# Data Analysis Training

Alameda County HMIS

hmissupport@acgov.org

# To Follow Along…

- Log in to the Clarity live site

---OR---

- Via the Clarity training site
  - ➢ USERNAMES: tr60 – tr69

# Agenda

1. Data Analysis Principals
2. Navigating the Clarity Data Analysis Interface
   - Clarity Data Models
   - Creating and editing reports and dashboards
3. Building Reports "Looks" with HMIS data
   - Examples
4. Advanced Reporting
   - pivot tables, charts, graphs, merging/joining, custom measures & calculations
5. Workshop:  Questions and Examples

# Resources

hmissupport@acgov.org (our support email)

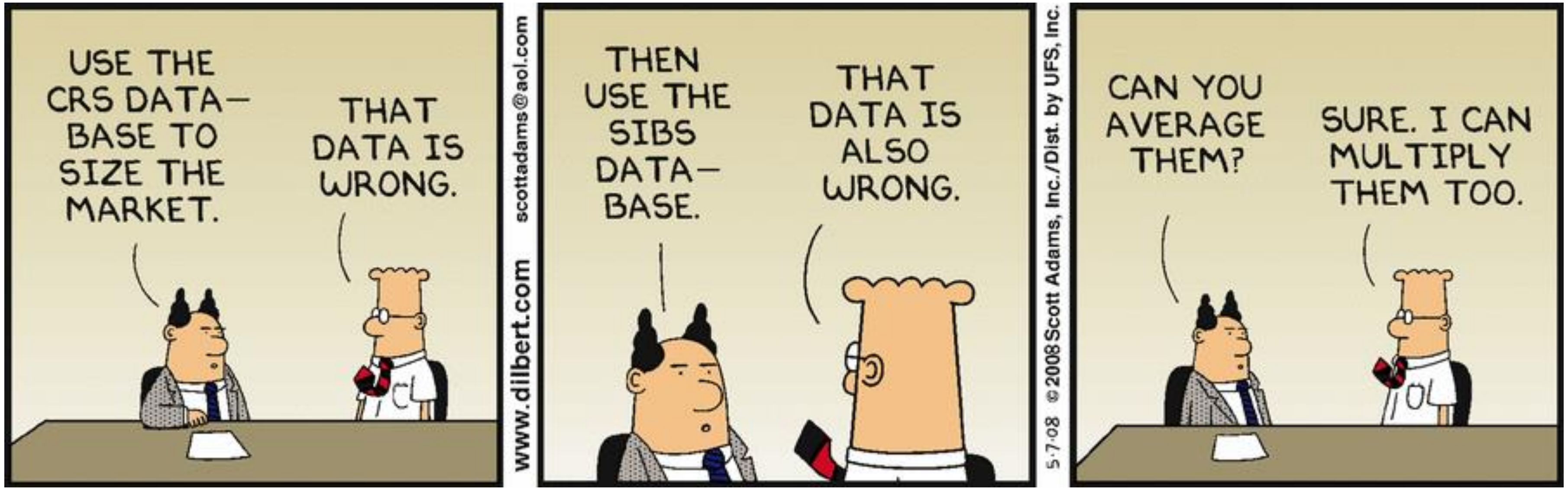
acgov.org/cda/hcd/hmis/ (our website)

hudexchange.info/programs/hmis/ (HUD HMIS documentation)

get.clarityhs.help/hc/en-us (Clarity help docs)

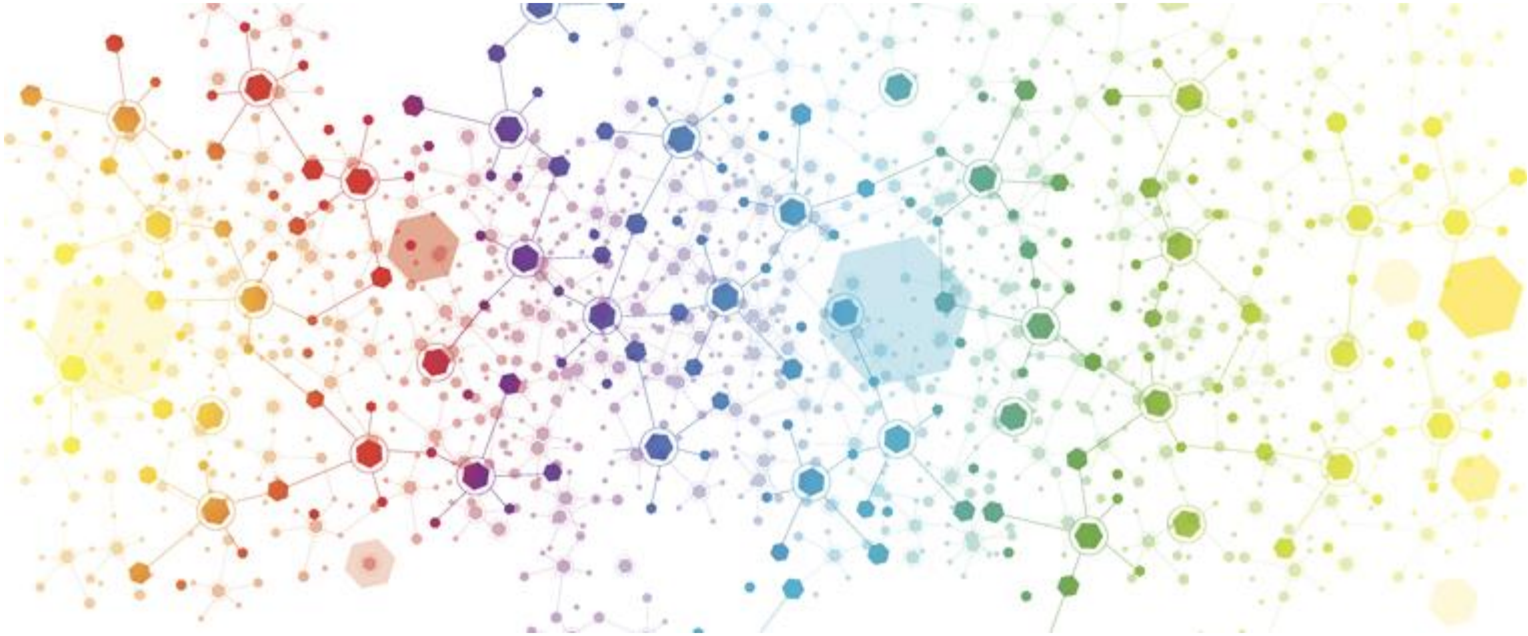
docs.looker.com/exploring-data/creating-looker-expressions/looker-functions-and-operators (Looker help docs)

# What is Data Analysis

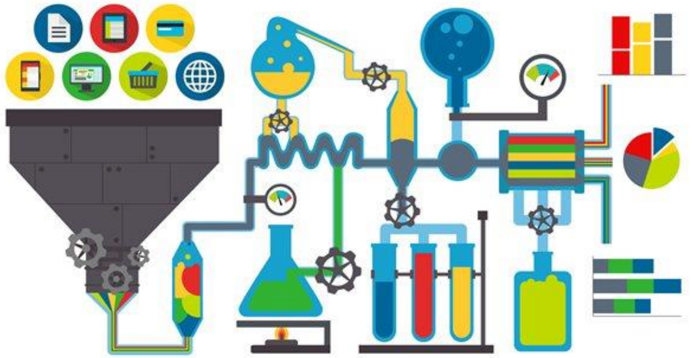



- “is a process of inspecting, cleansing, transforming and modeling data with the goal of discovering useful information, informing conclusion and supporting decision-making.” -Wikipedia

# What is Data Visualization?



# Data Analysis Process



Step 1: Ask a Question

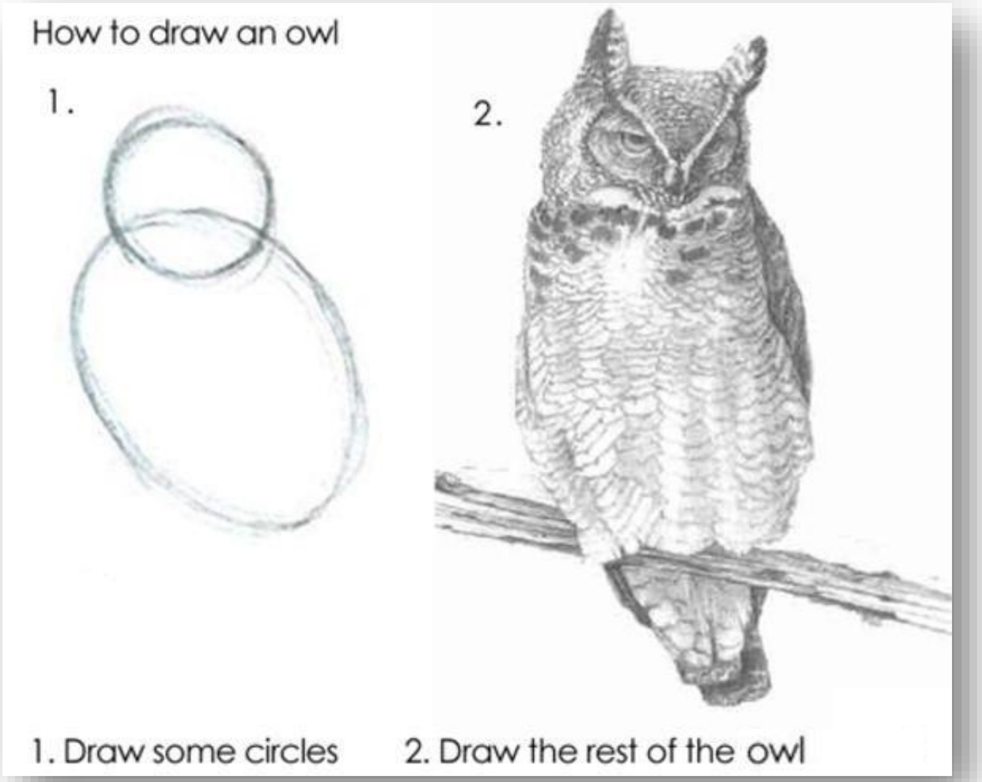
Step 2: Break the question down into parts

Step 3: Model one part at a time

Step 4: Analyze the Results

Step 5: Communicate the results

***If something doesn't work, repeat steps 2–4***

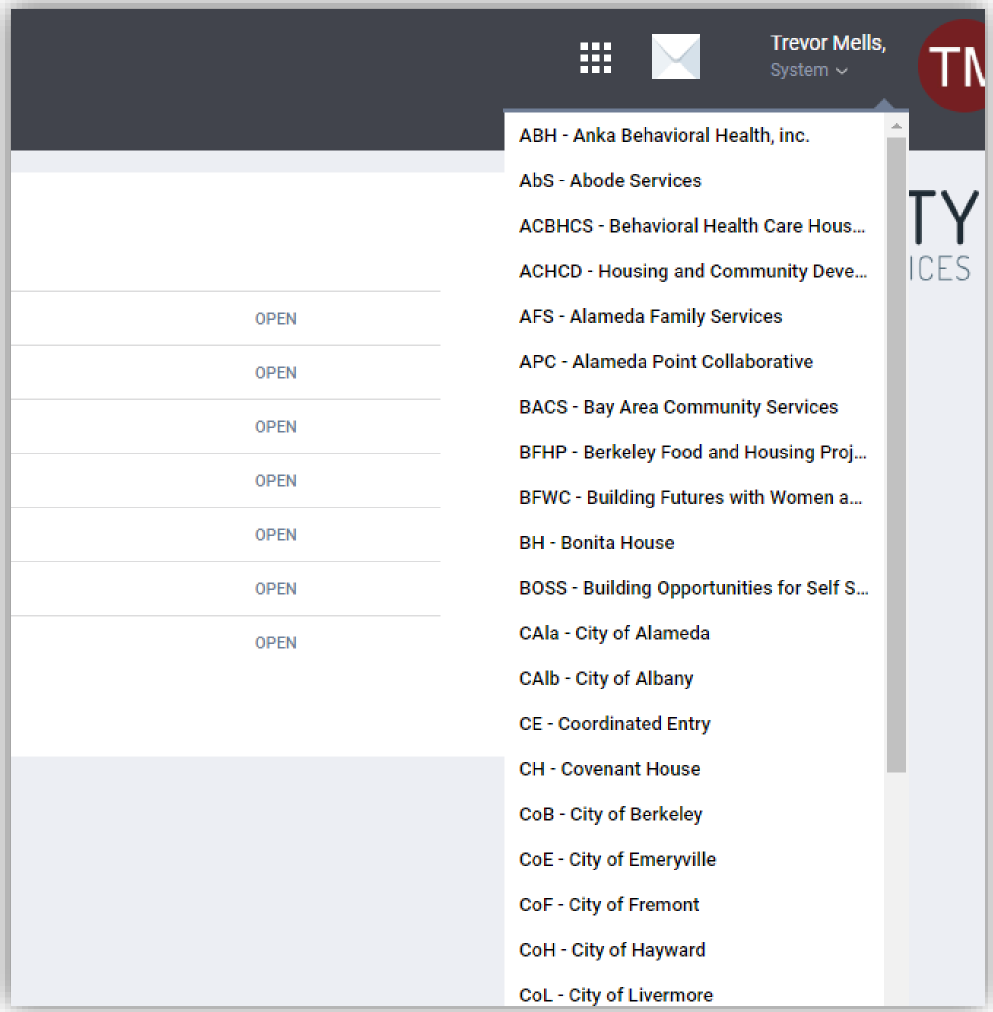


# What is Looker??

- Looker connects to Clarity to provide data reporting and visualization tools
- Allows for real time results of your data in tables, charts, and graphs

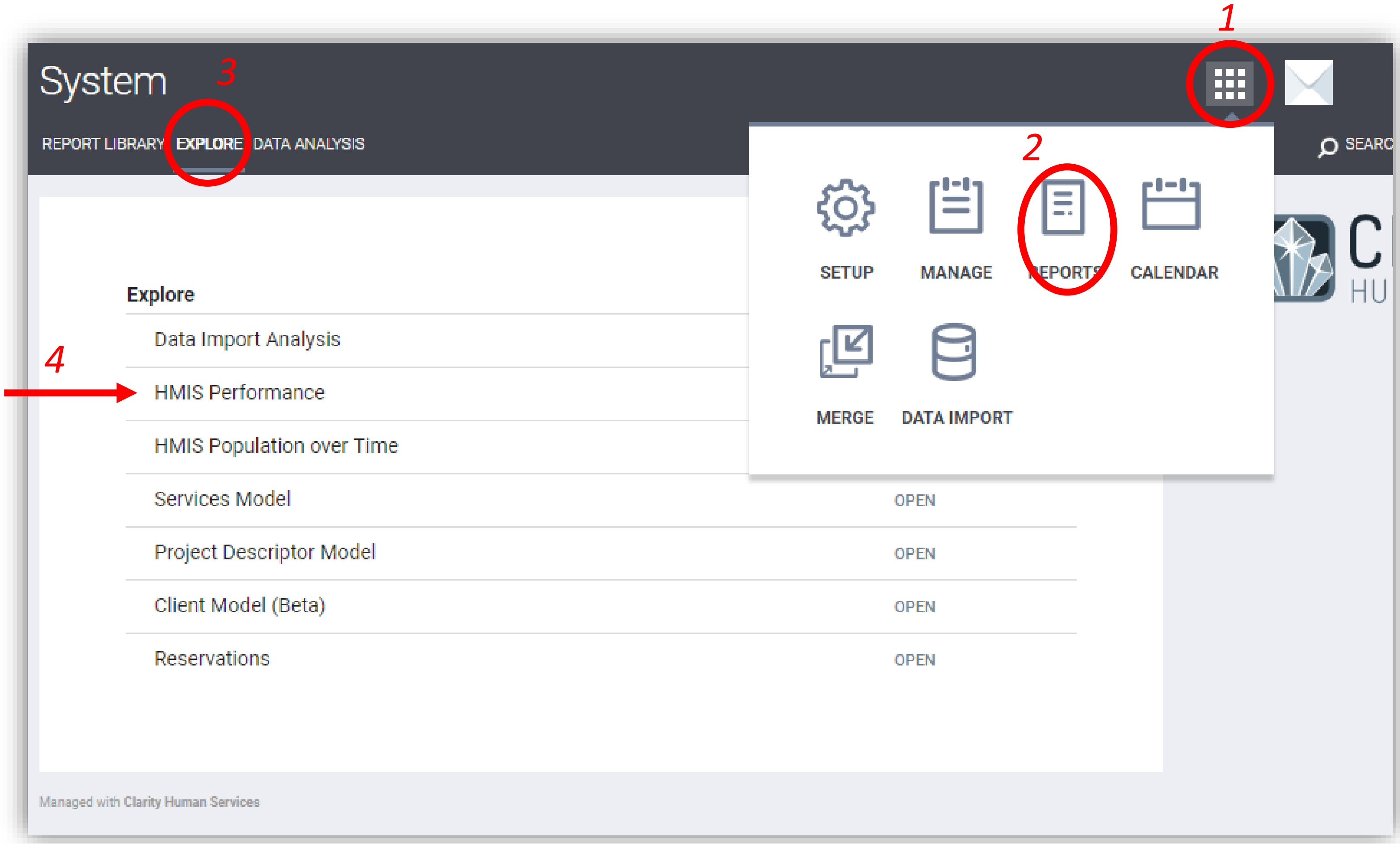
# Data Analysis Permissions

- Switching agencies will give access to agency specific reports
  - For example the BNL Matching Report in only in the Coordinated Entry Agency
- “Switching” agencies will not give you additional data access in looker.



# Starting a New Report

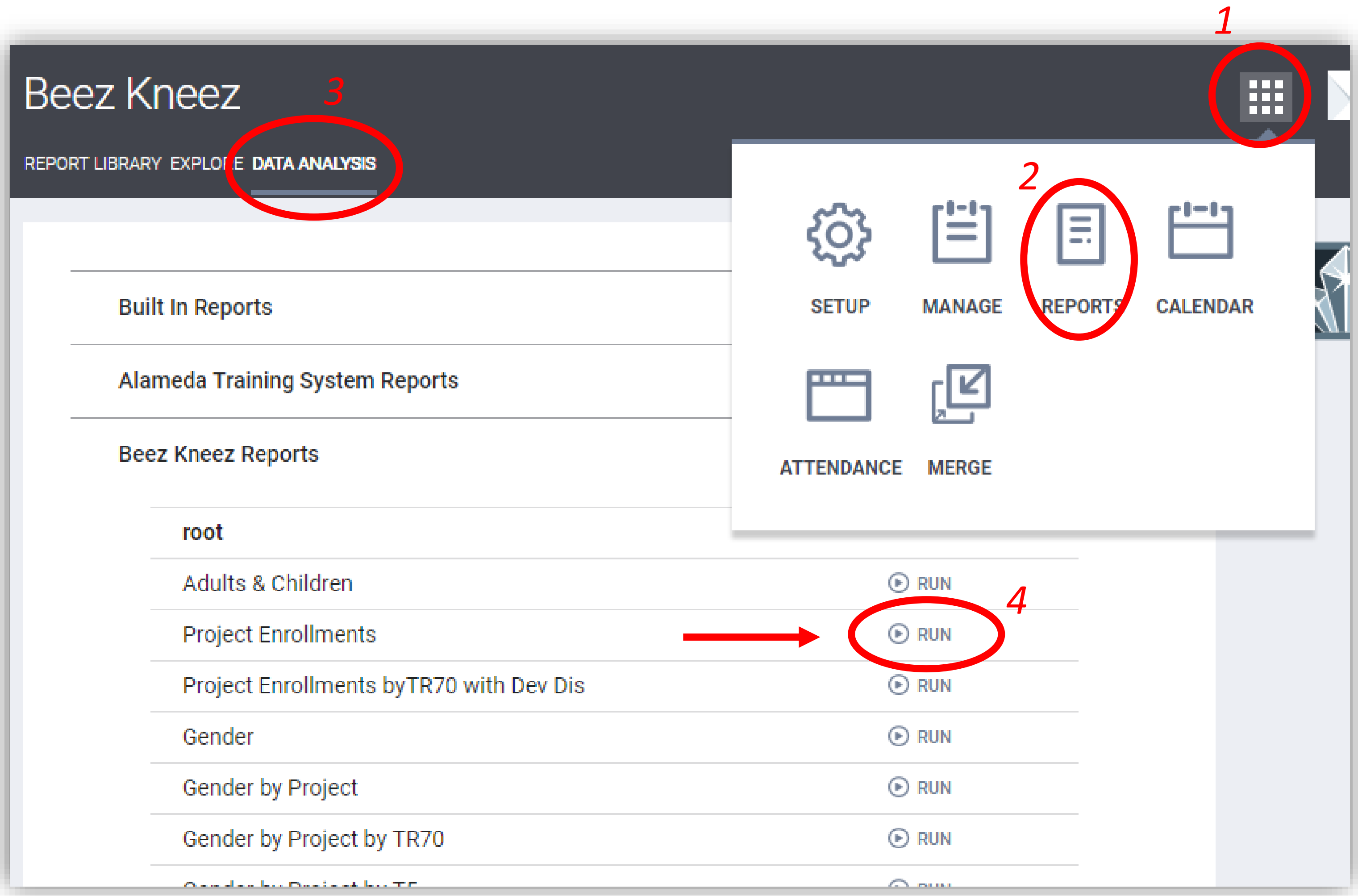
- GO TO:
  1. LaunchPad
  2. Reports
  3. Explore
  4. Click "OPEN" next to the Data Model
     - *(usually HMIS Performance)*



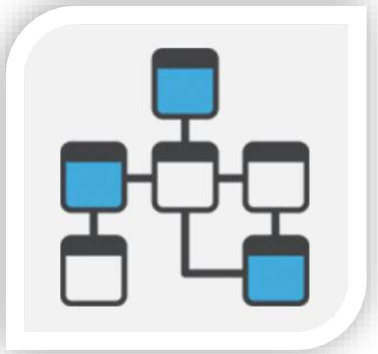
# Run or Edit an Existing Report

- GO TO:
  1. LaunchPad
  2. Reports
  3. Data Analysis
  4. Expand the report folder
  5. Click “RUN” next to the report

  - Most reports are agency specific. You may need to “switch” agencies to see it

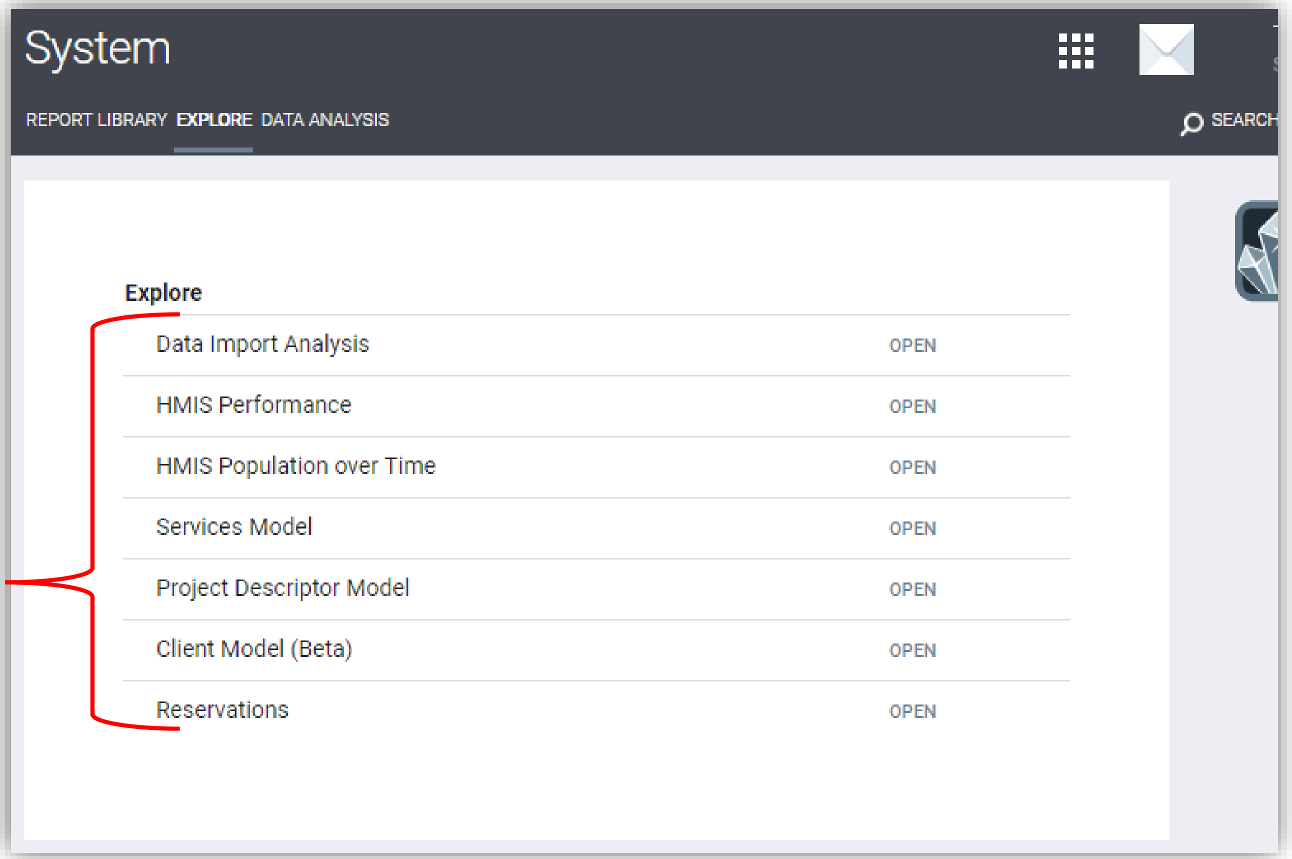


# Choosing a Data Model In Clarity



- What is a Data Model?
  - A pre-made set of raw data that can be used to conduct further analysis
- Why is there more than one model?
  - Not all data relate meaningfully
  - Can be merged

DATA MOELS



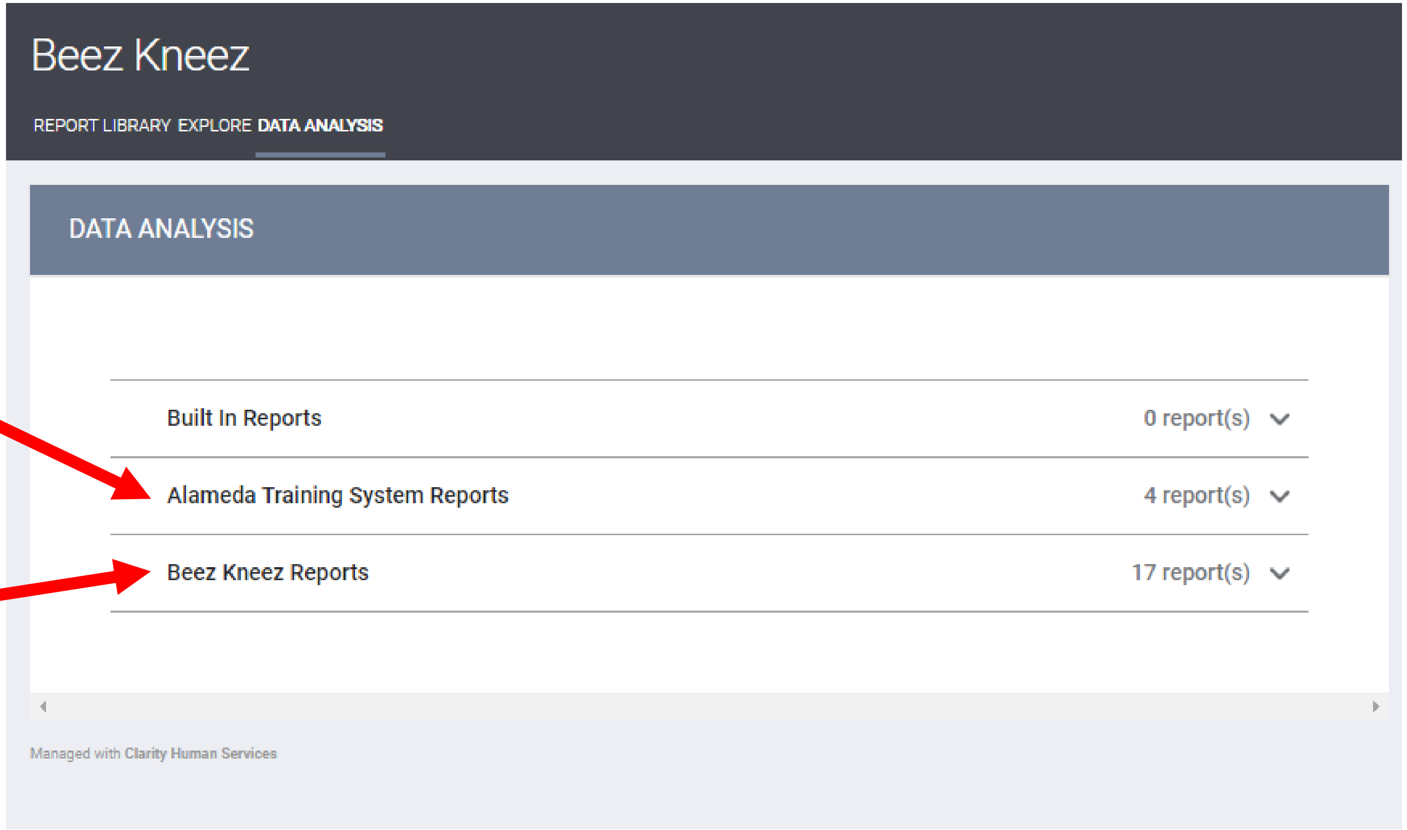
# Data Models In Clarity

HMIS' NEXT top model

1. HMIS Performance
   - most common, all rounder
   - For reporting based on Program Entries and Exits. Has default filter.
   - Data must be connected to an enrollment in some way
2. Coordinated Entry Model
   - Report on Assessments independent of Project Entries.
   - Used for BNL and CES features.
3. Services Model
   - Makes it possible to access services independent of project entries
   - Not applicable to Alameda County
4. Client Model
   - Report on client data independent of project entries
   - Very few restrictions, reports on deleted data
5. HMIS Population over Time
   - Time series analysis (goes back ~2 yrs)
6. Project Descriptor Model
   - Report on project, agency, or staff data. independent of clients
   - No client data
7. Reservations Model
8. Data Quality Model
   - Based on enrollments, drill down on DQ errors

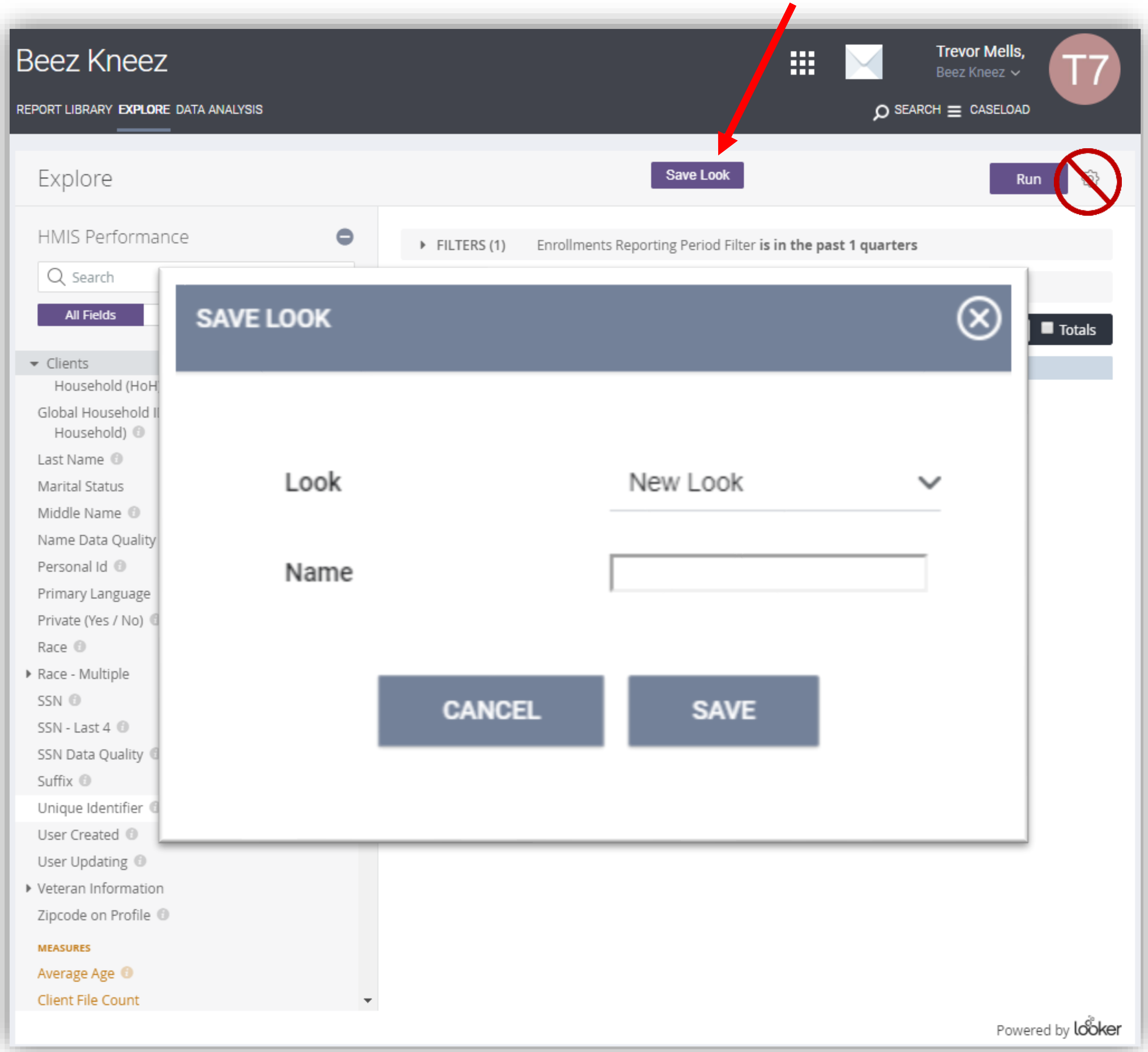
# Report Access

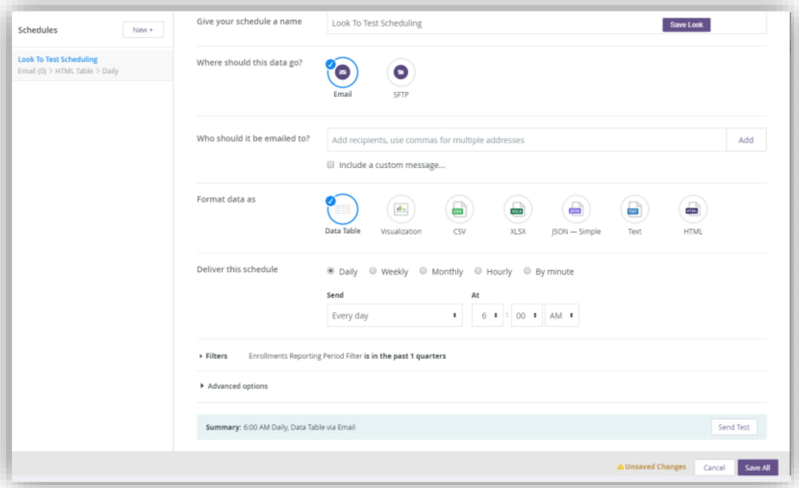
- “System Reports” are available to all agencies
- “Agency Reports” are only available to your agency



# Saving A Report

- Use the “Save Look” button near the top of the page
- Save as a New Look or overwrite an existing one
- DO NOT use the  gear icon to save a look
- Save early and often
- Reports will save to the agency you are currently using (upper right)





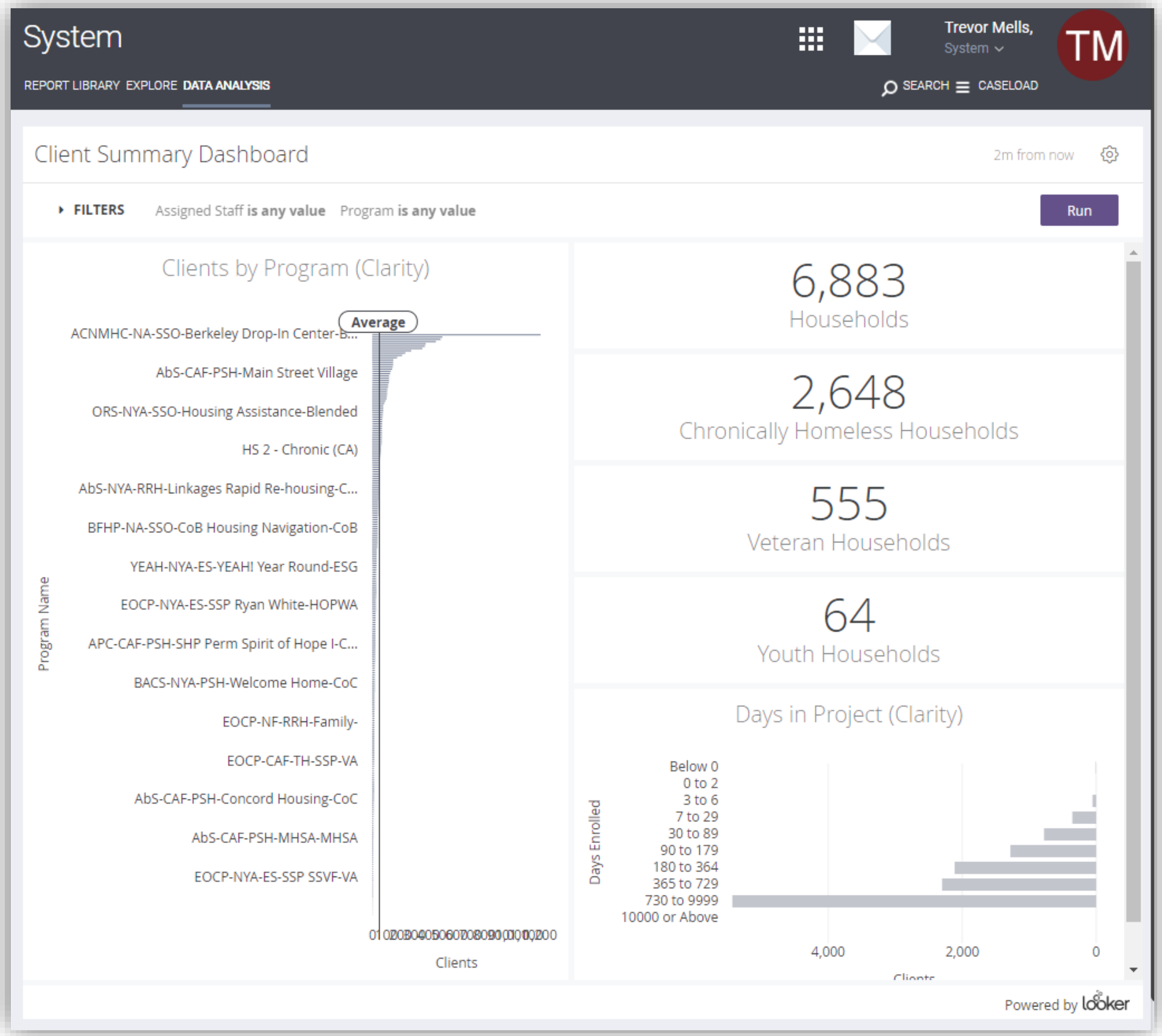

# How To Schedule a Look

1. Use the Gear Icon  to select "Save & Schedule"
2. Enter a new Title or overwrite a previously scheduled report
3. Click "Save and View Look"
4. Follow the instructions on the next page to Schedule the report

- **Saving is separate from scheduling. This DOES NOT SAVE the report**
- Only use this workflow to Schedule a report
- Use the instructions on the previous slide to Save a report to your Agencies folder

# Dashboards in Looker

- Dashboards allow you to display multiple Reports (or "Looks") on the same page.
- They are useful for grouping related reports together into a single page



# Creating your own Dashboard

- To start a new dashboard:
    1. Create and save a new Look
    2. Click the Gear icon then "Save to Dashboard"
    3. Navigate to: Shared > Alameda > Agencies > [your agency ID]
    4. Click "New Dashboard" and enter a name
    5. Click "Save to Dashboard"

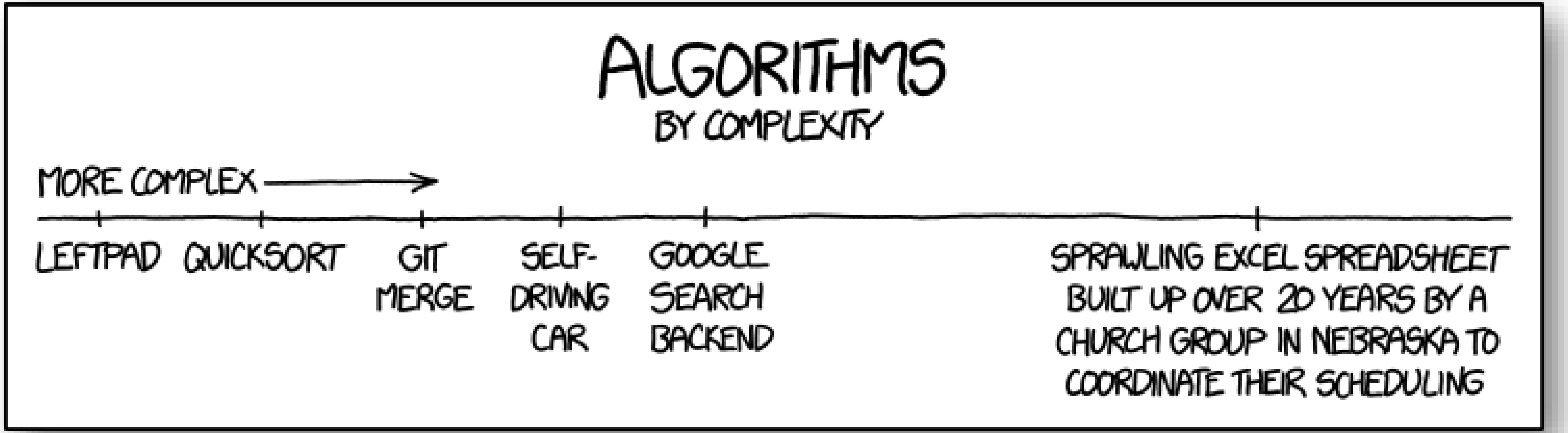
- Dashboards should be saved under your agency ID (#1-60)
    - See next page for list of ID's
- **Dashboards must be enabled by a System Administrator**
- To edit or view an existing dashboard follow the same steps as editing or viewing an existing report

# List of Agency (ID Numbers) In Alameda County

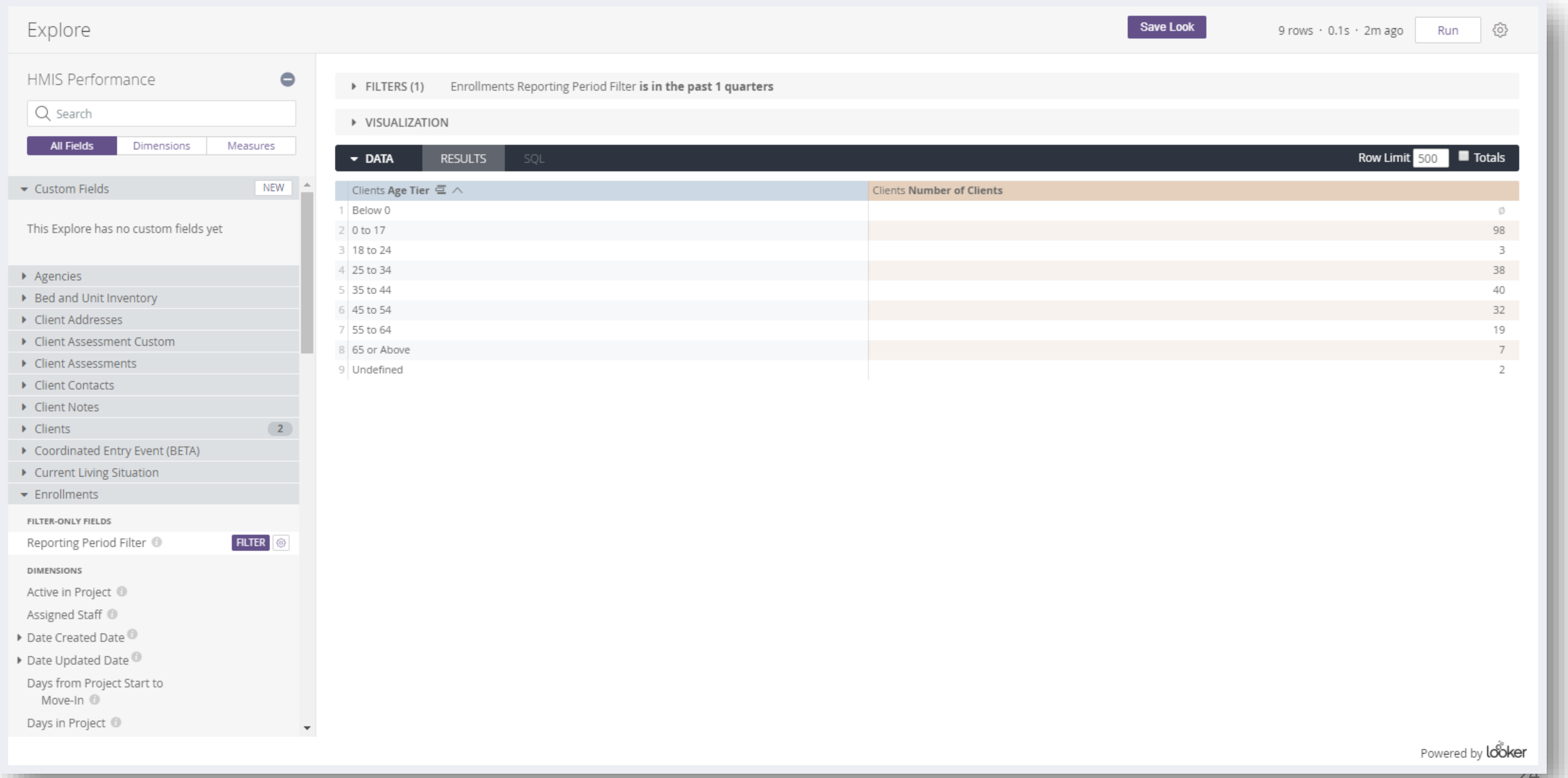
- ABH - Anka Behavioral Health, inc. (49)
- AbS - Abode Services (2)
- ACBHCS - Behavioral Health Care Housing Services (46)
- ACHCD - Housing and Community Development (27)
- AFS - Alameda Family Services (3)
- APC - Alameda Point Collaborative (4)
- BACS - Bay Area Community Services (5)
- BFHP - Berkeley Food and Housing Project (6)
- BFWC - Building Futures with Women and Children (8)
- BH - Bonita House (7)
- BOSS - Building Opportunities for Self Sufficiency (9)
- CAla - City of Alameda (10)
- CAlb - City of Albany (11)
- CE - Coordinated Entry (52)
- CH - Covenant House (42)
- CoB - City of Berkeley (51)
- CoE - City of Emeryville (12)
- CoF - City of Fremont (19)
- CoH - City of Hayward (21)
- CoL - City of Livermore (22)
- CoN - City of Newark (26)
- CoO - City of Oakland (29)
- CoP - City of Piedmont (37)
- CoSL - City of San Leandro (40)
- EBCLC - East Bay Community Law Center (43)
- EBCRP - East Bay Community Recovery Project (44)
- EIR - Eden Information and Referral (23)
- EOCP - East Oakland Community Project (18)
- EOH - EveryOne Home (54)
- FESCO - Family Emergency Shelter Coalition (25)
- FF - Fred Finch Youth Center (30)
- FPFY - First Place for Youth (28)
- GI - Goodwill Industries of the Greater East Bay (50)
- HAC - Homeless Action Center (31)
- HPRP - Homelessness Prevention and RRH Program (53)
- LMC - Lifelong Medical Care (32)
- NMCH – AC Network of Mental Health Clients (45)
- OD - Operation Dignity (33)
- ORS - Options Recovery Services (34)
- RPI - Rubicon Programs, Inc. (47)
- SA - Salvation Army Oakland Garden Center (48)
- SAHA - Satellite Affordable Housing Associates (36)
- SC - Second Chance (13)
- SHP - South Hayward Parish (24)
- SMC - St. Mary's Center (16)
- StP - Swords to Plowshares (17)
- SVdP - St Vincent de Paul (15)
- System (1)
- UnC - Union City (20)
- WDDC - Women's Daytime Drop In Center (35)
- YAFF - Yvette A Flunder Foundation (41)
- YEAH - Youth, Engagement, Advocacy and Housing (39)

# Looker Report Elements

1. Fields & Measures
2. Filters
3. Custom Calculations/Dimensions
4. Visualizations



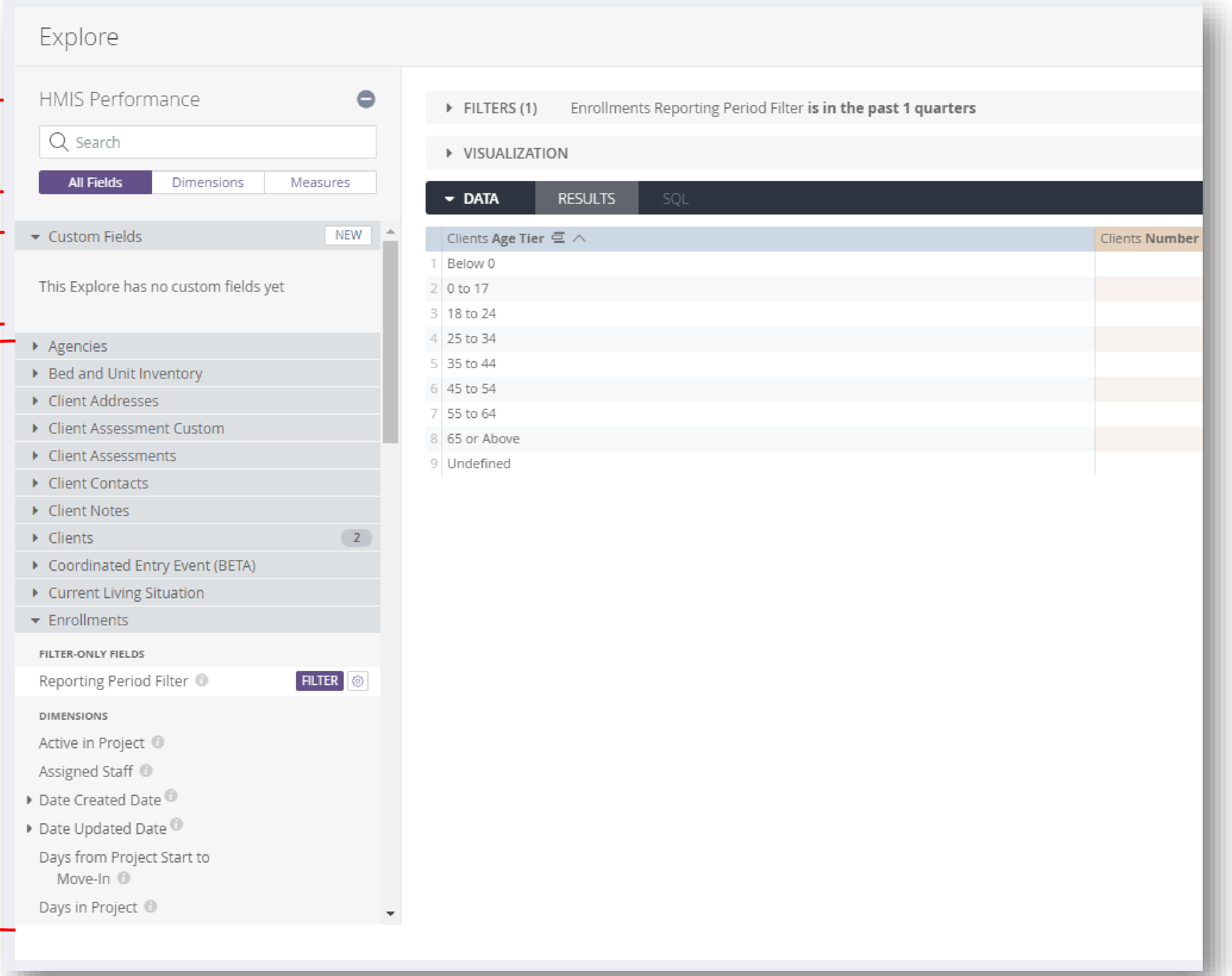
# Navigating The Looker Report Window

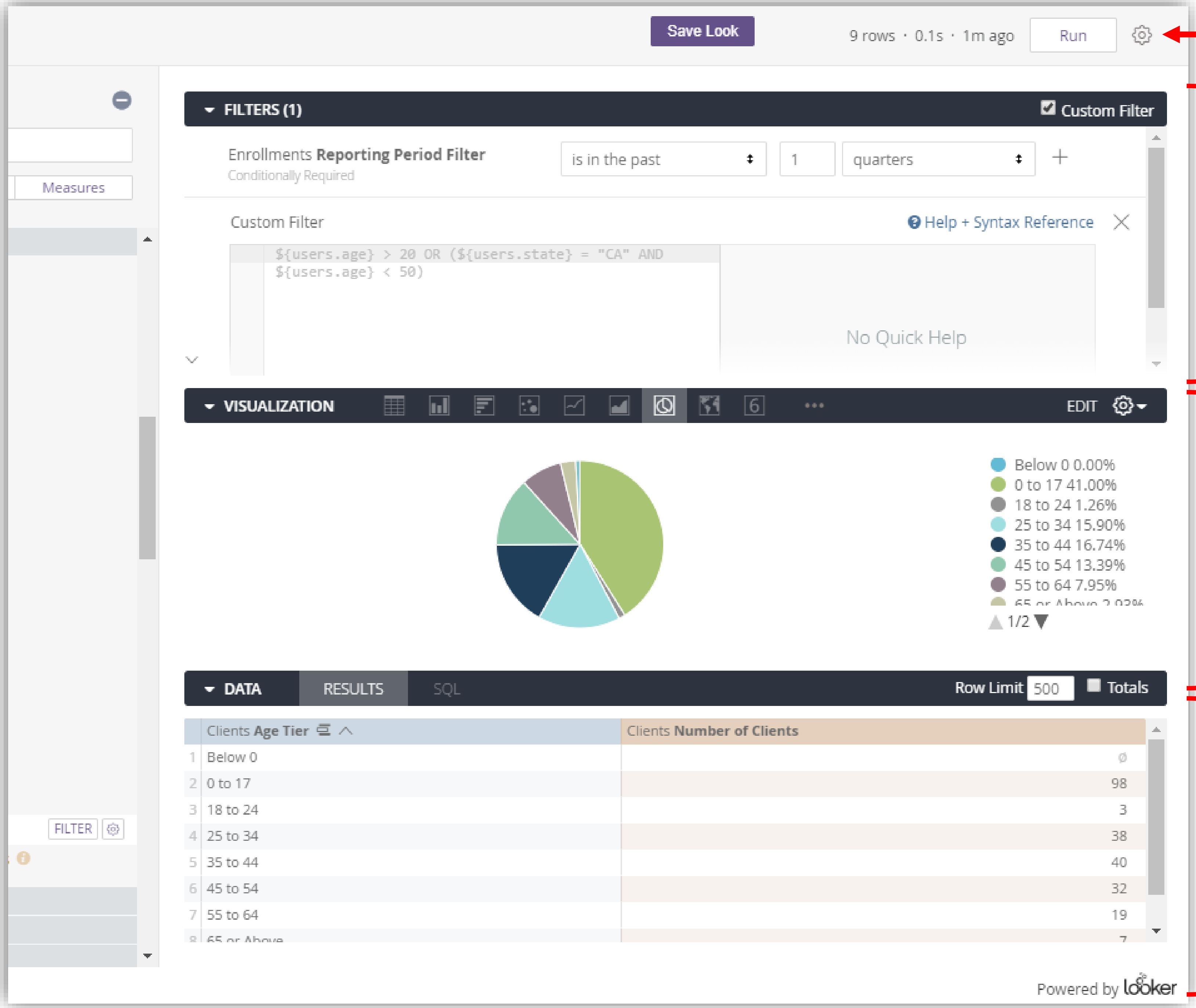


Search for fields

Create custom fields, calculations, measures

Choose a predefined field






Access other features such as Saving, Scheduling, Merging, and Dashboards

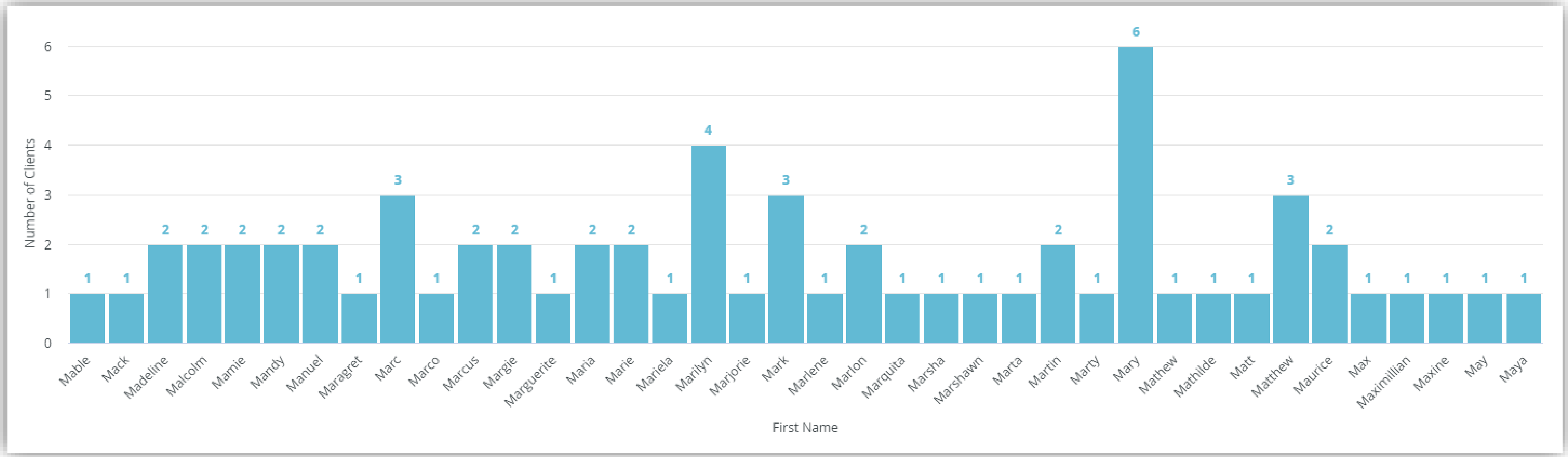
FILTERS: Add built in and custom filters

VISUALIZATION: Create custom charts graphs, and tables

DATA: View & edit the raw data output

# Example

- How many Marys?

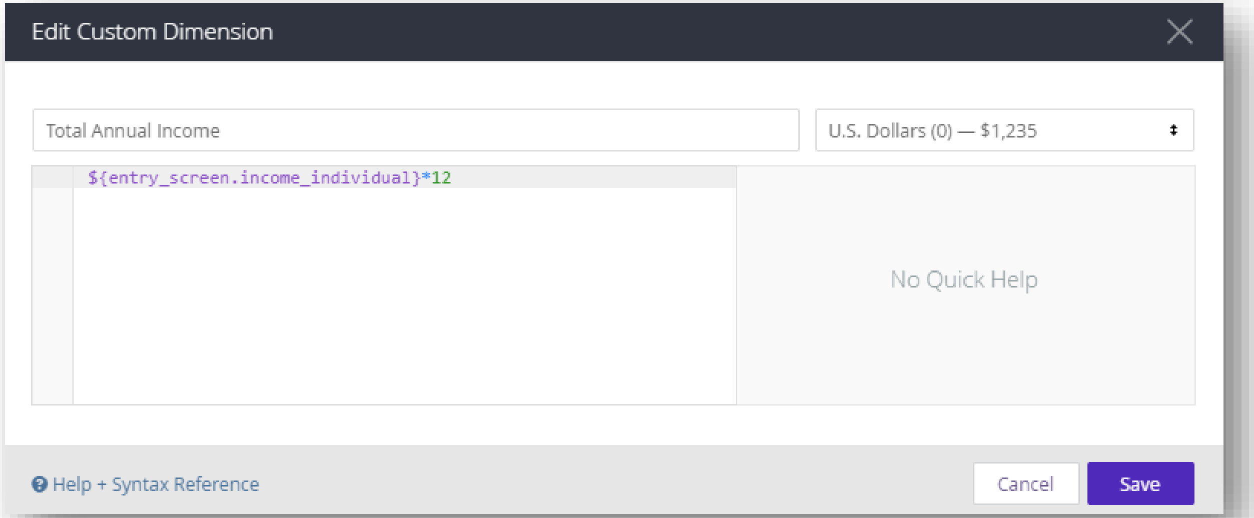


# Custom Calculations And Dimensions

**When to Use**

- Combining or extracting info from an existing field or dimension
- Preform logical or mathematical operations on existing fields
- Dimensions are filterable and pivotable
- Dimensions can reference fields without adding them to the report

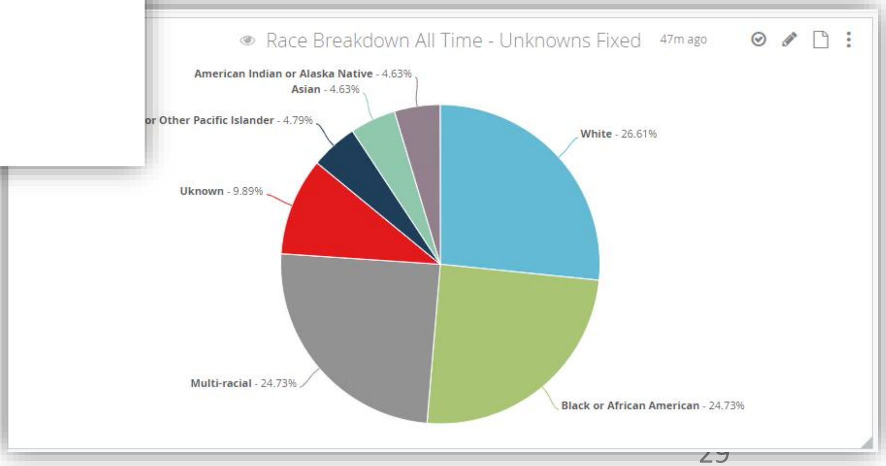
**Example**



# Custom Dimension Example

- Group responses for *"Data Not Collected," "Client Refused," "Other,"* or *"NULL"* into a single "Unknown" Category

```
if(${static_demographics.race_text}="Data Not Collected" OR
  ${static_demographics.race_text}="Client Refused" OR
  ${static_demographics.race_text}="Client doesn't Know" OR
  ${static_demographics.race_text}="" OR
  is_null(${static_demographics.race_text}),"Uknown"
    ,${static_demographics.race_text})
```



# Custom Dimension Project (10 mins)

## Groups of 2-4

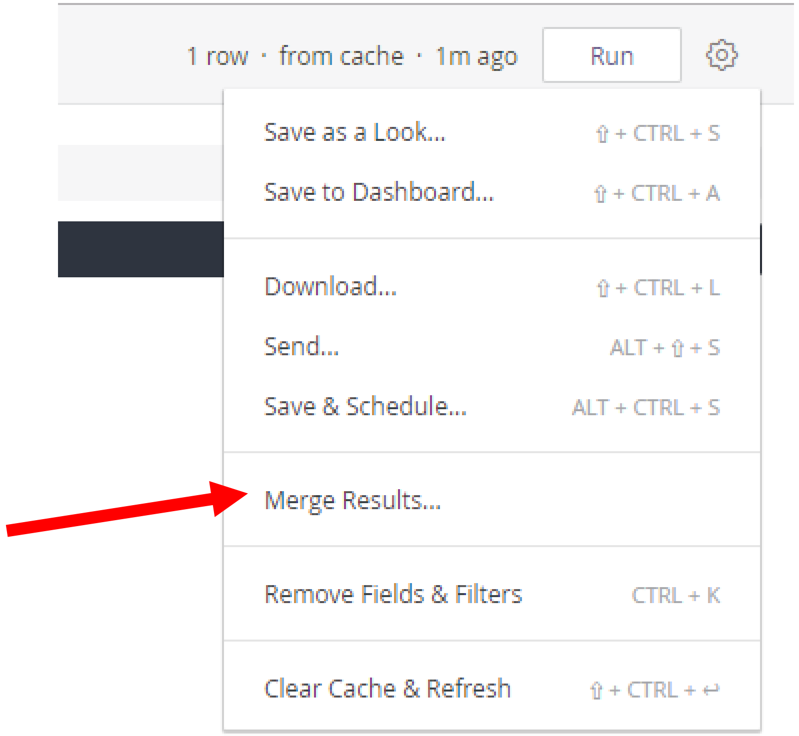
- Create a table or chart that counts unique clients in your project by custom age groups
- Age at Entry
  - For example:
    1. Youth
    2. Adults
    3. Seniors

# Example:  Create a Caseload Chart

- A chart that shows the total active caseload of all staff in a program(s)

# Merging Results

- The looker “Merge” feature allow you to combine data from different models based on a common field
- Limited to queries under 5,000 rows




- HOW TO MERGE
  - Start a report
  - Click the “Gear” icon then “Merge Results”
  - Choose the model you want to merge with
    - Build the related report in that model
  - Choose the Merge Rules

# Merge Example

- Build a report that shows live program utilization and capacity

- Hint:
  - program utilization is in the “HMIS Performance” model
  - Program Capacity it in the “Project Descriptor” model

# Custom Measures

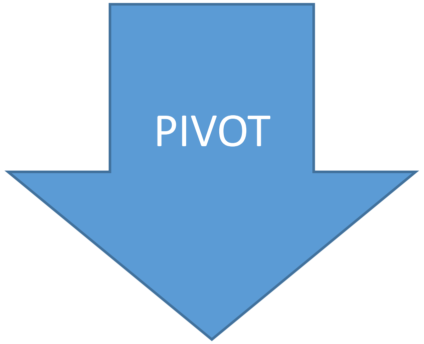
- Use to count, sum, max, min on custom data points that are not already available
- Cannot use with custom dates

- CUSTOM MEASURE EXAMPLE:
  - Calculate Housing outcomes by project

# Pivot Tables

- A pivot table is a data analysis tool that summarizes and reorganizes selected data in a table to obtain a desired report. A pivot table “pivots” or turns the data to view it from different perspectives

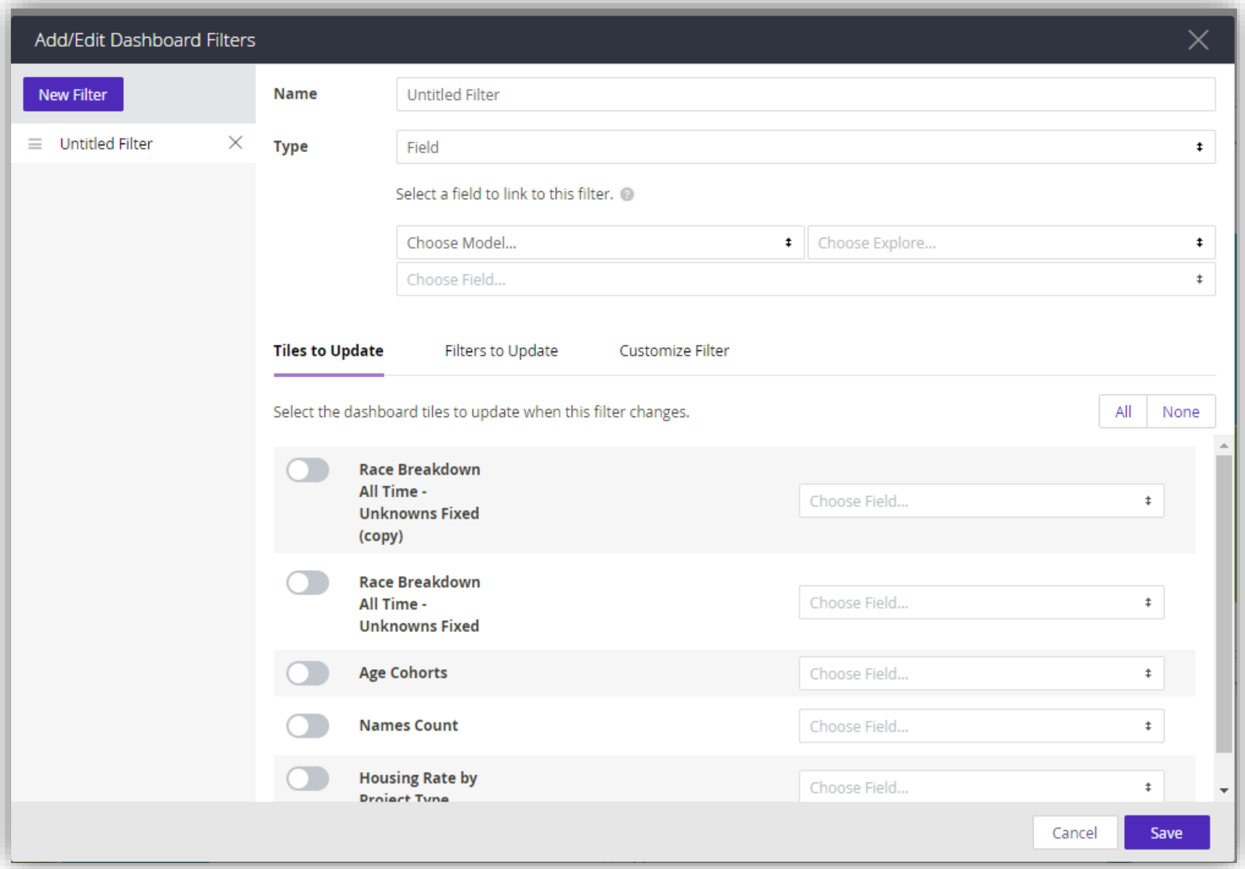
| | **Count** |
|---|---|
| Red hat | 10 |
| Blue hat | 20 |
| Red fish | 15 |
| Blue fish | 5 |




| | **Red** | **Blue** |
|---|---|---|
| Hat | 10 | 20 |
| Fish | 15 | 5 |

# Dashboard Filters

- Allow you to filter on multiple fields across some or all of the reports on a dashboard.



# Quick Tips for Building Reports

- If you need client level data always include the Client Unique ID and/or Personal ID
- Be careful to choose the field from the correct folder (entry, assessment, update, exit, etc...)
- The default filter in the HMIS Performance Model "is in the past 1 quarter." This can be changed
- When downloading a report to .csv make sure you select "Limit: All Results"

Questions?

Additional Examples…