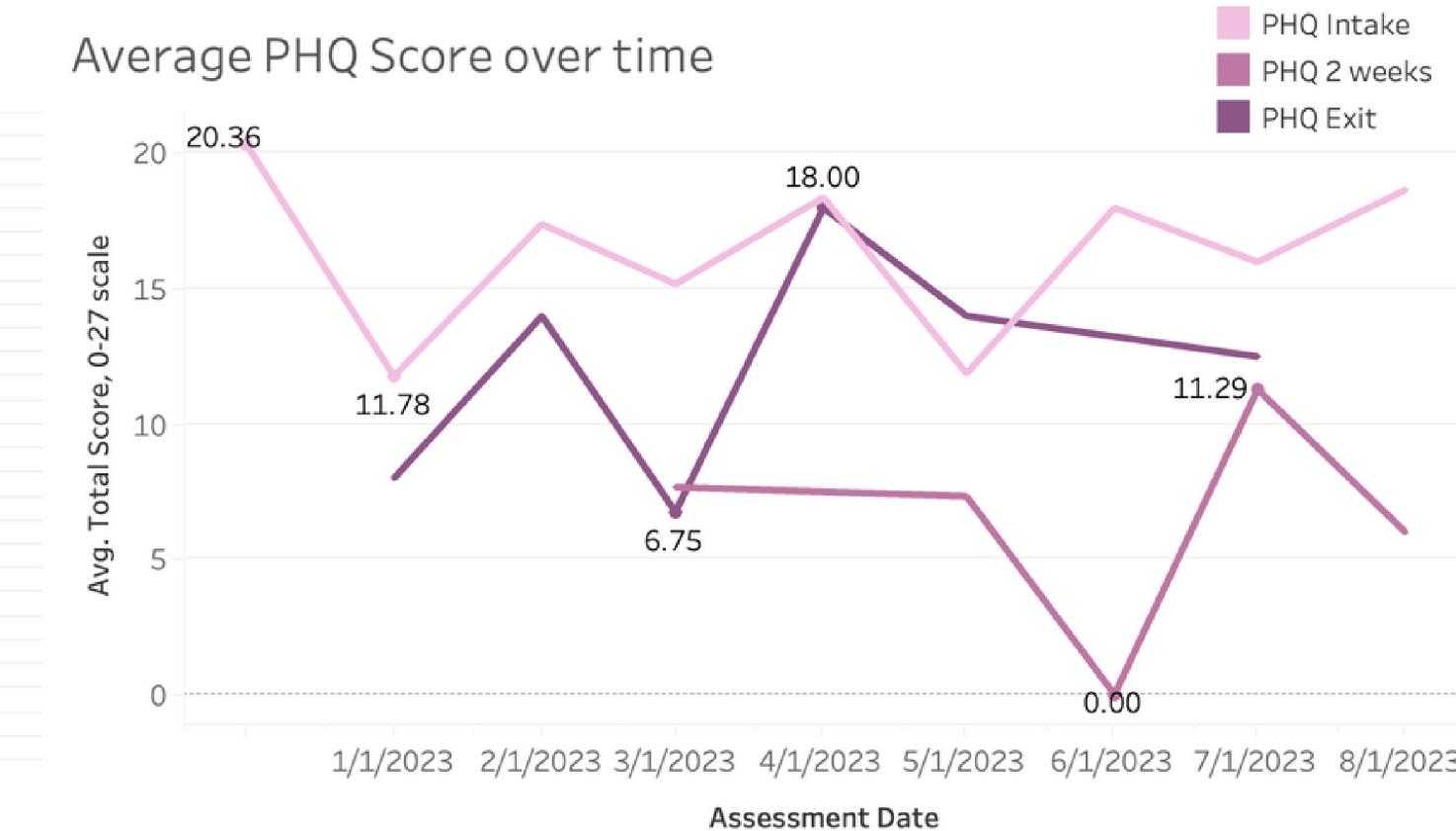
8/14/2023

Last 3 years

Average PHQ Score for Each Assessment Type



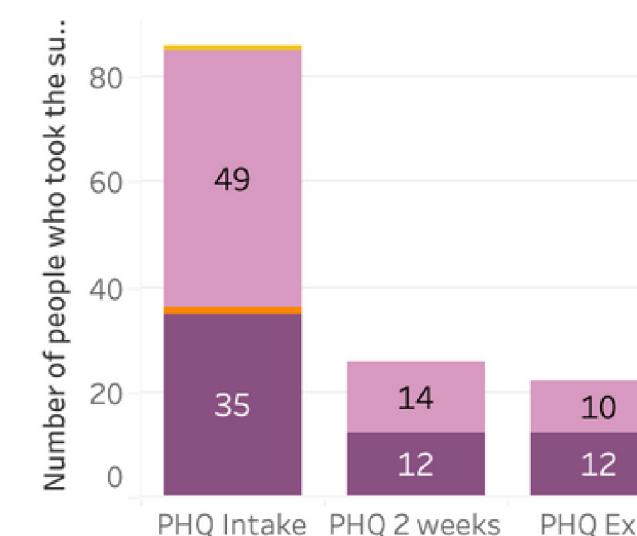
Average PHQ Score over time



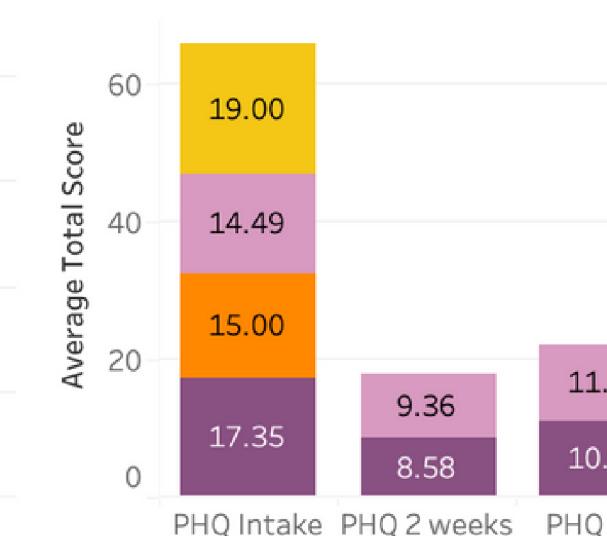
Focusing on All Races

Asian or Asian Ame.. Black, African Ame.. Multiple racial iden.. White Women of Color

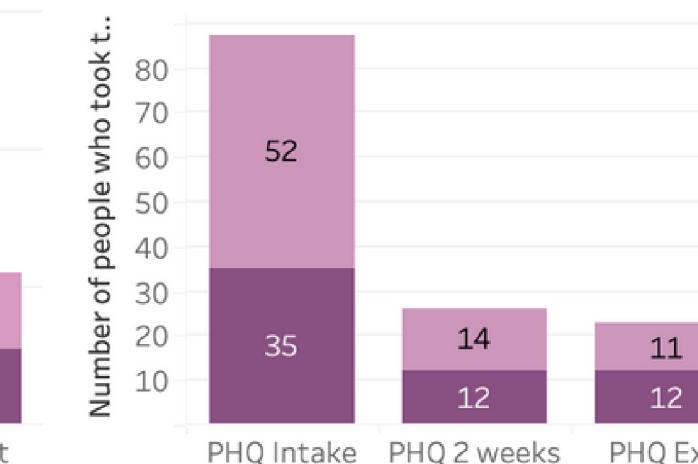
Race Count vs PHQ Type



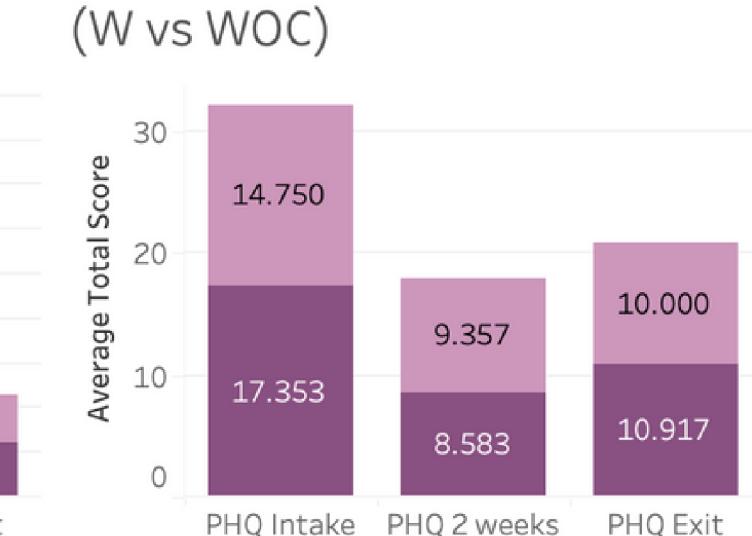
PHQ Score vs Race vs Type



Race Count vs PHQ Type (W vs WOC)



PHQ Score vs Race vs Type (W vs WOC)





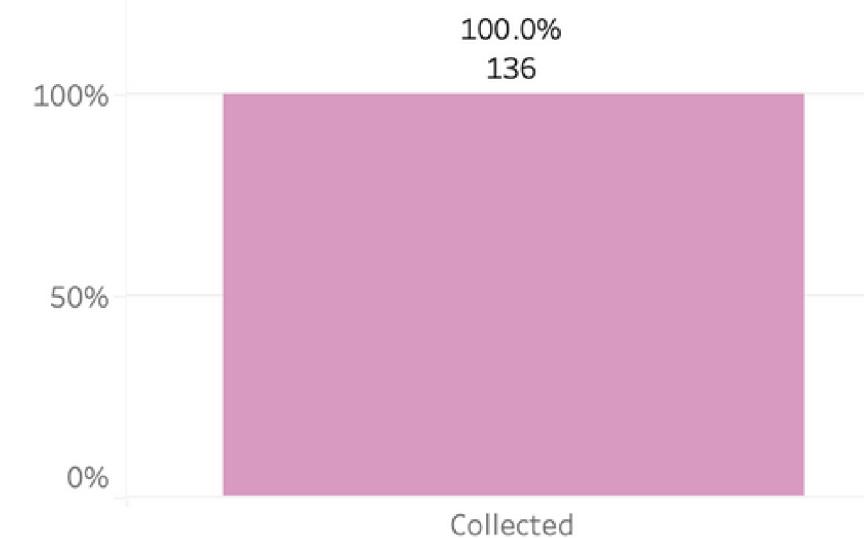
## RESPONSE RATES DASHBOARD (Demographics)

To analyze the response rates of important survey questions - categorised into Demographics, Sensitive and PHQ Questions

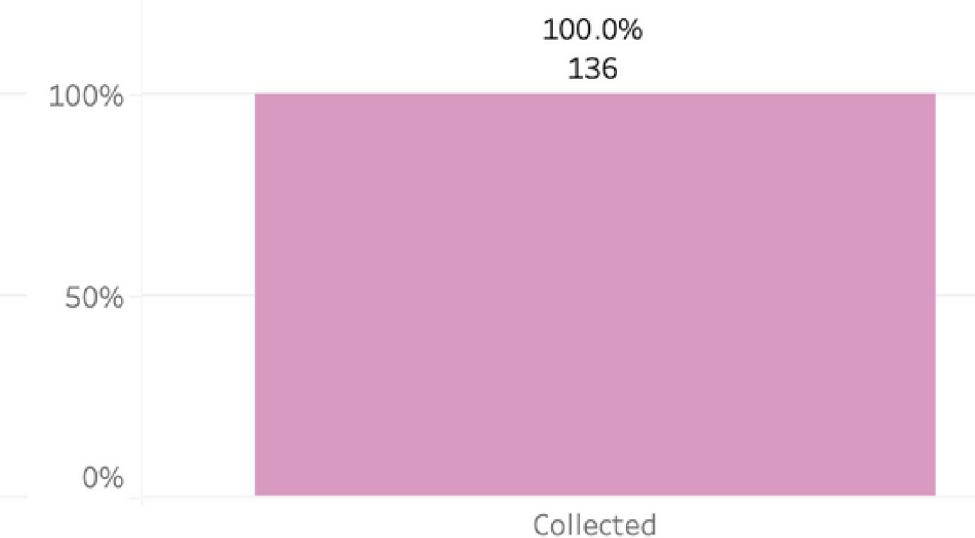
### Assessment Date

9/18/2022  8/14/2023 Last 3 years ▾

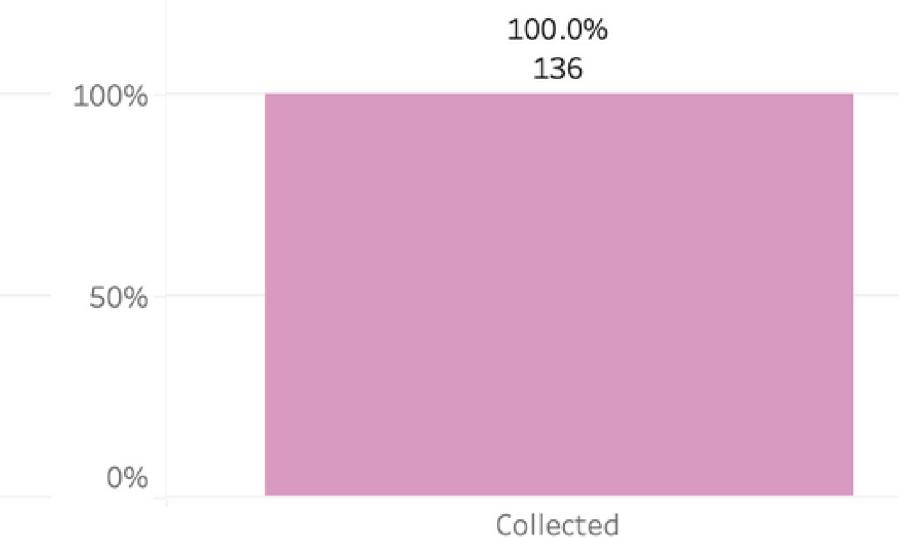
Age



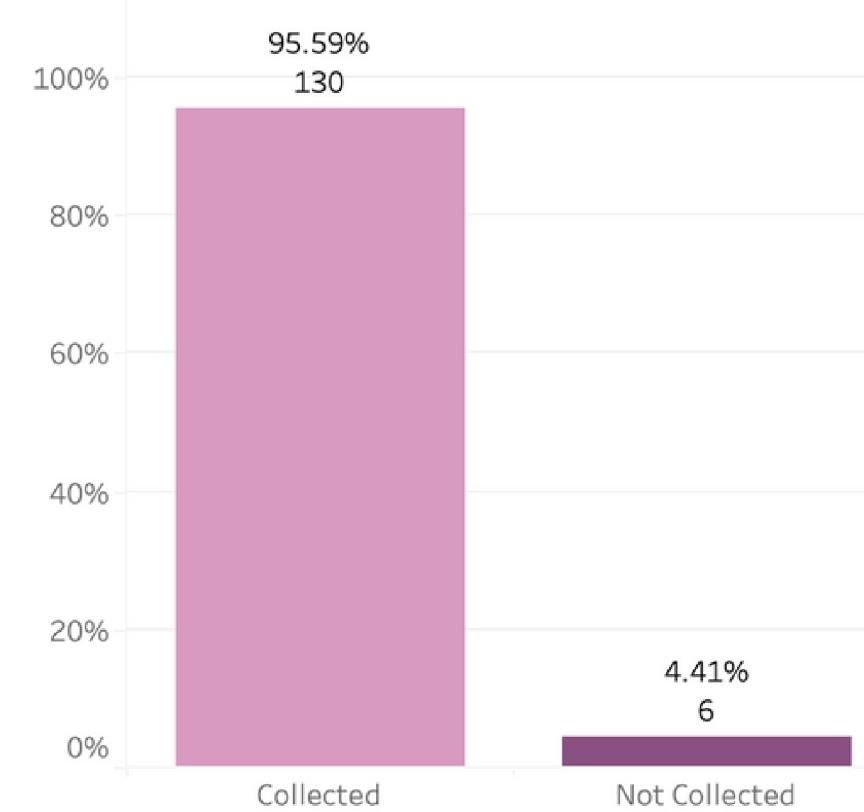
Number of Household Members



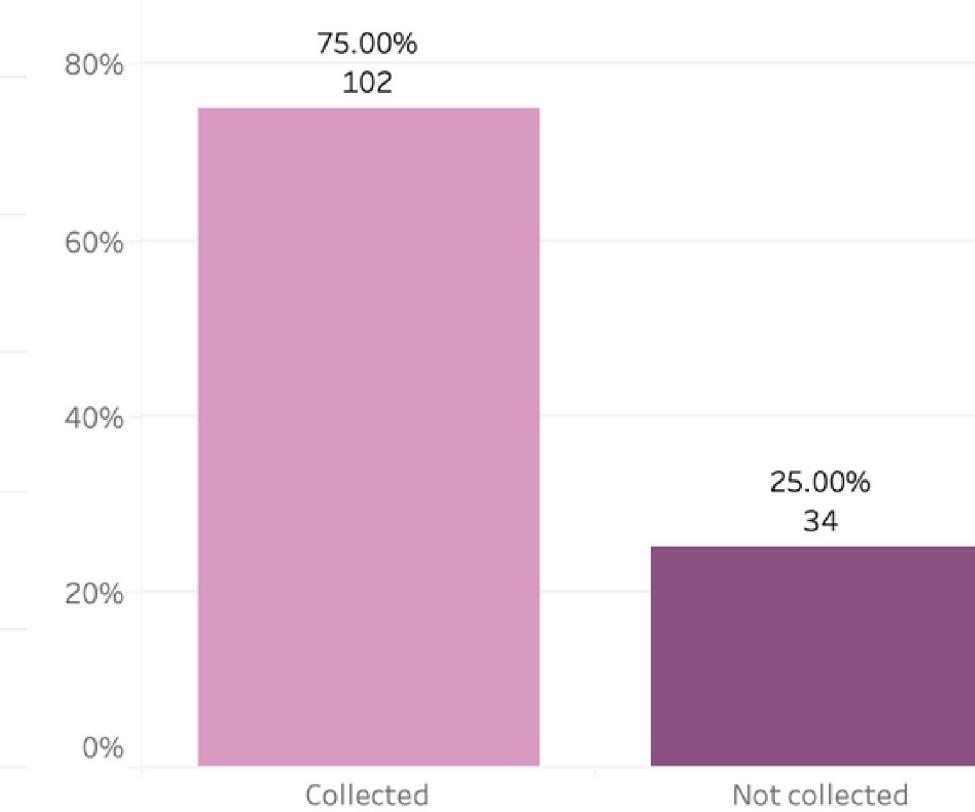
Race



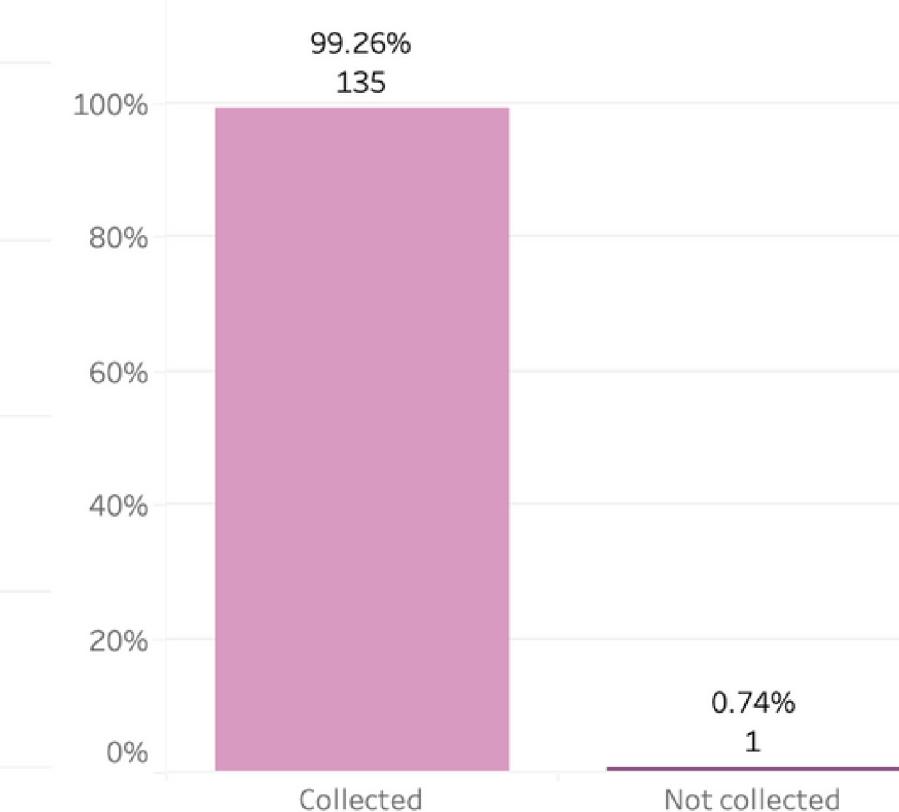
Annual Income



Zip Code



Ethnicity



# **Using Filters within Dashboards to derive more granular insights**



## Women's Center & Shelter of Greater Pittsburgh

# DEPRESSION LEVEL DASHBOARD

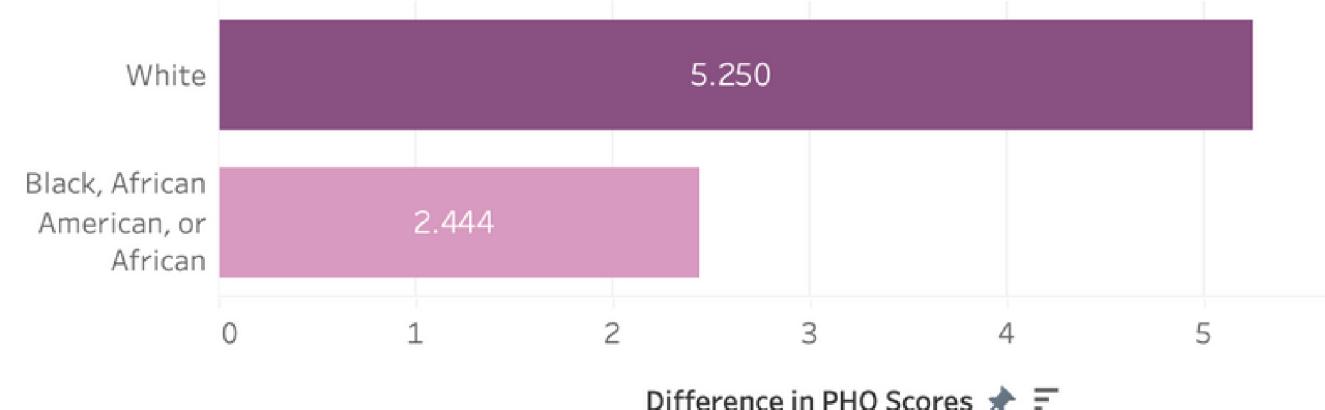
To analyze the changes in depression levels through the PHQ Surveys - where larger differences indicates bigger improvement

### Assessment Date

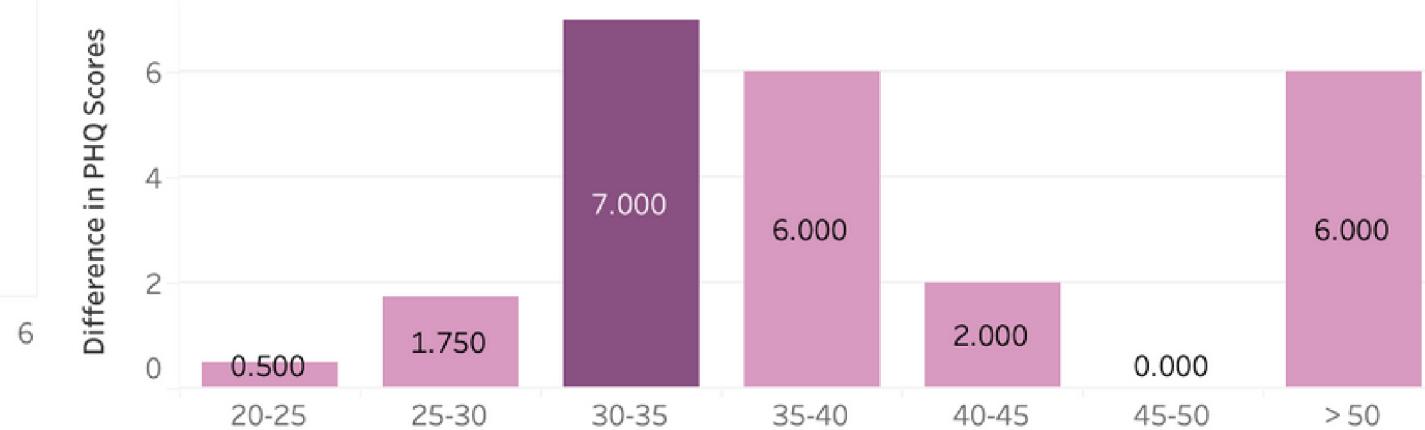
12/23/2022  7/28/2023

Last 5 years

### Race

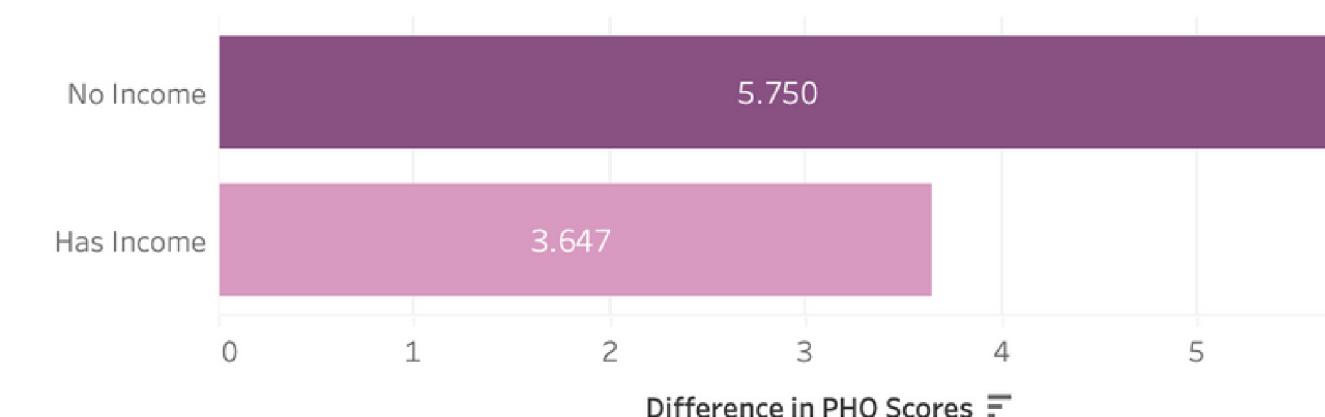


### Age

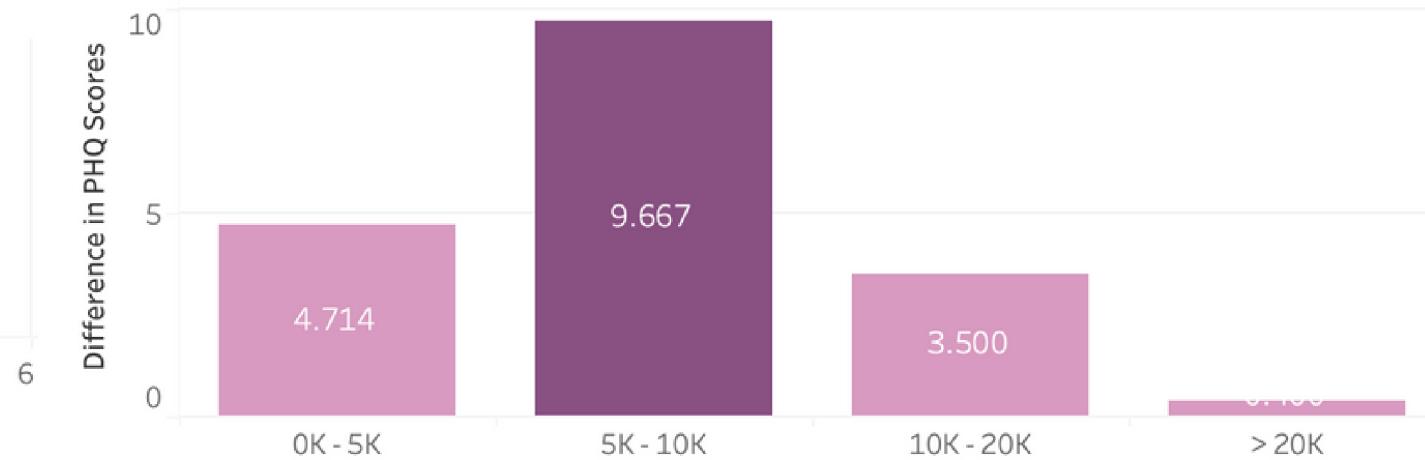


### Income Status

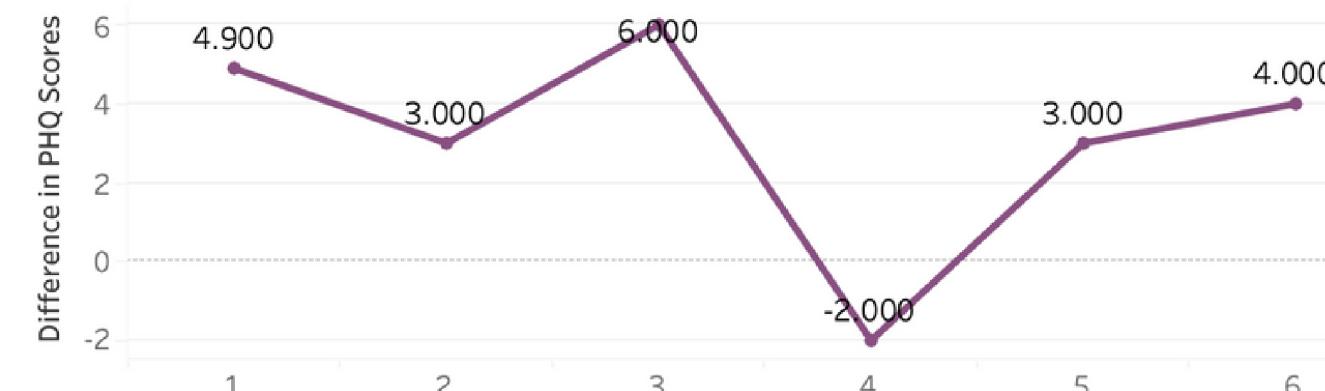
Based on annualized income status



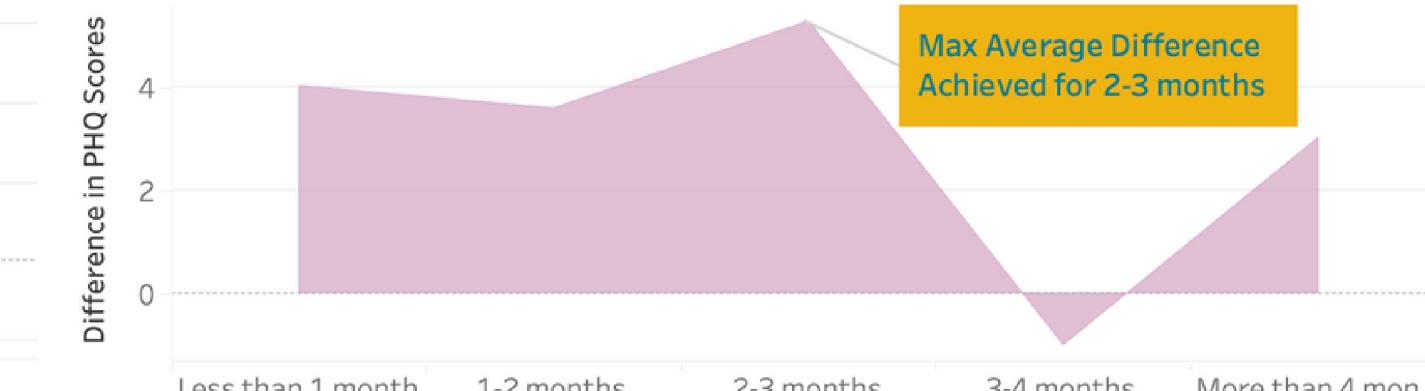
### Total Income Distribution



### Number of Household Members



### Length of Stay





## Women's Center & Shelter of Greater Pittsburgh

# DEPRESSION LEVEL DASHBOARD

To analyze the changes in depression levels through the PHQ Surveys - where larger differences indicates bigger improvement

### Assessment Date

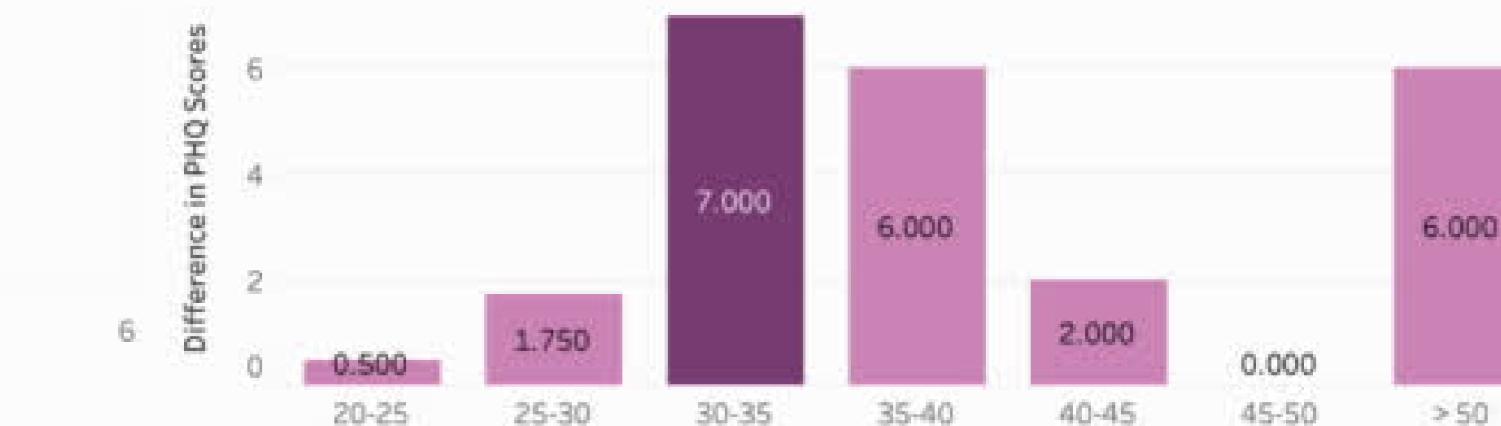
12/23/2022  D 7/28/2023

Last 12 years

### Race

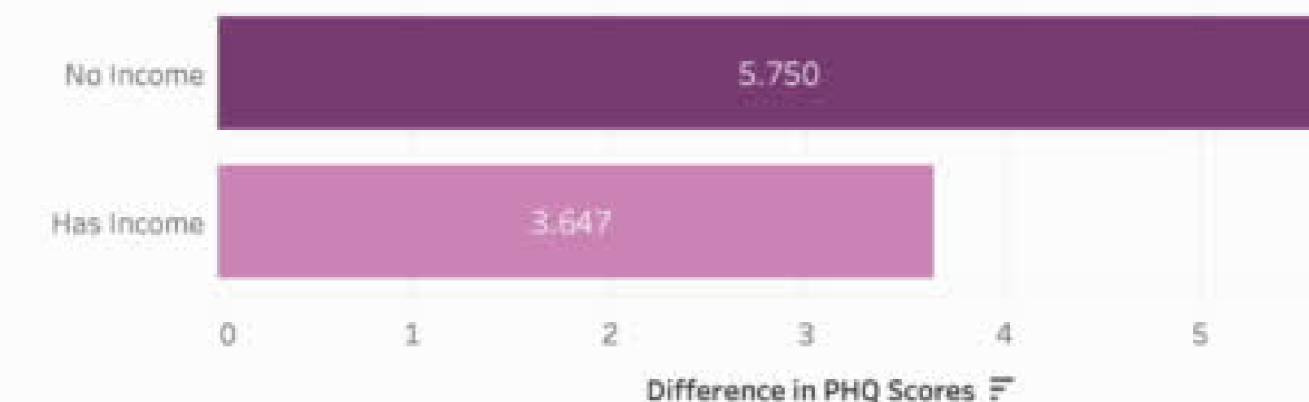


### Age

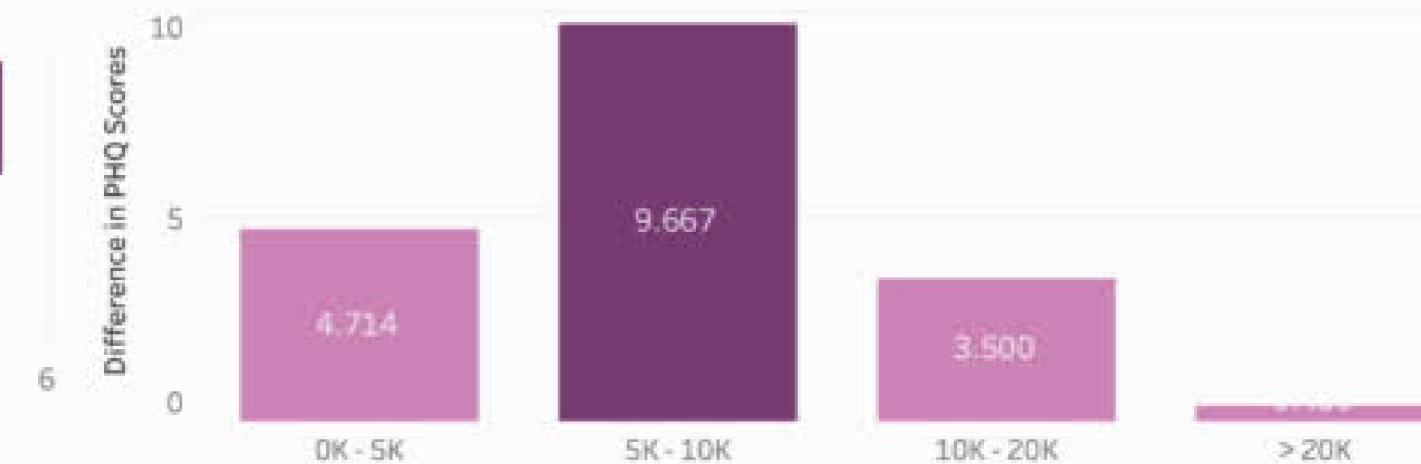


### Income Status

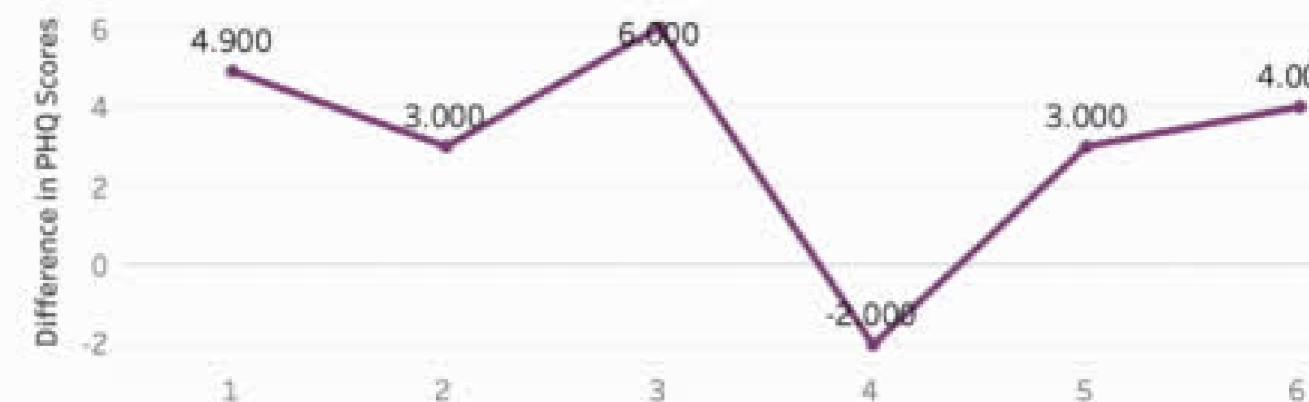
Based on annualized income status



### Total Income Distribution



### Number of Household Members



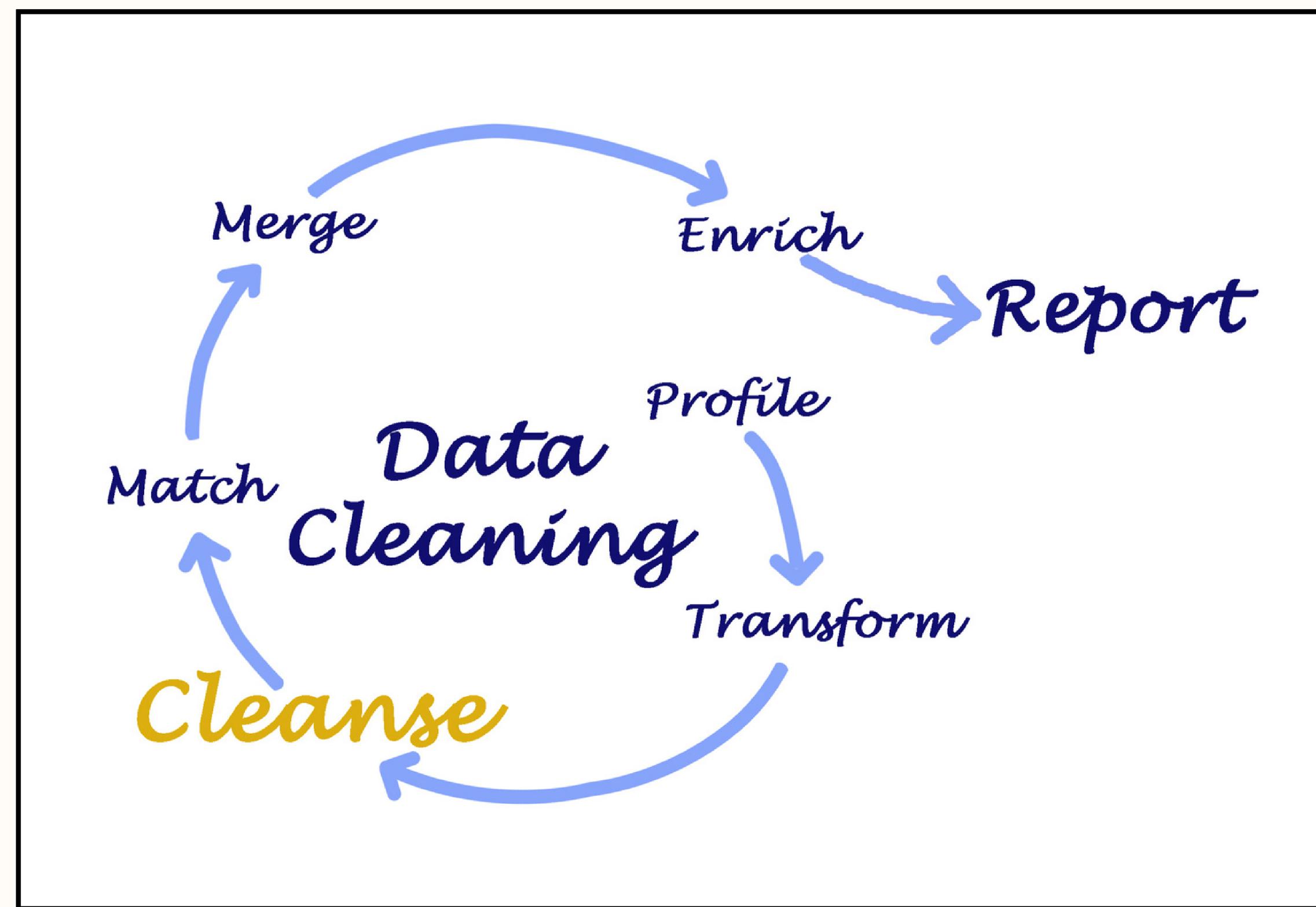
### Length of Stay



# **3) Automating Data Processing & Reporting**



# Automating Data Processing & Reporting



# Automating Data Processing & Reporting

**Automated Data Cleaning**  
removing duplicate values,  
removing unnecessary  
values etc.

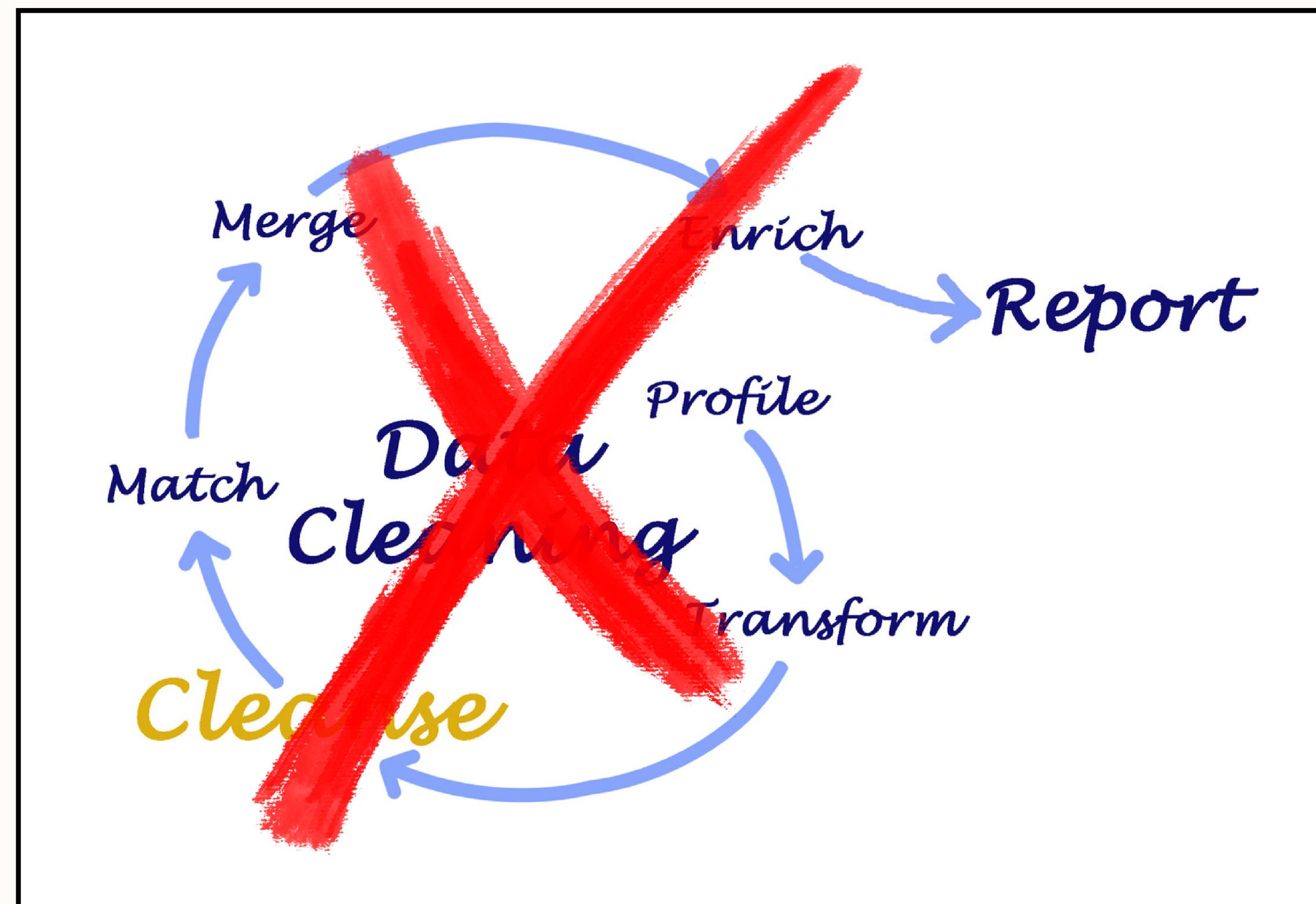
**Automated Data**  
**Processing** creating new  
variables, pivoting data,  
aggregating values etc.

# Automating Data Processing & Reporting

**Automated Data Cleaning**  
removing duplicate values,  
removing unnecessary  
values etc.

**Automated Data**  
**Processing** creating new  
variables, pivoting data,  
aggregating values etc.

# Automating Data Processing & Reporting



# Conclusion



We trust that our efforts thus far will **greatly benefit WC&S**, serving as a **basis for the way data can be effectively used in the future**. We believe these insights hold **immense potential to drive substantial improvements in WC&S processes moving forward**.

# Thank you!

