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**PHUSE DV01, "Friends don't let
Friends make ugly dashboards"**

March 6, 2023

What do we mean when we say “Ugly”

- **Source and context of data are unclear**
- **Colors used inconsistently or with “hidden” meanings**
- **Unclear labels**
- **Fonts and graphics detract from data**
- **Too much, or too little on each page**
- **Visualizations created without user input**
- **Dashboards that are not accessible**

This talk will include Tips and Tricks to make your dashboards more user-friendly using examples from the creation of clinical safety dashboards at Reata Pharmaceuticals

Step 1: Collaborate with Users

Three sets of meetings with various users:

- Medical Monitoring
- Pharmacovigilance
- Statistical Programming management

Each group meetings consisted of:

- Information gathering
- View drafts, make suggestions
- “Final” draft including suggestions
- Ongoing meetings and updates – dashboards are never “done”

Microsoft Teams sharable to do list is very handy

PV Needs –

Compliance needs different, not so much "live" data, more historical view and high level overviews

AE Bart Chart

- ☒ Current AE bar chart – can we create a drill down by SOC and PT (can be a separate chart)
- ☒ Add text in Bar
- ☐ Are Percentages possible? (e.g. SOC {and /or PT}/total AE)
(frequency for number of events and number of subjects(unique count of DM records))

AE Tree Map

- ☒ Color blind colors

AE Detail

- ☐ Study days – add flag to indicate based on incomplete date
- ☒ Add Sex, Age, Outcome to Query drop downs
- ☒ Add Study Start/End Day – DLK to update input
- ☒ Impute Study Days if not full date – need way to distinguish in Spotfire of the imputed dates

Vitals

- ☒ Line graph with averages for whole study
- ☒ Add age groups (adult, adolescent)
- ☒ Add Sex
- ☒ Add Study Start/End Day
- ☒ Impute Study Days if not full date – need way to distinguish in Spotfire of the imputed dates
- ☒ Add Sex, Age, visit in query drop downs

Labs

- ☐ Add Study Start/End Day
- ☒ Impute Study Days if not full date – need way to distinguish in Spotfire of the imputed dates

Step 2: Create a “Style Guide”

Creating a “Style Guide” of consistent colors and fonts can reduce confusion and allow users to focus on the data



Reata Blue
Hex #007bb8



Hex: #332288



Hex: #686484



Hex: #882255



Hex: #429b97



Hex: #117733



Hex: #94bc8c



Hex: #cc6677



Hex: #88ccee



Hex: #ddcc77



Hex: #aa4499

HEADERS – Roboto 11

Main Roboto 8



Beware of any assumptions that colors may bring, like **Red**

Accessibility

Many of the aspects of an accessible dashboard are actually just good dashboard design for everyone

- Use a color-blind friendly Palette
- Provide clear labels
- Provide details on tool tips
- Notes and caveats clear and visible

Step 3: Ready to start creating dashboards

Including the source and important notes can help orient the user

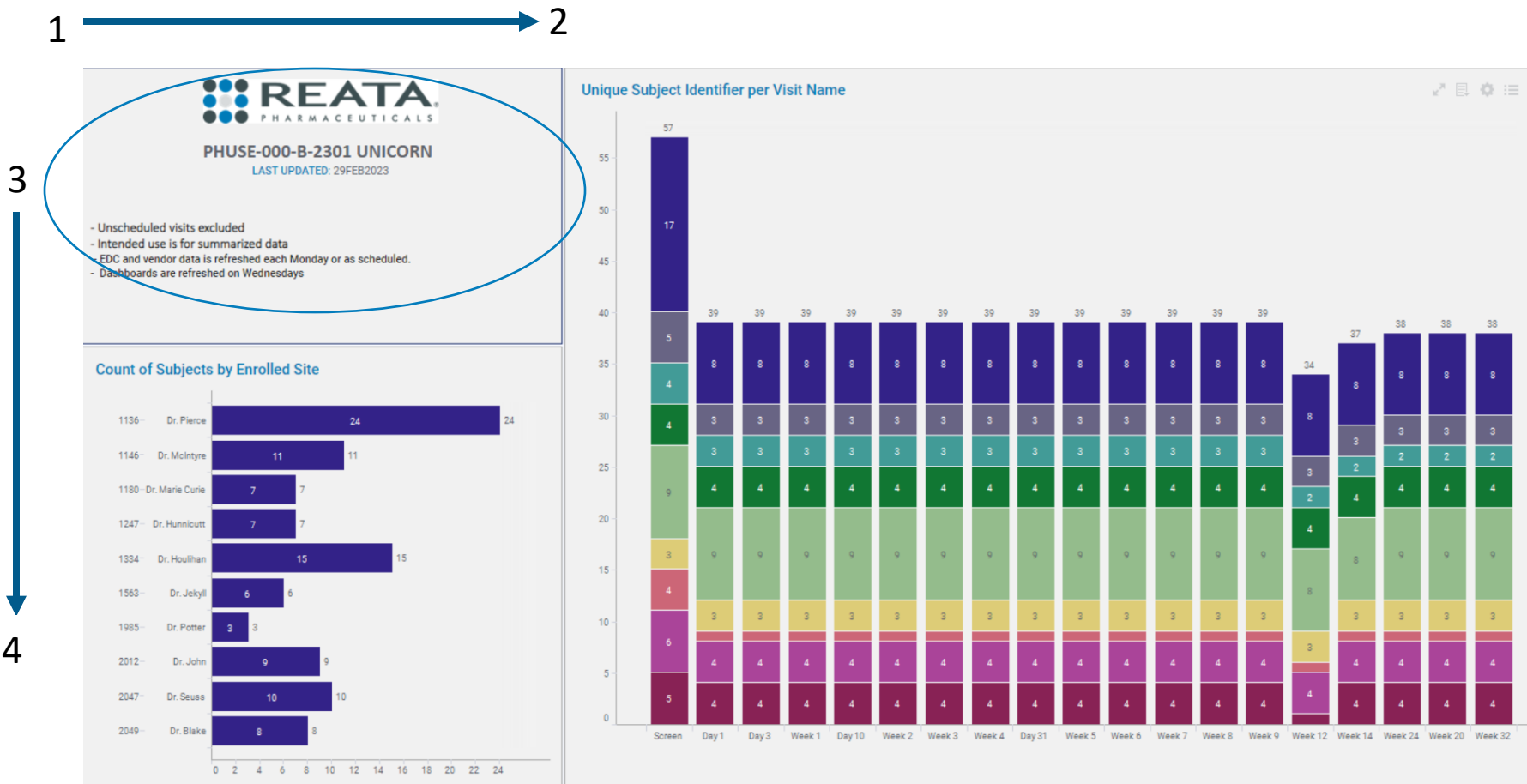
- Study Name and ID #
- Last updated date
- Caveats and overall “terms” of the dashboard



Study data in dashboards is created for this presentation and does not reflect any actual Reata investigations

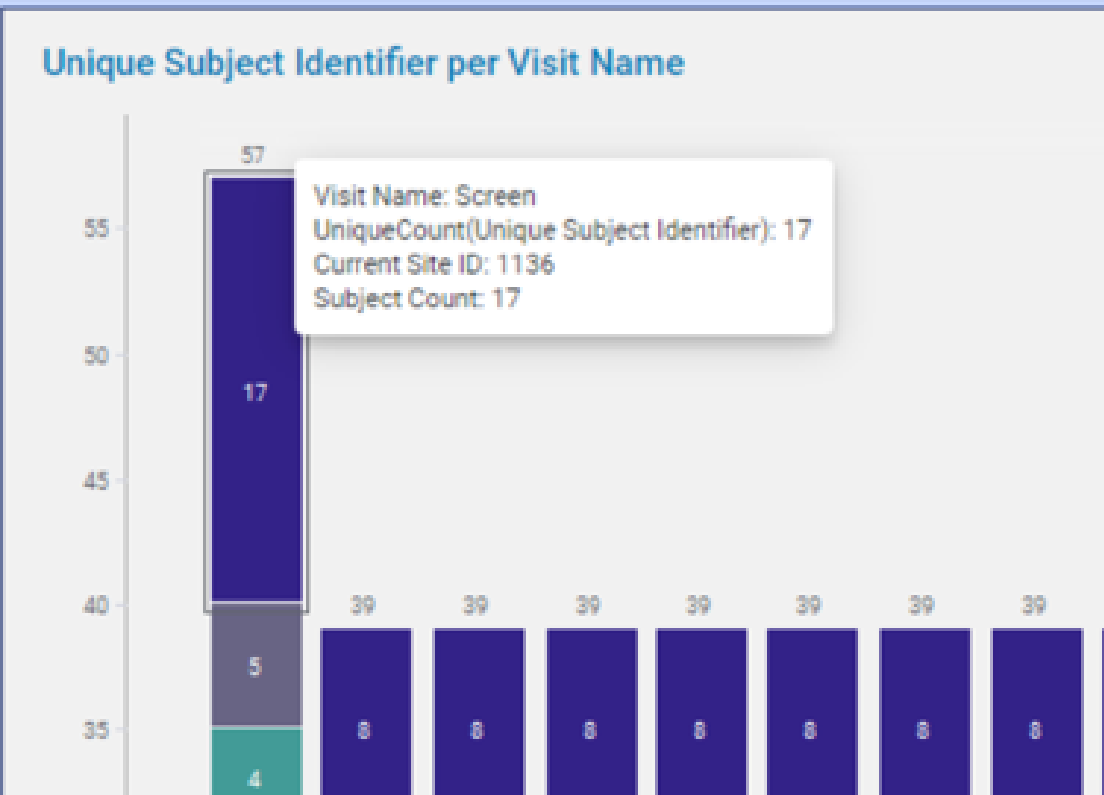
Placement Matters

Readers process information top, left to right, and then down the left-hand side

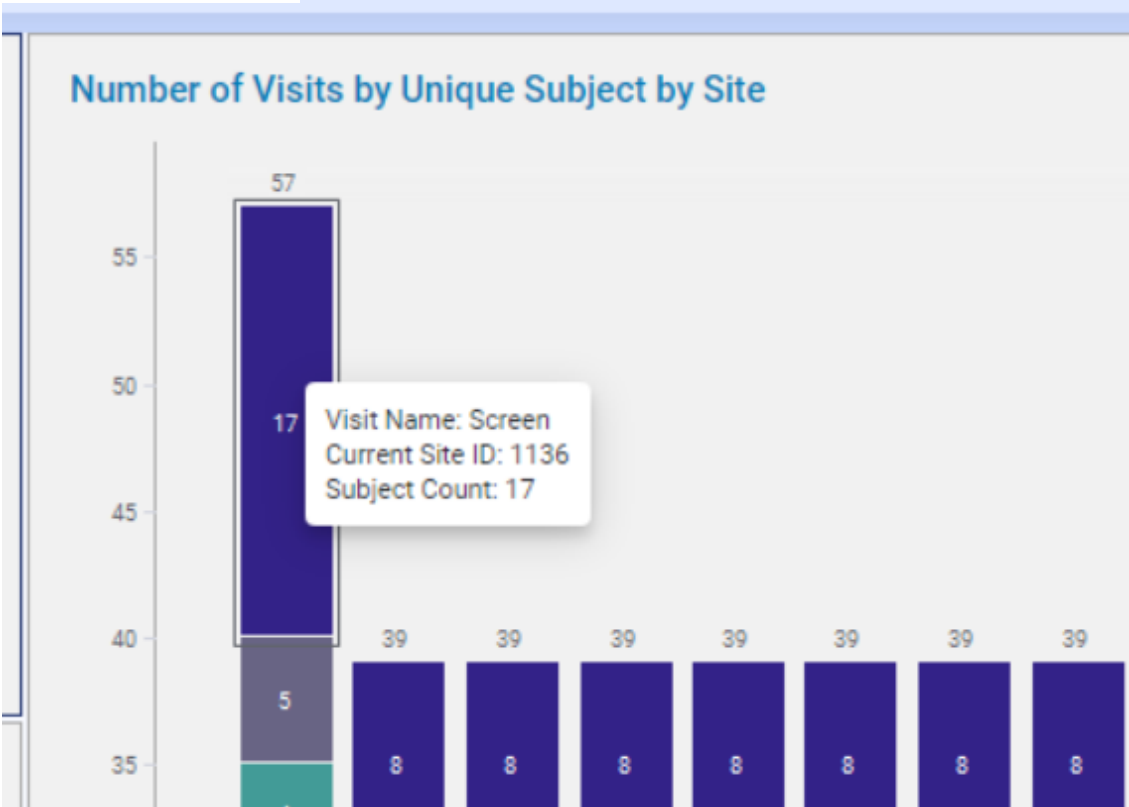


Program default labels are sometimes less useful

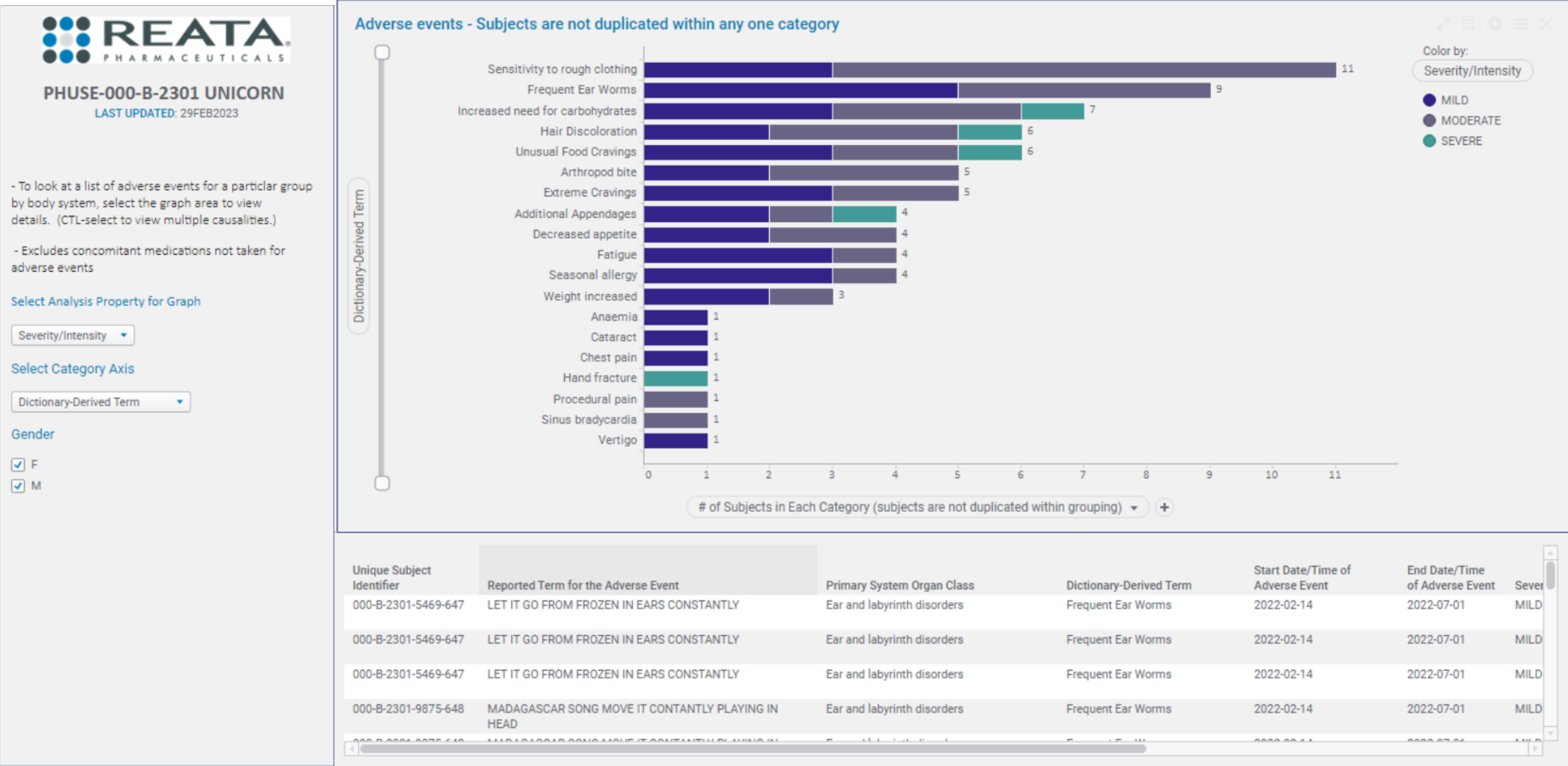
Before – software default



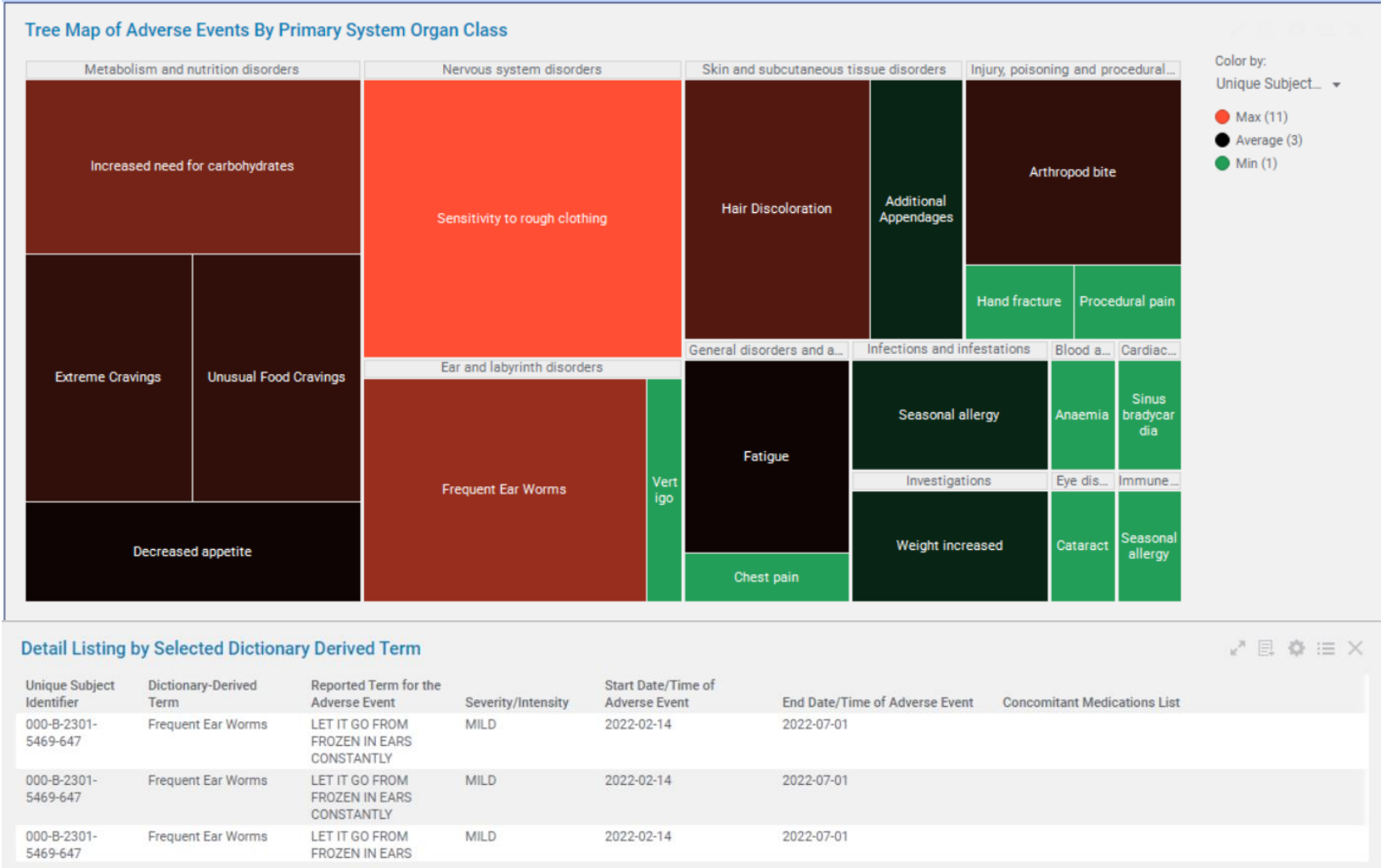
After clean up



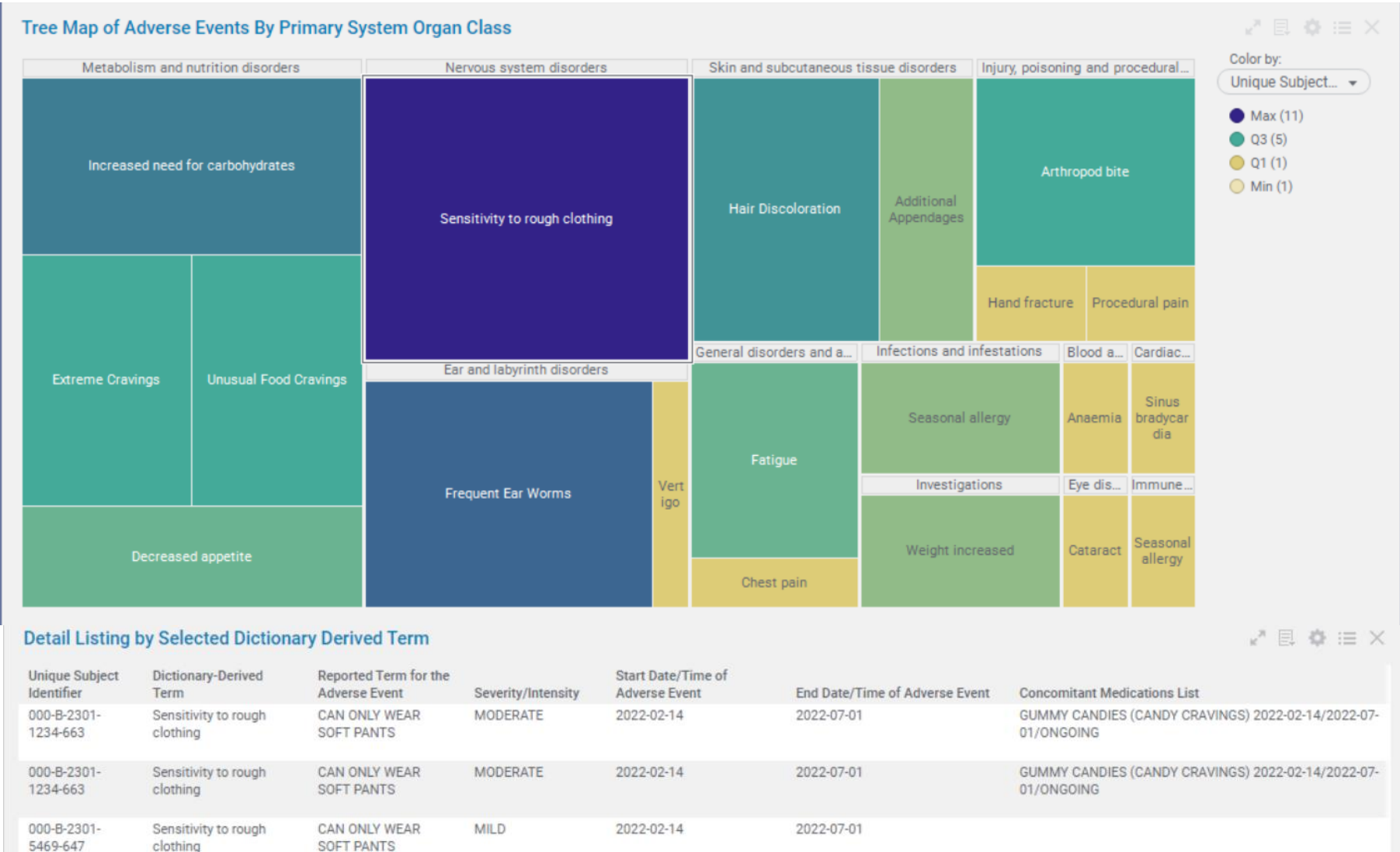
Sometimes graphs are best enhanced with detail



Beware of hidden messages with color

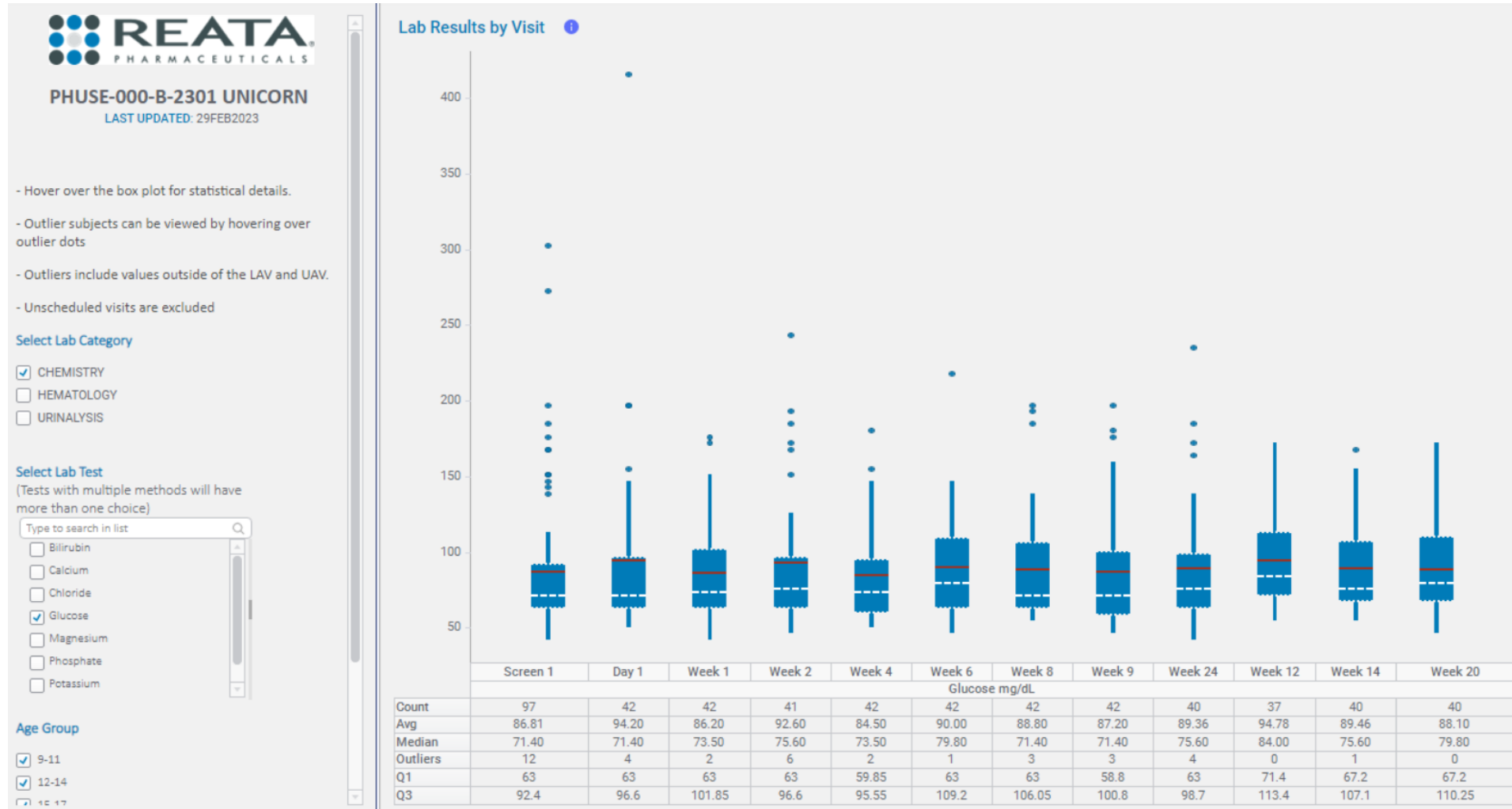


Beware of hidden messages with color



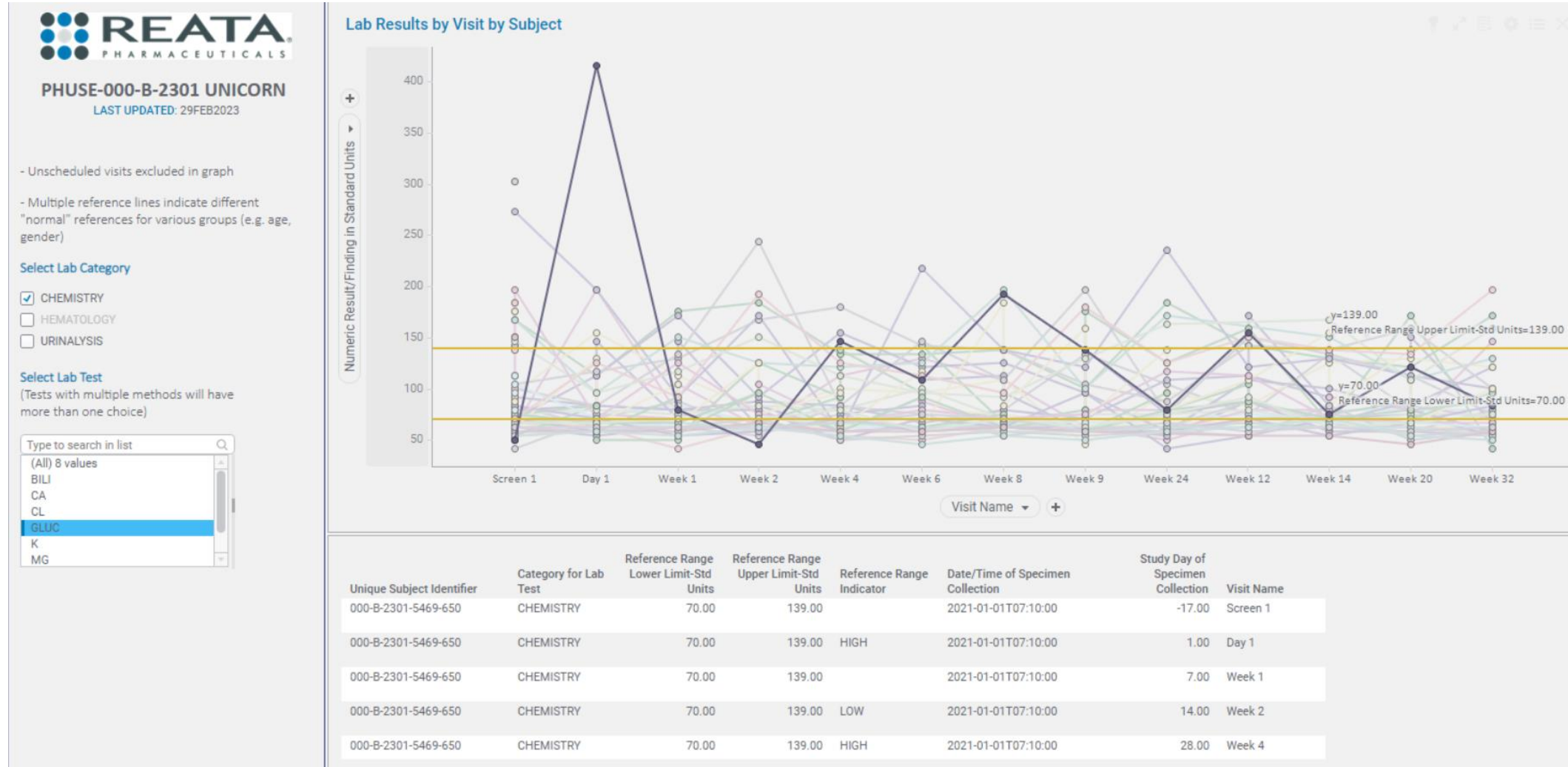
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Collaborating with users often yields surprising results



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Thank you for coming
Thanks to Angie Goldsberry,
Steve Kirby
Medical Monitoring and
Pharmacovigilance

