



Health Science, Clinical Research

Translating Data into Tableau Insights: Bridging the Gap Between Programmers and Medical Physicians

DV07

Health Inspired, Quality Driven.

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Overview

- SGS approach
- Introducing Tableau dashboards to end user
- Custom Tableau dashboards
 - Process flow
 - Challenges
 - Solutions – bridging the gap
- Example custom dashboards
- Conclusion





SGS approach

- Tableau: cloud-based data visualization tool
- Software Development Life Cycle approach & SOP
- Creation/Validation: DEV, TEST & PROD
 - Creation: development environment
 - Validation: test environment



- Security: strictly separated environments per client = sites
 - Own URL
 - Own set of users and dashboards
- Standard dashboards library – SDTM
 - Source SDTM data validated by DM in a separate QC process

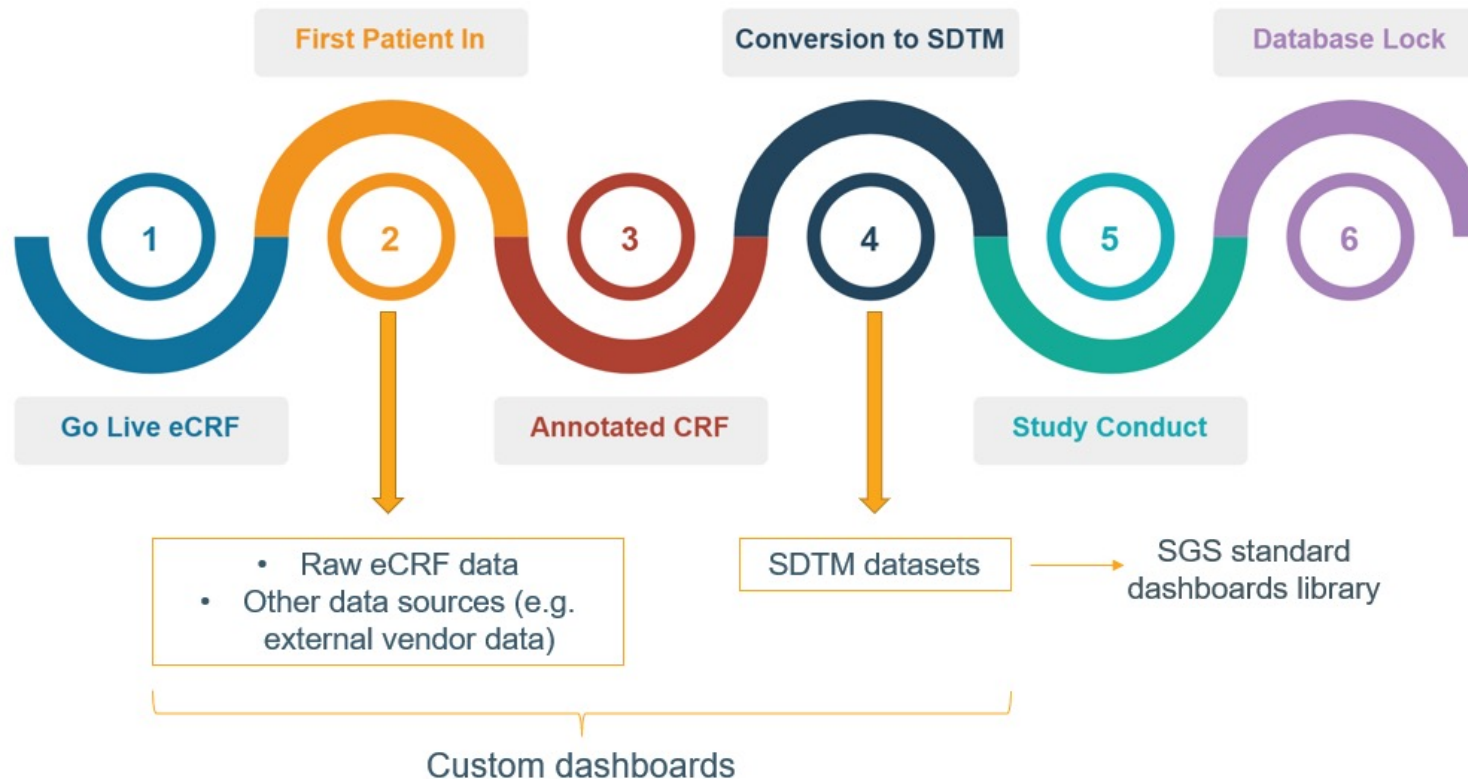


Introducing Tableau dashboards to end user

- Demonstration meeting
 - Standard dashboards
 - Software functionalities
- Getting familiar with standard dashboards in dedicated secure Tableau site
- Need for a specific dashboard?
 - Custom Tableau dashboards

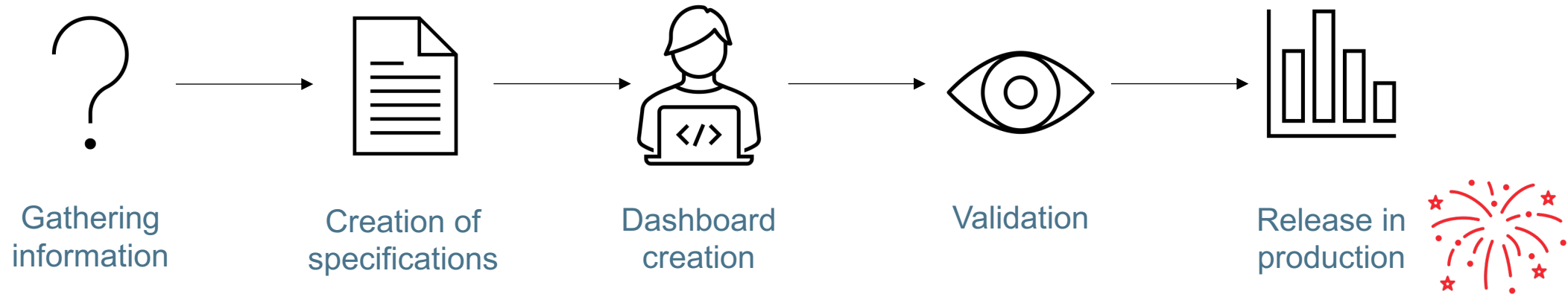
Custom Tableau dashboards

- Tailored to end user's needs and trial nuances
 - Modified existing standard dashboard / New dashboard
 - Various data sources possible



Custom Tableau dashboards

- Process flow



Challenge 1

- Programmers and medical physicians speak different languages
 - Programmers: “dry” data and formulas
 - Medical physicians: look at the data from a safety point of view
- Making sure all parties are on the same track
 - End user’s request vs software possibilities and limitations



Bridging the gap – First solution

➤ Tableau coordinator

- “Translator” between different teams
- Experience Data Management for a clinical trial
- Knowledge SDTM



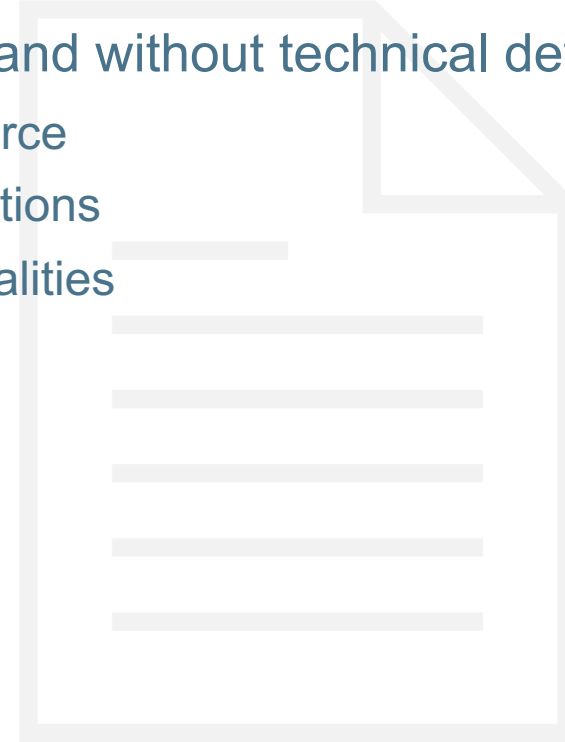


Process flow: Gathering information

- End user's needs
 - Dashboard content
 - Visualizations
 - Timelines
 - Data source
- Discussion
 - Points of attention and potential challenges
 - Input from other SGS teams

Process flow: Creation of specifications

- Descriptive and without technical details
 - Data source
 - Visualizations
 - Functionalities



Challenge 2

- Specifications too abstract
- Requests for updates after programming and internal validation done
- Additional programming and validation effort
- Study timelines extended for release in production



Bridging the gap – Second solution

➤ Mock visualizations

- Available test data / new test data
- Advantages
 - End user – better insight
 - Programmers – “test phase”
 - Updates can be made earlier
 - No discussion after programming and internal validation



Custom dashboard specifications

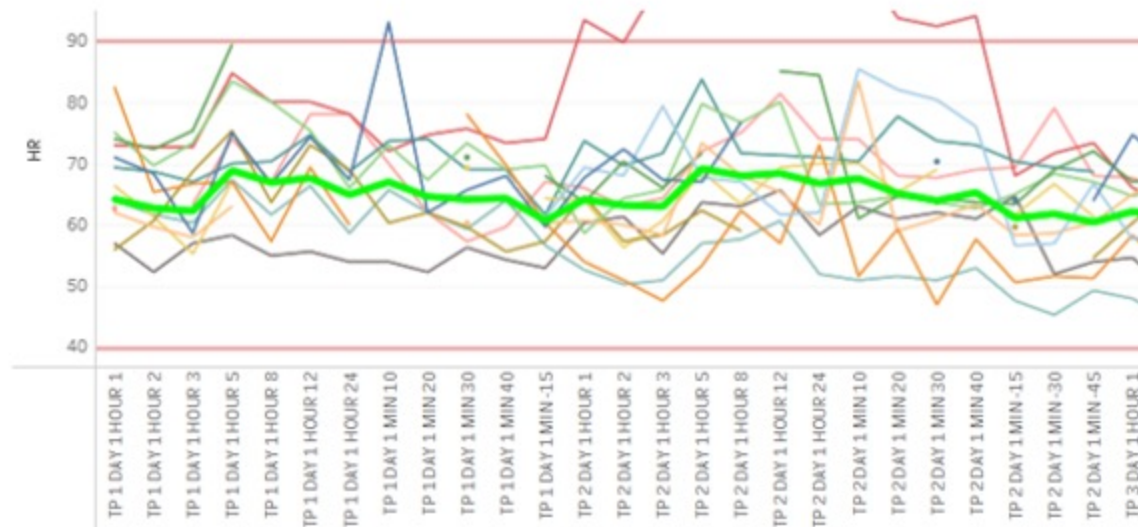
Data source: ECG Data csv. file+ SUPPDM (SDTM datasets)

For all graphs, the average value of all repetitions per visit/timepoint and subject will be taken.

Line plots – with filter allowing to change between the views:

1. View per subject (y-axis – test result + lines indicating the lower and upper limit of the normal range; x-axis – visit/timepoint name)
 2. Mean profile of selected subjects (y-axis – test result + lines indicating the lower and upper limit of the normal range; x-axis – visit/timepoint name)
 3. View per subject + mean profile
- Filters: cohort, subject name, test; possibility to display multiple tests
 - Display options: absolute value or change from the baseline

Example view:



Process flow: Dashboard creation

- Test data structure
 - Stable
 - Like the future production datasets

DEV



Process flow: Validation

- Internal

- Against the specifications
- Content
- User experience

TEST

- End user

- Sufficient time
- Real feeling
- Including dashboard description
- **Demo environment**

Challenge 3

- Test data
 - Enough available
 - Information covered
 - Correct structure
 - Not necessarily resembling live data
- No real-life experience for end user during validation
- Requests for updates once the dashboard has been released in production



Bridging the gap – Third solution

➤ Test data

- Reflecting real-life situation
 - Number of visits/assessments
 - Chronology
 - Realistic values
- Dashboard for validation resembling the production one

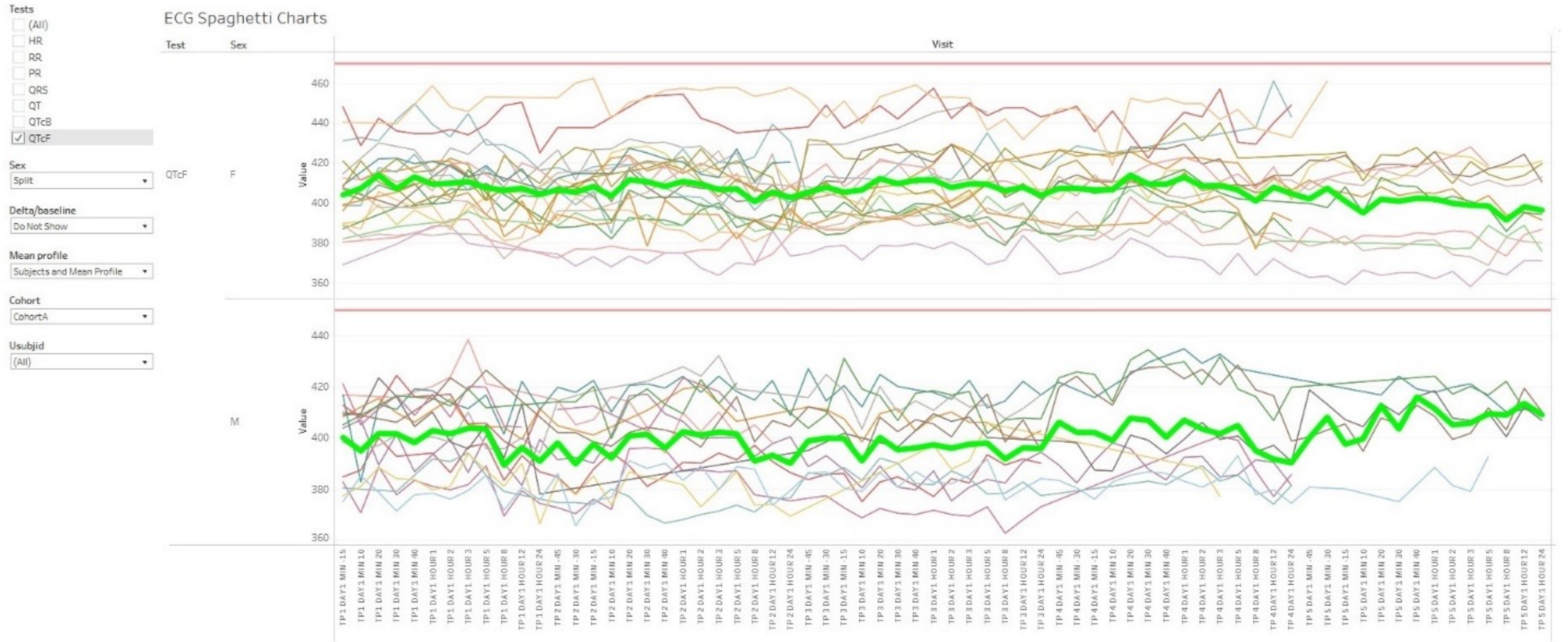


Process flow: Release in production

- If needed, previous steps repeated until dashboard approved
- Another check by SGS team with the first release with production data

PROD

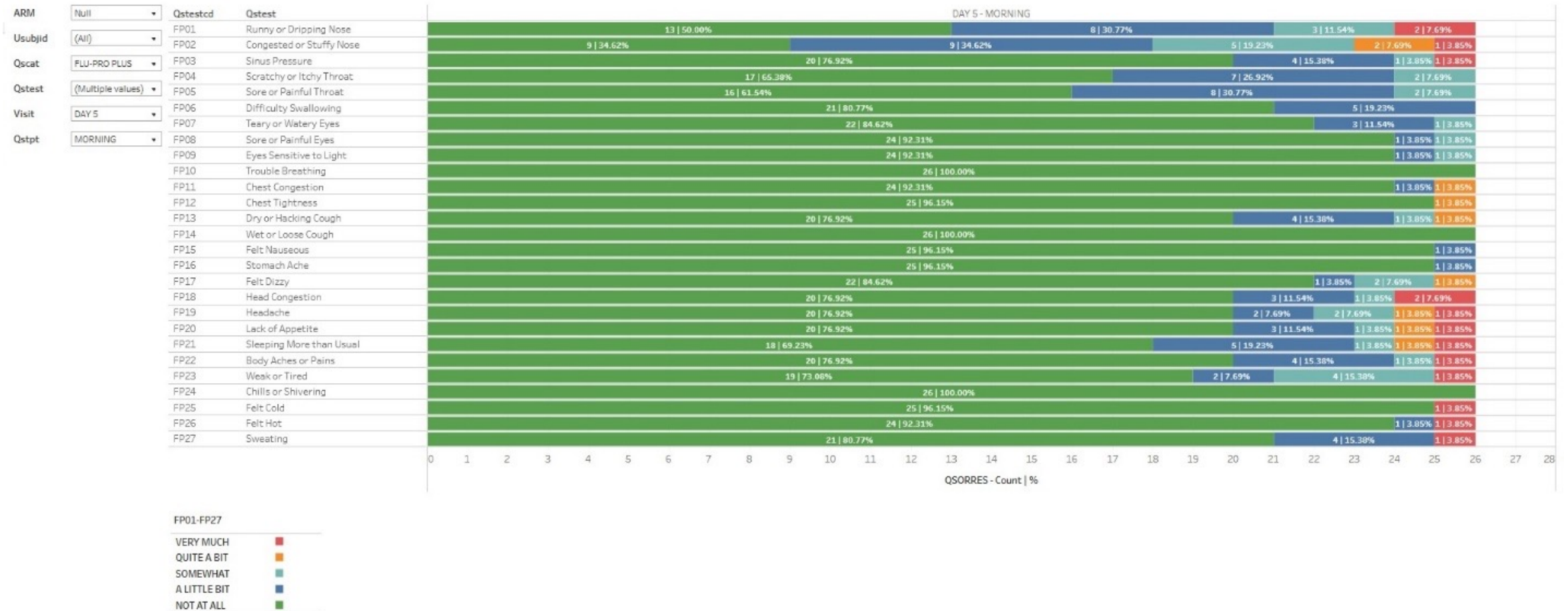
Example custom dashboards (based on test data)



Example custom dashboards (based on test data)



Example custom dashboards (based on test data)



Conclusion

- Custom dashboards – advantages
 - Tailored to needs
 - Various data sources
 - Can be standardized and re-used
- Tableau coordinator - added value
 - Pro-active approach
 - Clear communication
 - Understanding of each other's needs
- Bridging the gap – custom dashboards
 - Creation of specifications → Mock visualizations
 - Dashboard creation / validation → Test data closely resembling the real study data





Questions?

Visit us at booth 36

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