

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*

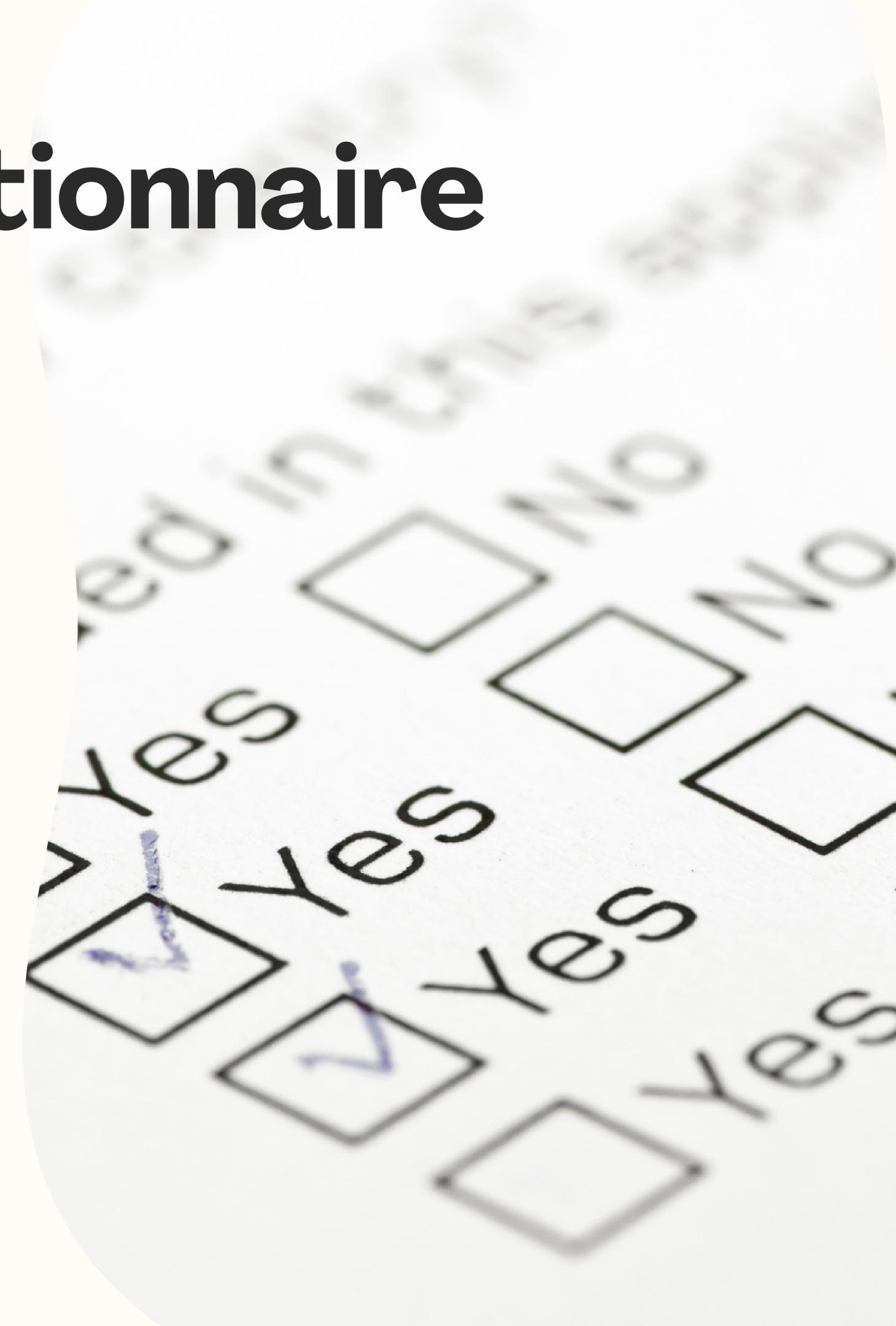
Questionnaire

*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 “Depression Severity”

2) Building Dashboards based on WC&S Data



Building Dashboards based on WC&S Data

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



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DEMOGRAPHICS DASHBOARD

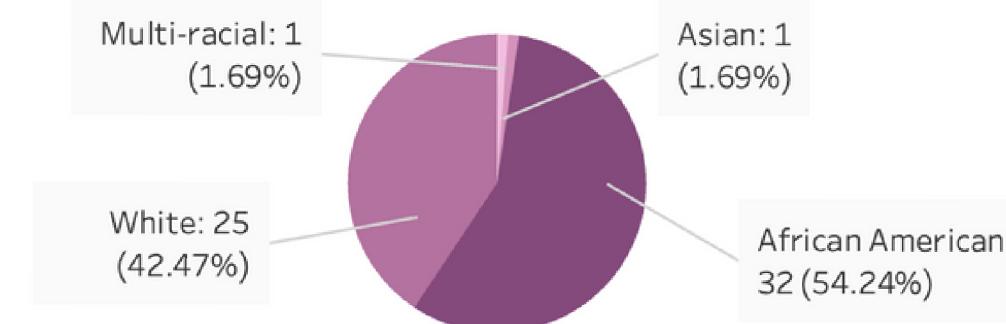
To analyze the social demographic characteristics of WC&S clients and their violence status

Assessment Date

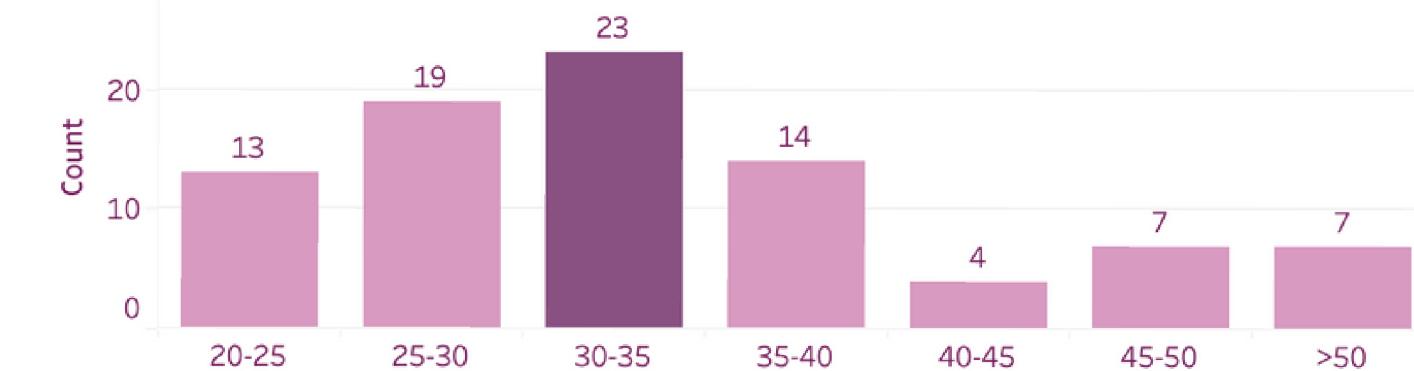
12/11/2022 8/14/2023

Last 3 years

Race

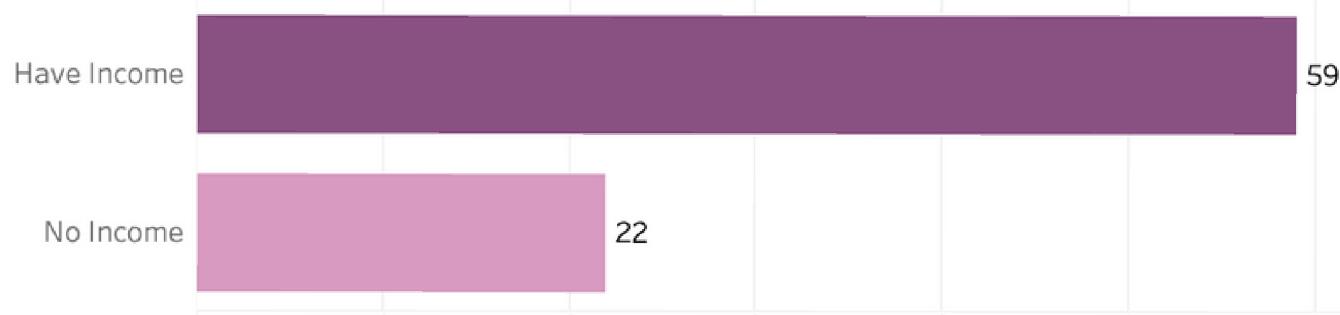


Age

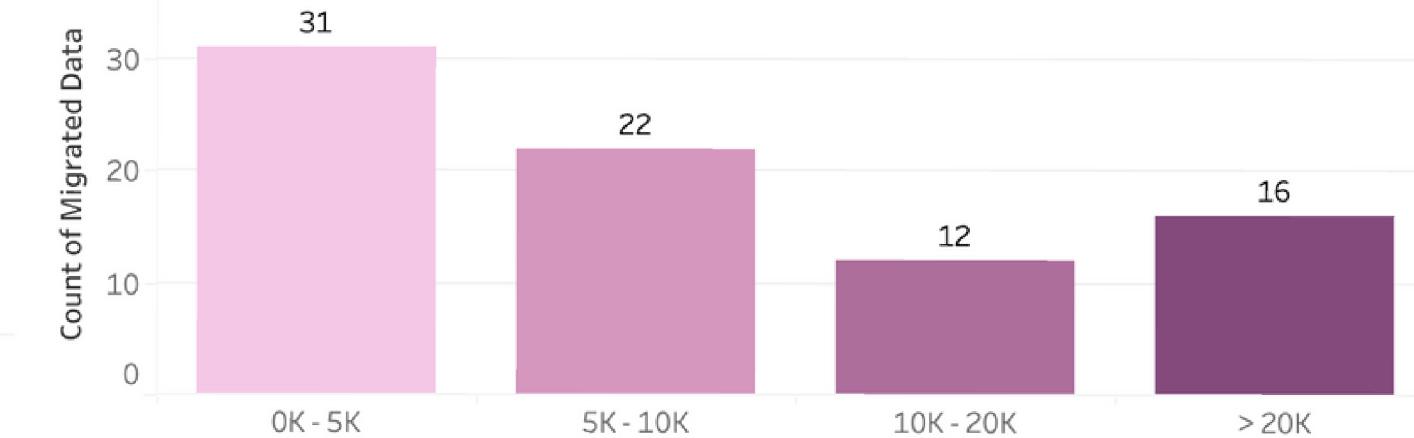


Income Status

Based on annualized income status



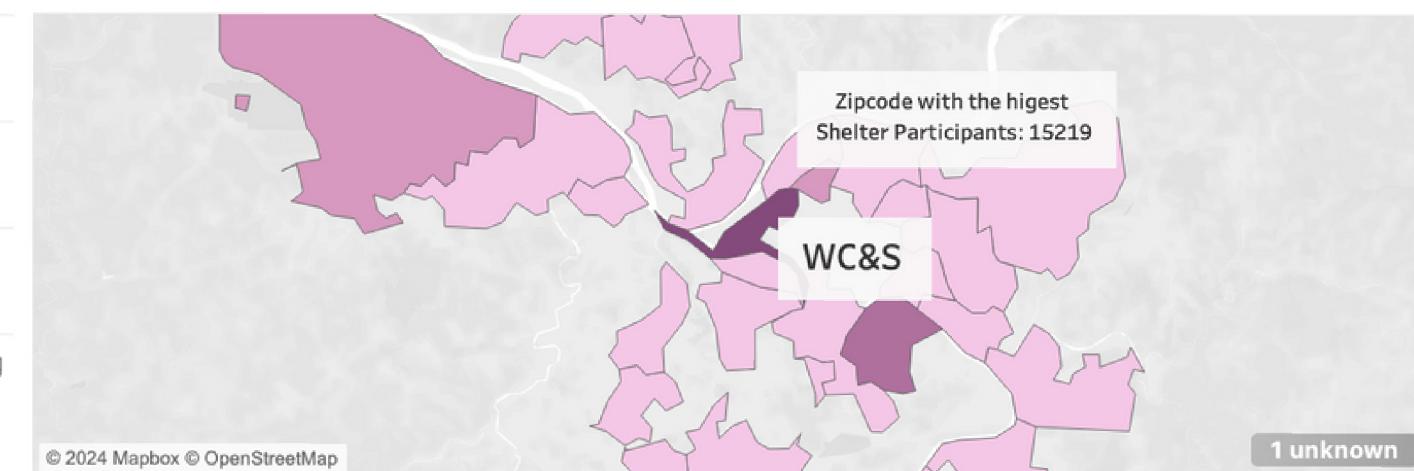
Total Income Distribution



Violence Experienced



Location Distribution





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INCOME ANALYSIS DASHBOARD

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

Assessment Date

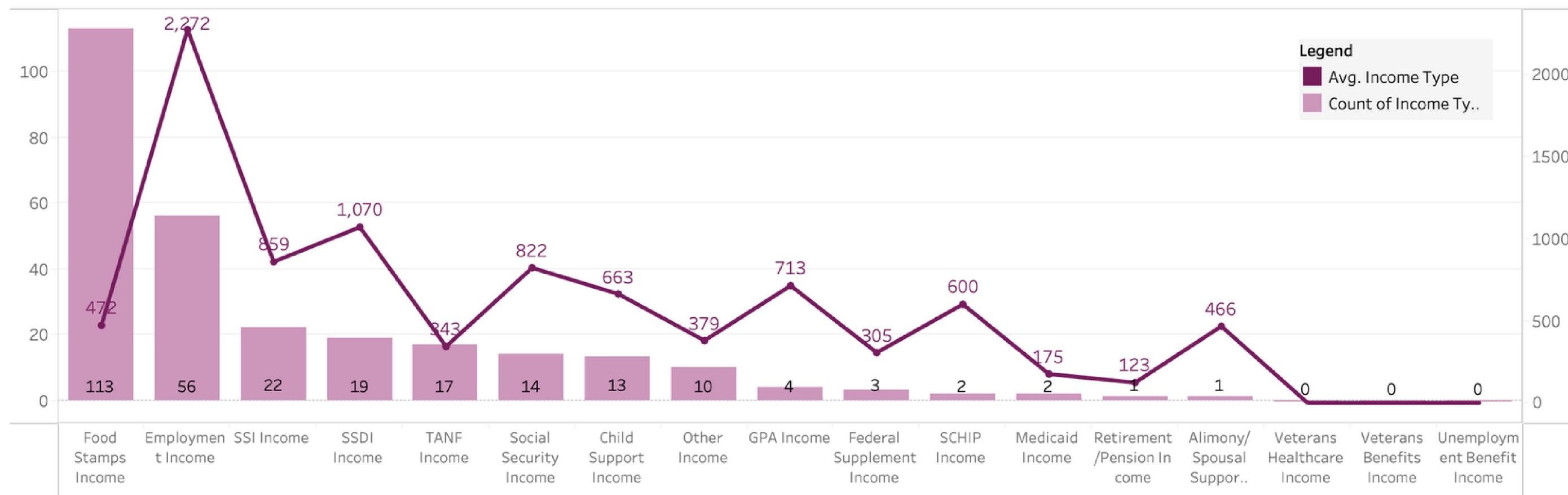
1/1/2022



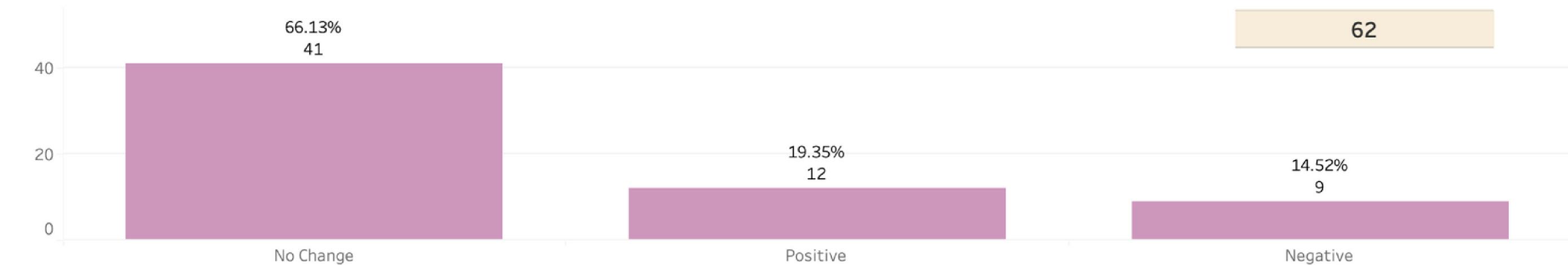
3/31/2024

Last 3 years

Sources of Income



Changes in Income for Repeat Clients



Number of Repeat Clients

62





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DEPRESSION LEVEL DASHBOARD

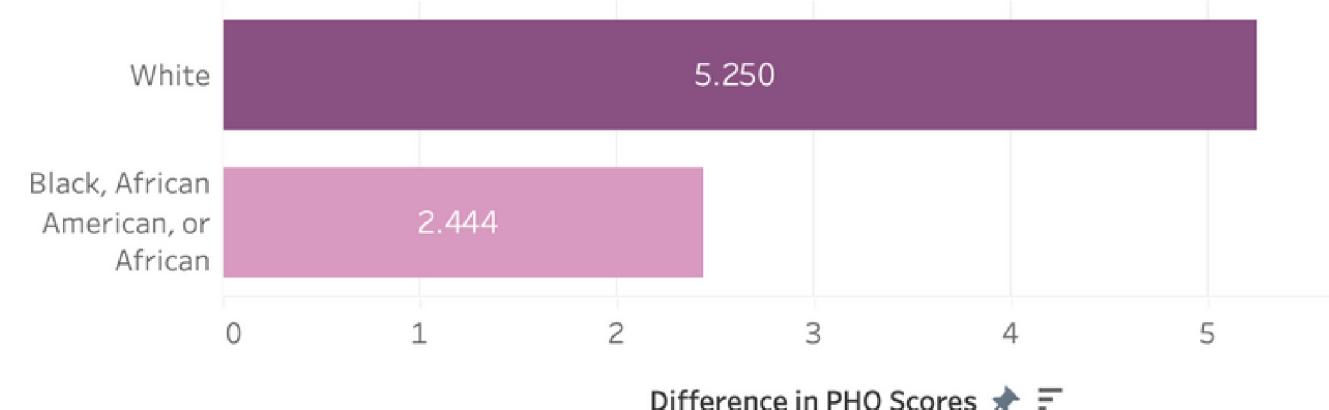
To analyze the changes in depression levels through the PHQ Surveys - where larger differences indicates bigger improvement

Assessment Date

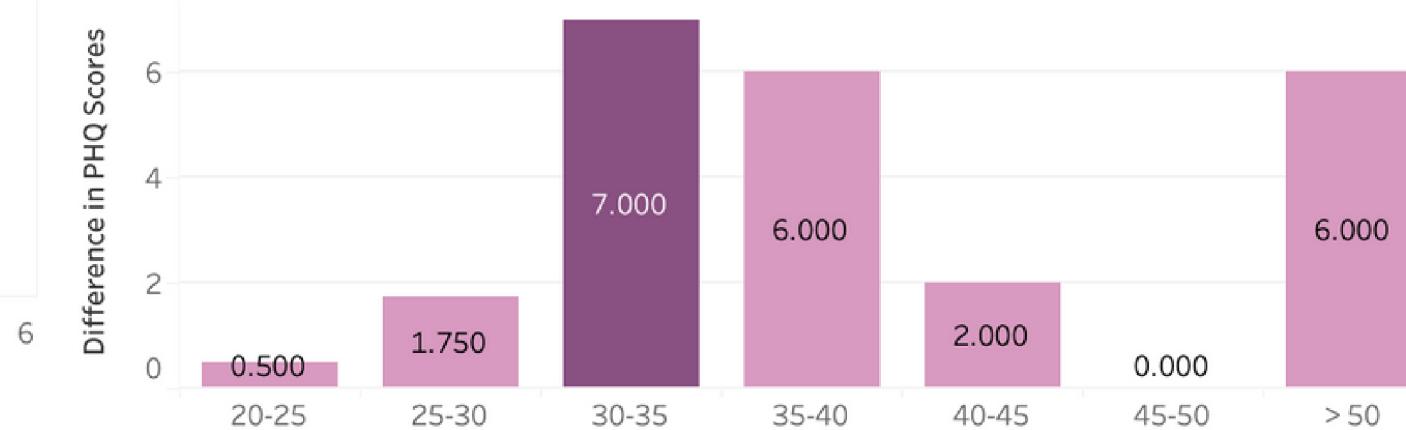
12/23/2022 7/28/2023

Last 5 years

Race

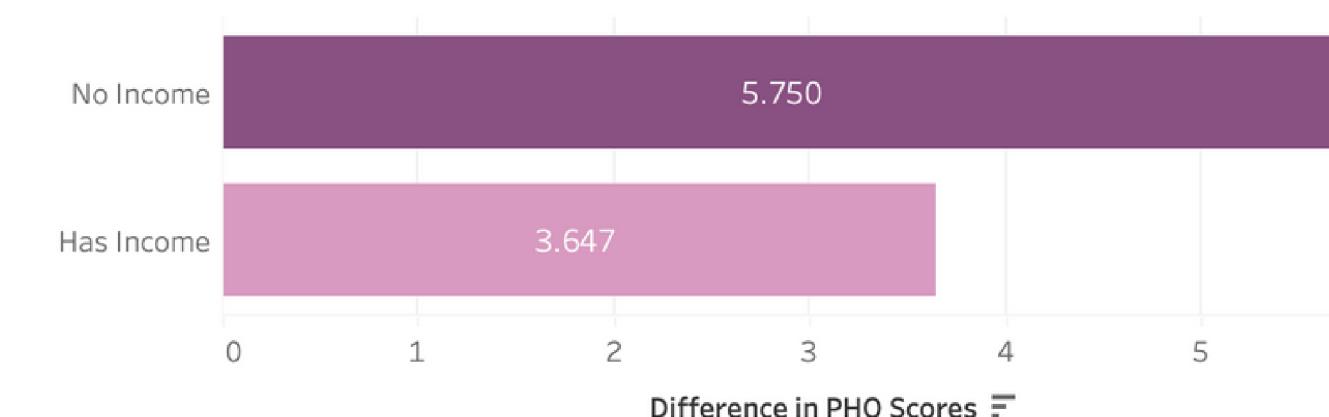


Age

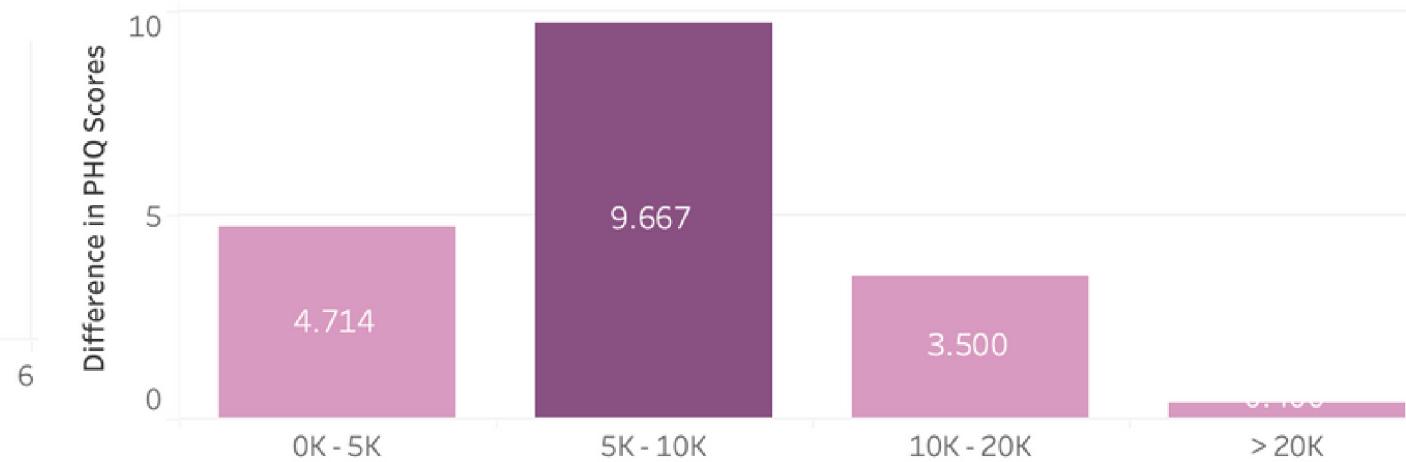


Income Status

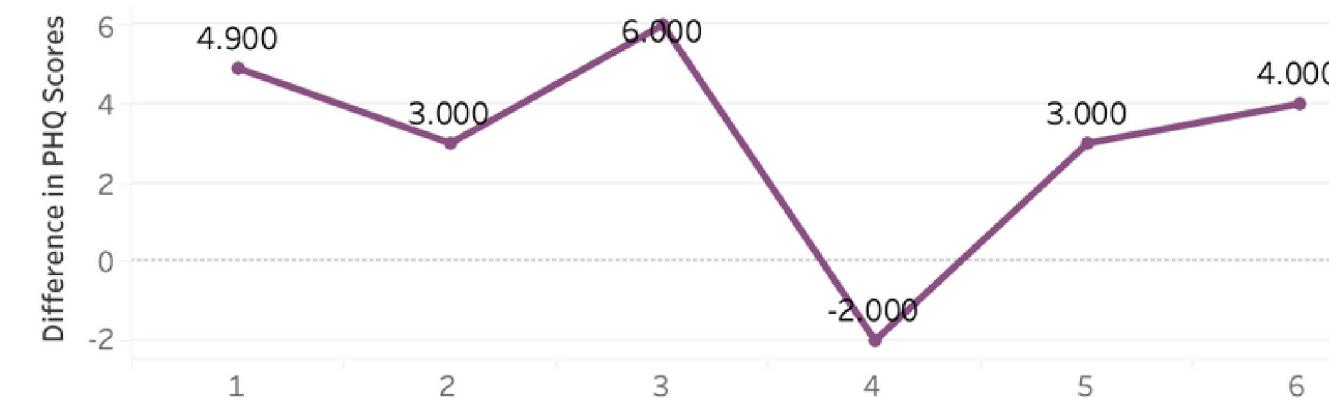
Based on annualized income status



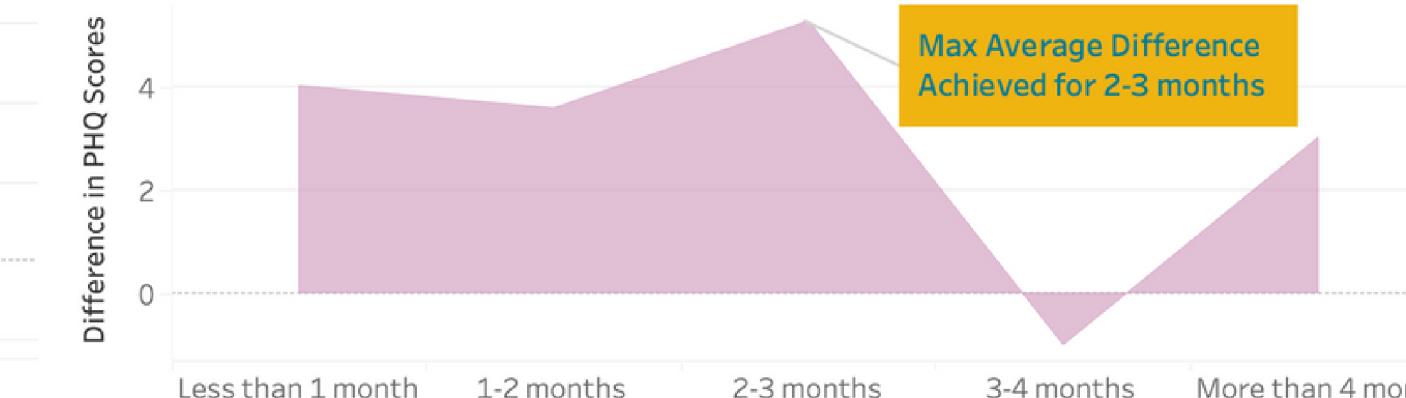
Total Income Distribution



Number of Household Members



Length of Stay





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of Greater Pittsburgh**

PHQ SCORES DASHBOARD

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

Assessment Date

10/1/2022

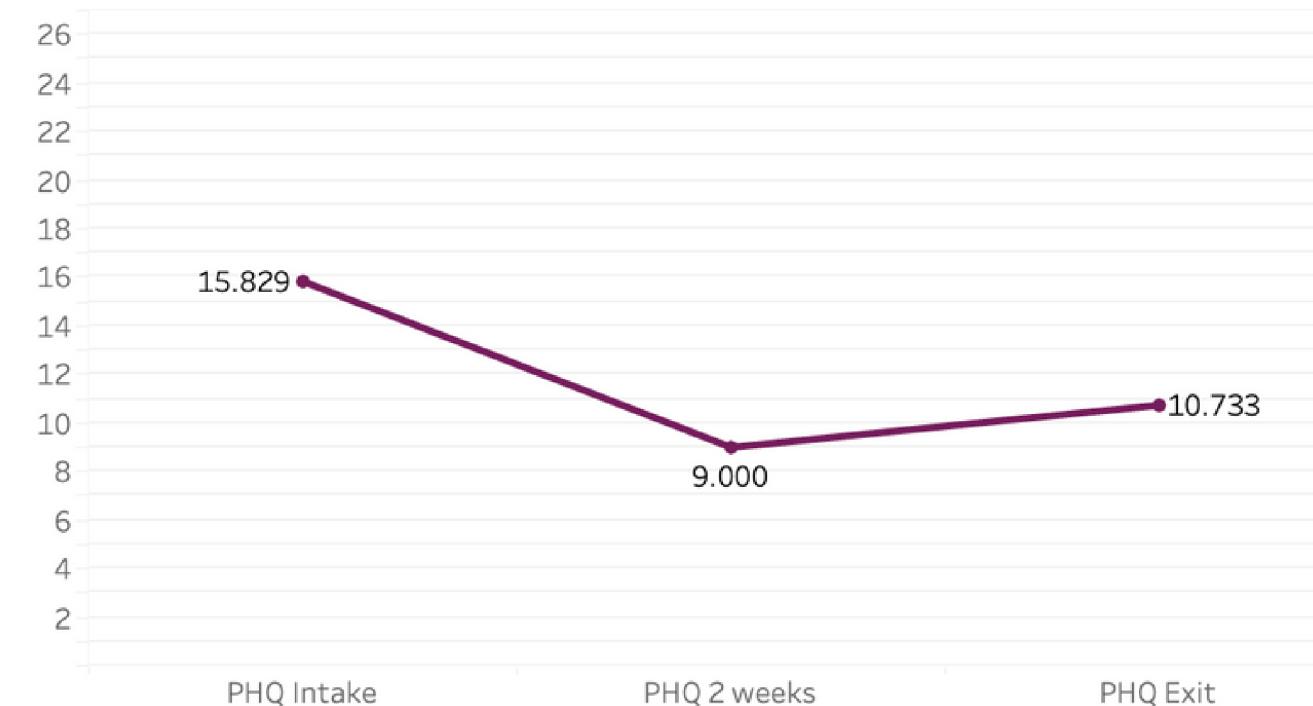


D

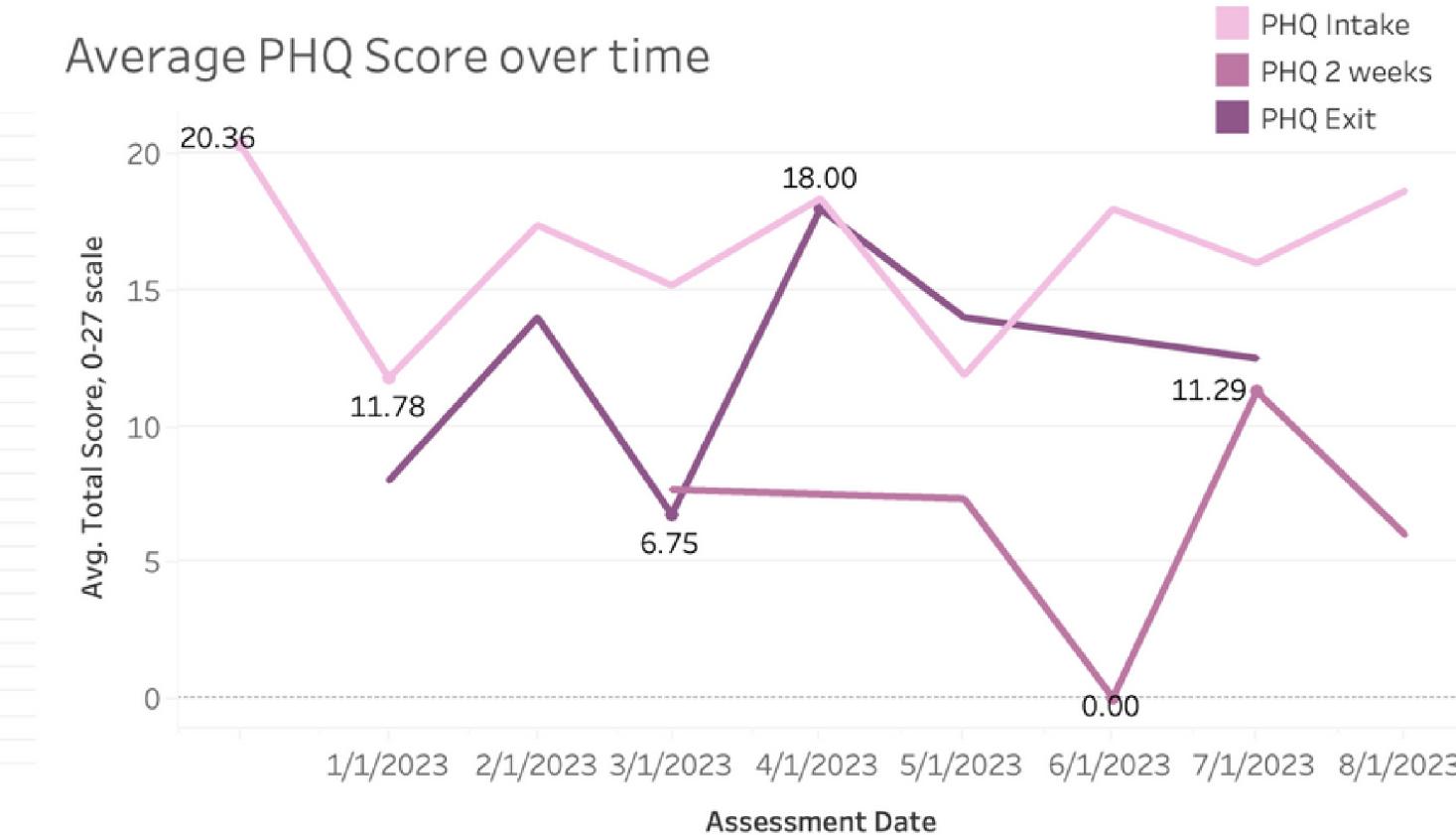
8/14/2023

Last 3 years

Average PHQ Score for Each Assessment Type



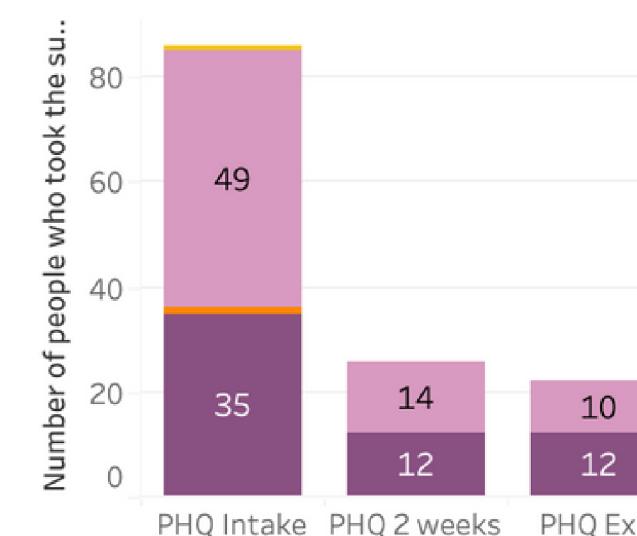
Average PHQ Score over time



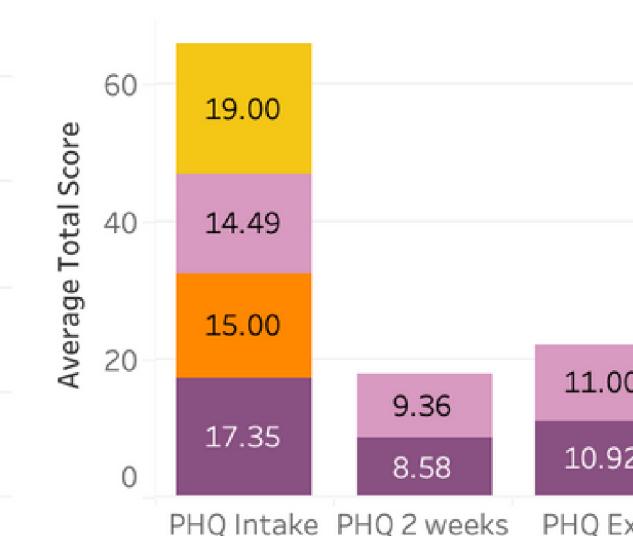
Focusing on All Races

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

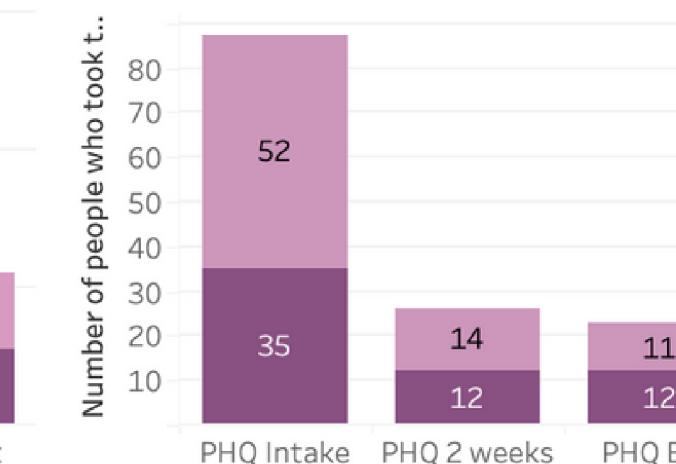
Race Count vs PHQ Type



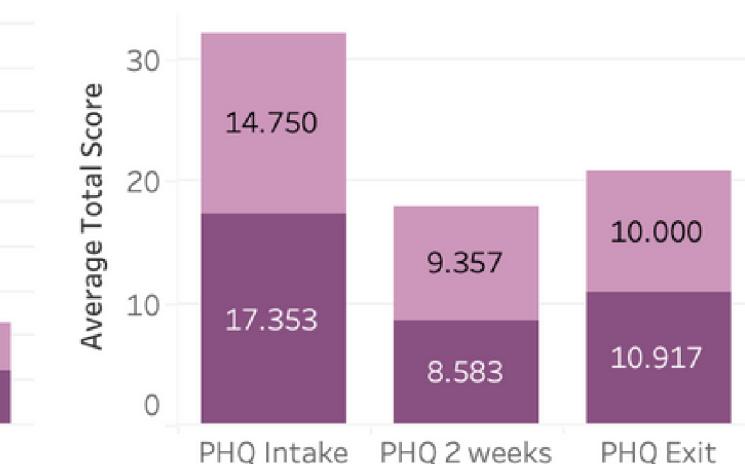
PHQ Score vs Race vs Type



Race Count vs PHQ Type
(W vs WOC)



PHQ Score vs Race vs Type
(W vs WOC)





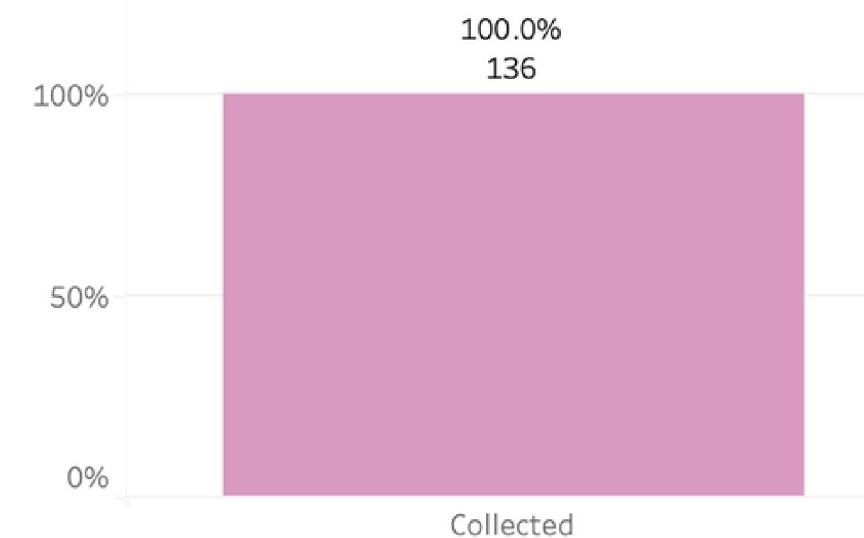
RESPONSE RATES DASHBOARD (Demographics)

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

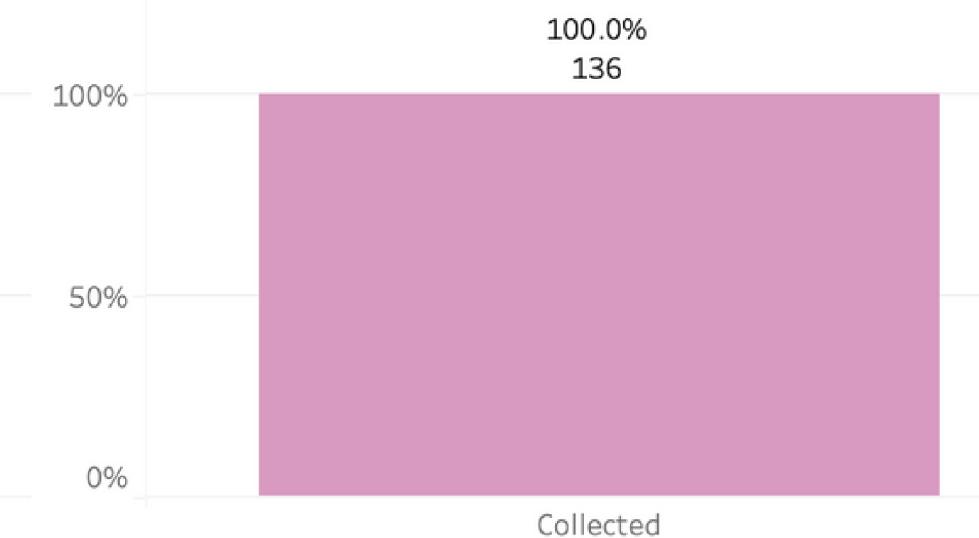
Assessment Date

9/18/2022 8/14/2023 Last 3 years ▾

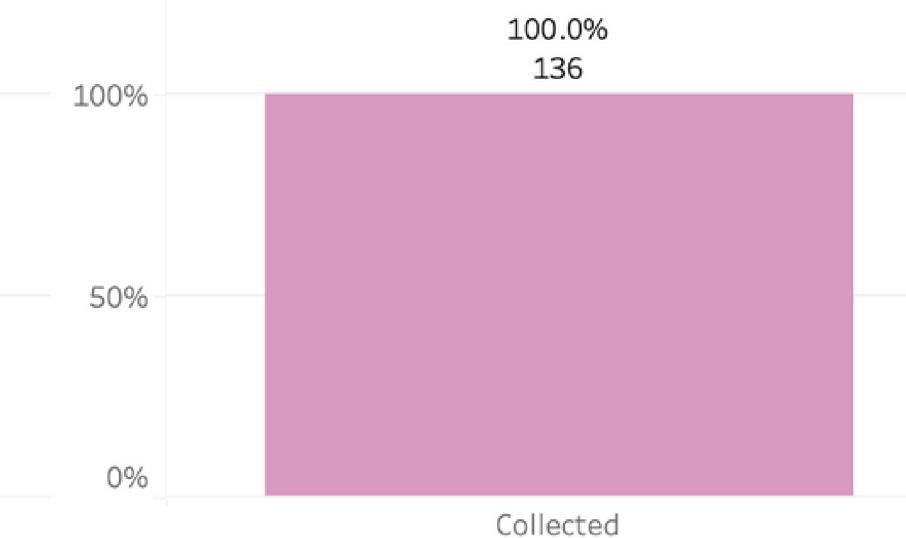
Age



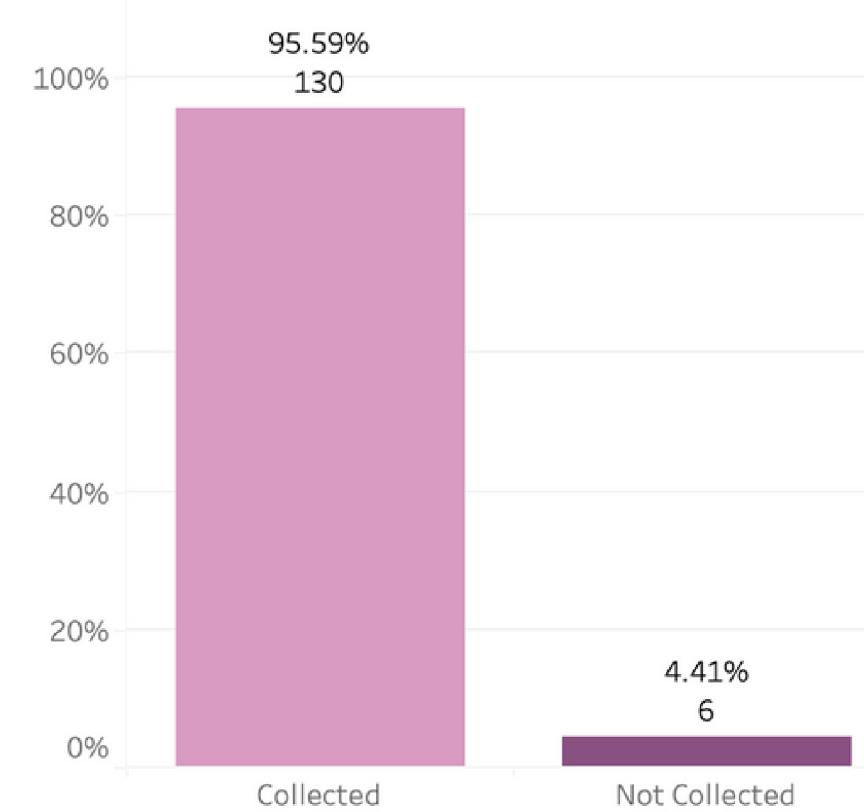
Number of Household Members



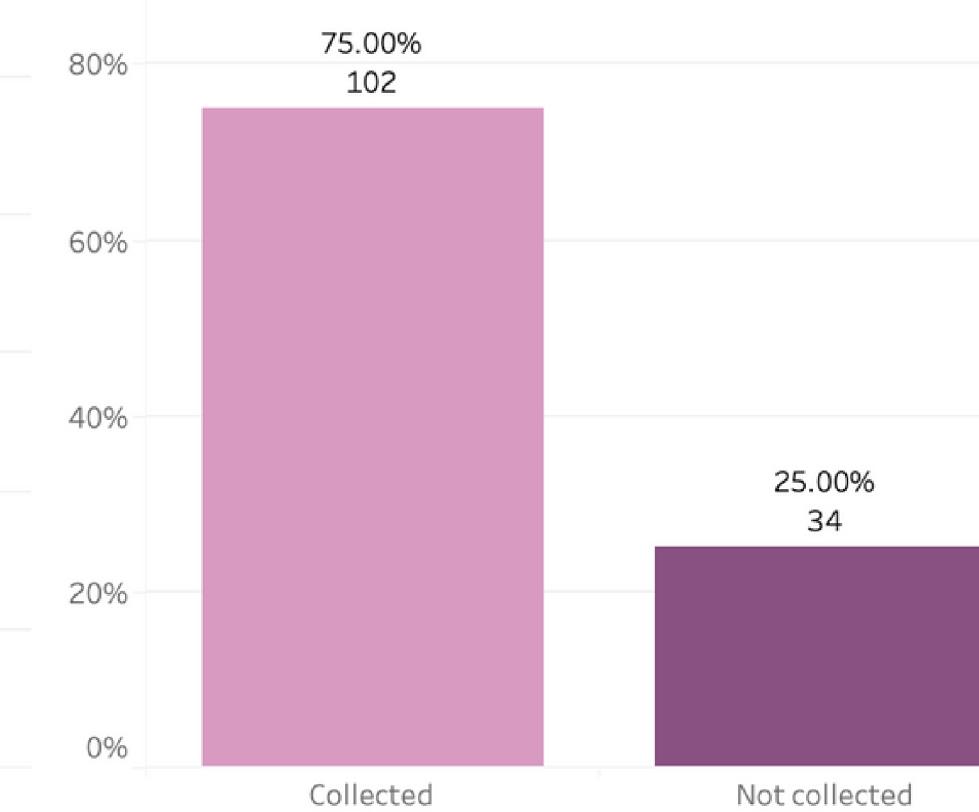
Race



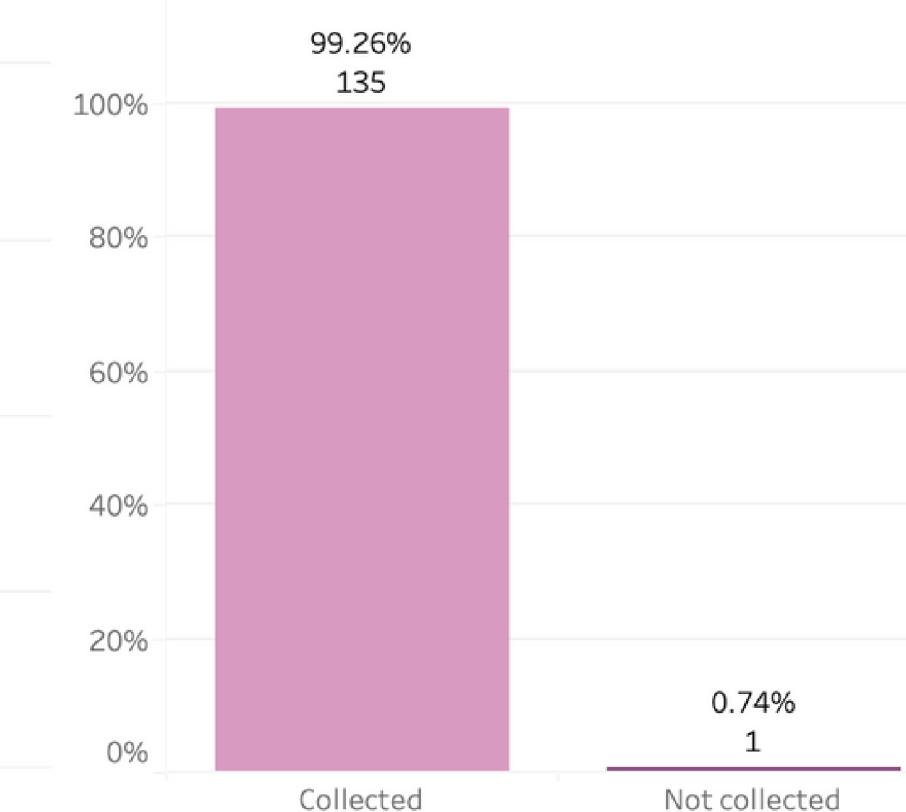
Annual Income



Zip Code



Ethnicity



Using Filters within Dashboards to derive more granular insights



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DEPRESSION LEVEL DASHBOARD

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

Assessment Date

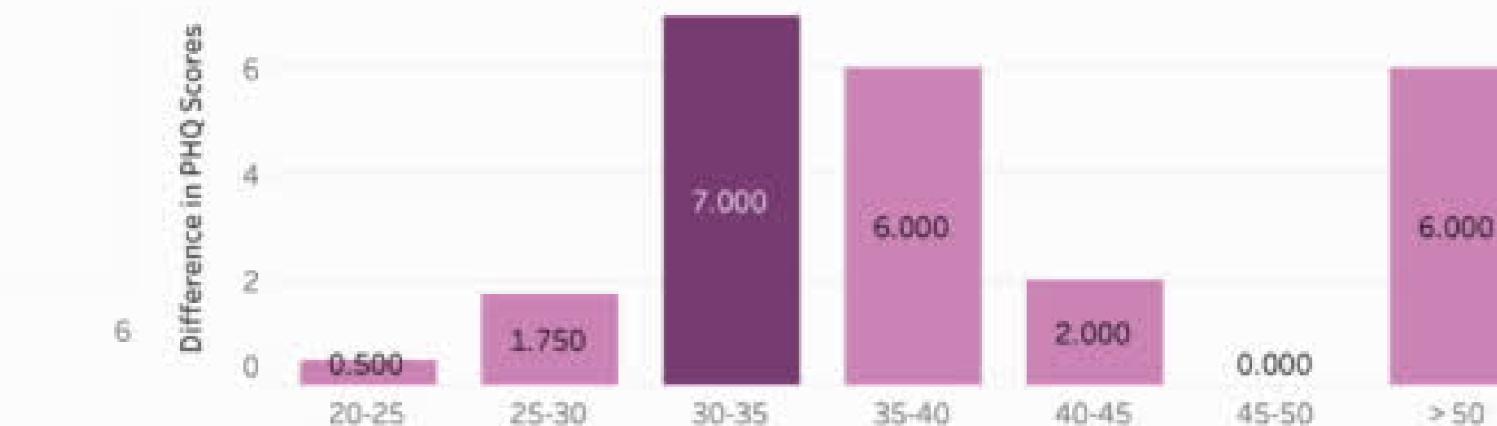
12/23/2022 D 7/28/2023

Last 12 years

Race



Age

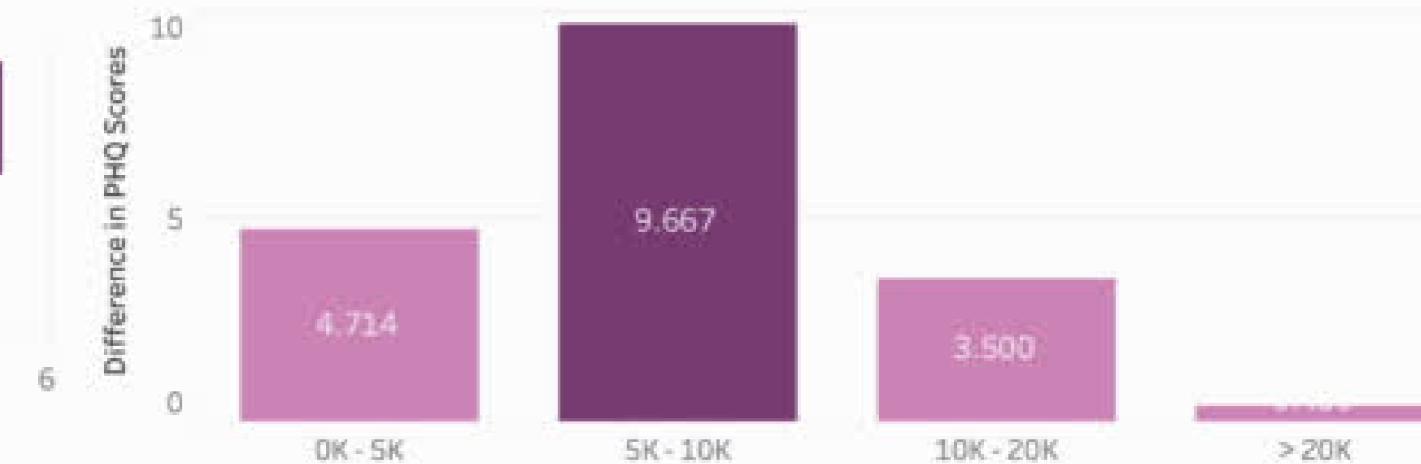


Income Status

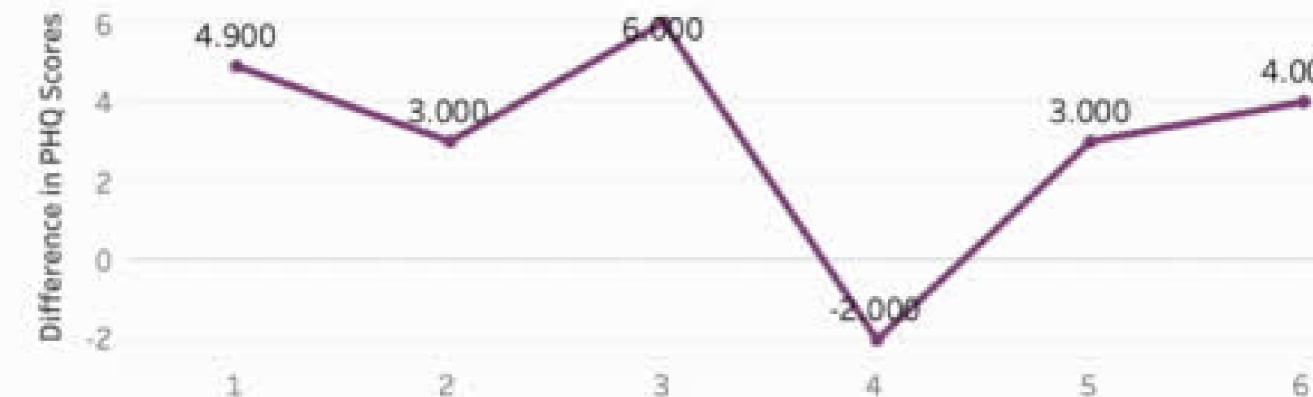
Based on annualized income status



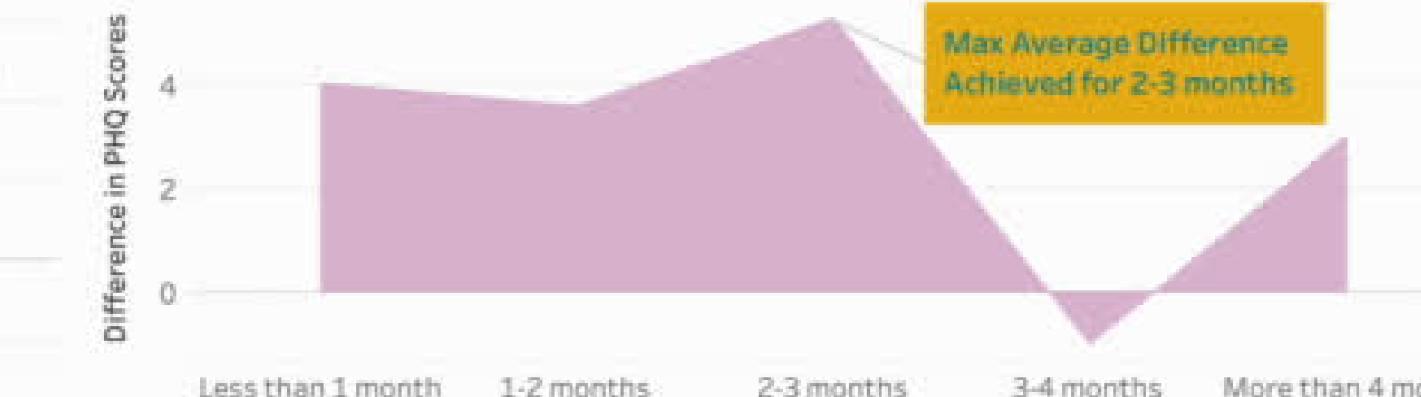
Total Income Distribution



Number of Household Members



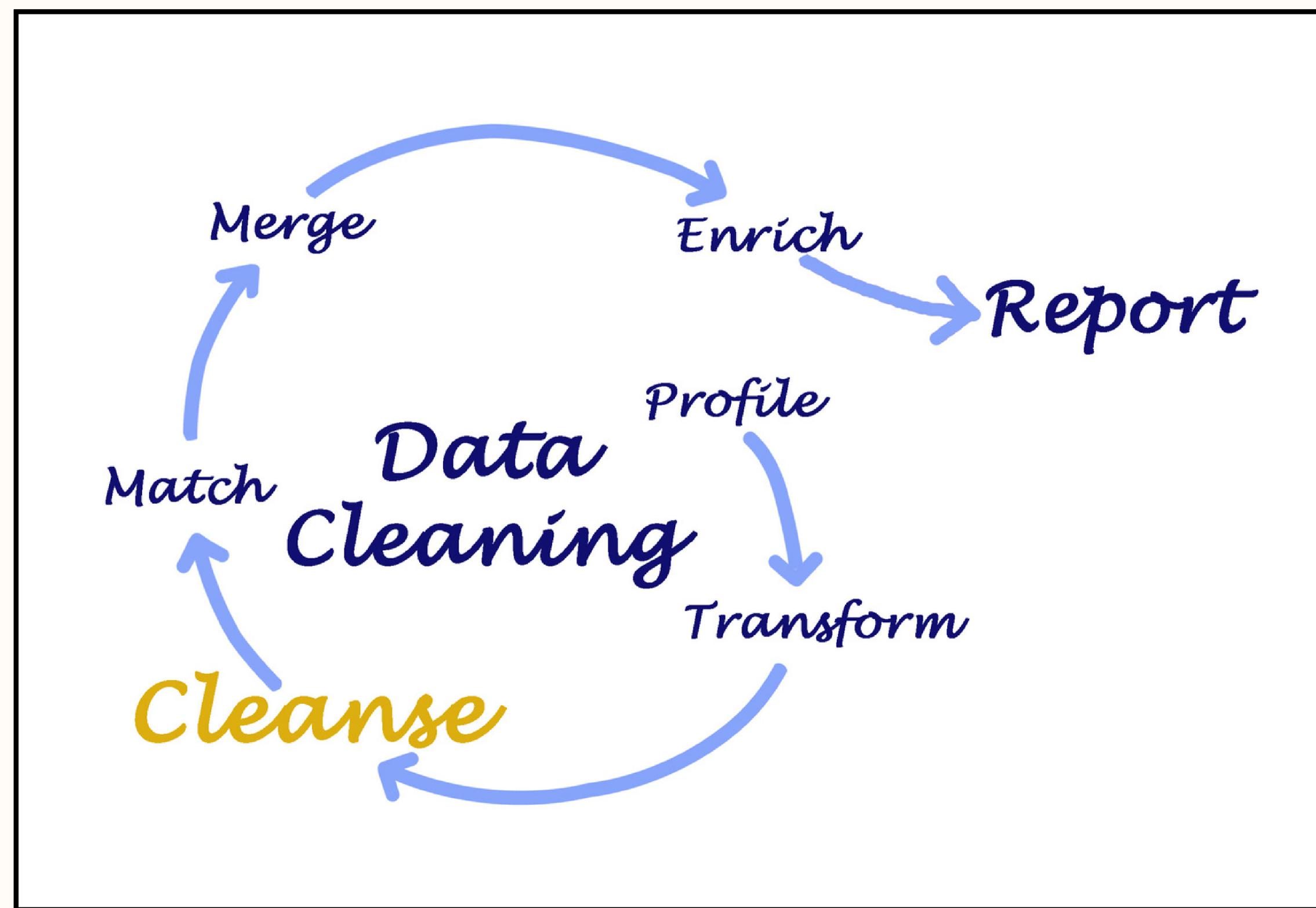
Length of Stay



3) Automating Data Processing & Reporting



Automating Data Processing & Reporting



Automating Data Processing & Reporting

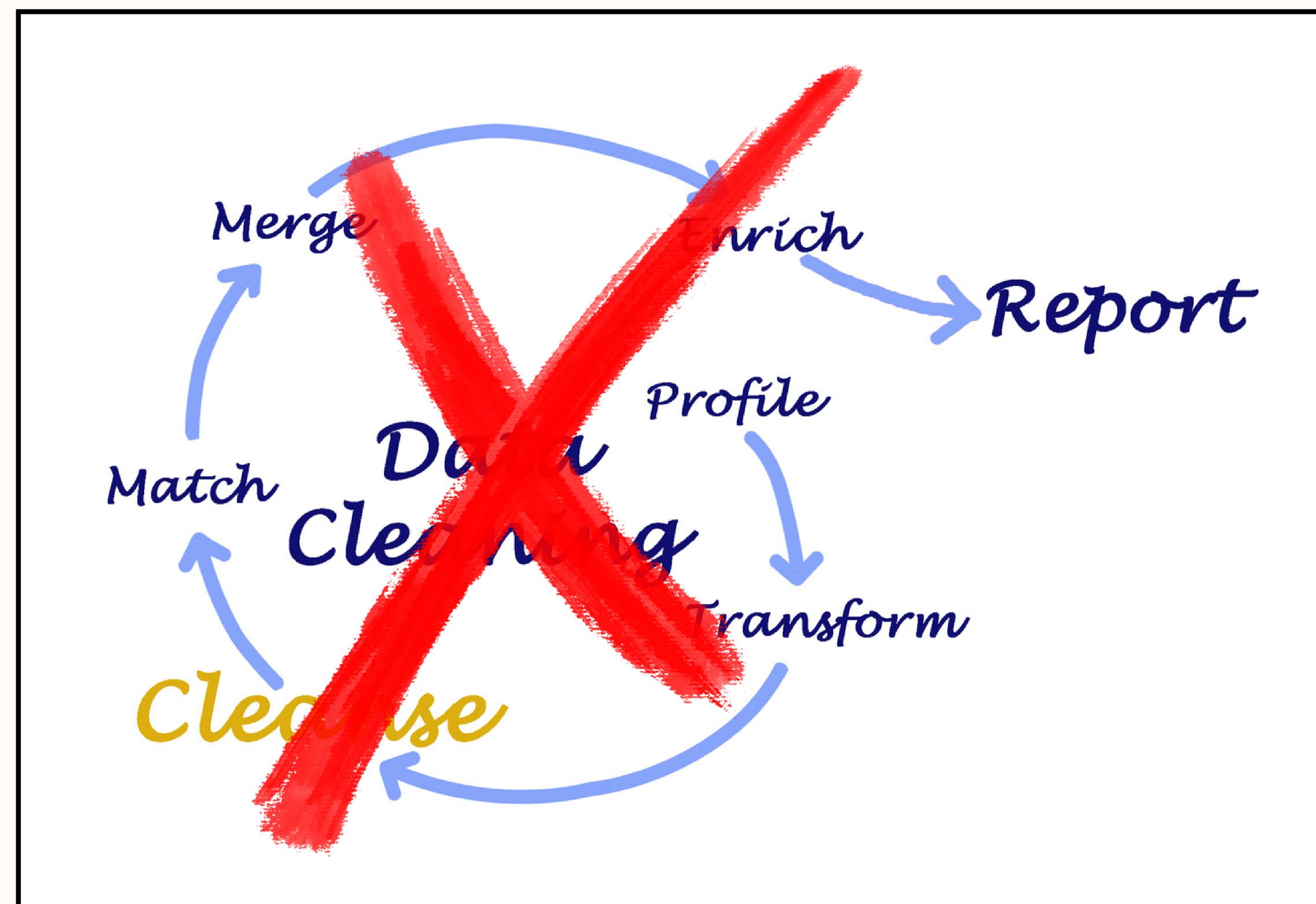
Automated Data Cleaning
removing duplicate values,
removing unnecessary
values etc.

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

Example of a Tableau Prep Flow



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!

