Enhancing Data Characterization through Annotation

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Background

Annotating data characterization is crucial for capturing subject matter expertise and improving the reliability of analysis. Relying solely on automated algorithms can lead to limited accuracy and misinterpretations, especially with complex or domain-specific data. Incorporating subject matter experts brings valuable insights, enabling the identification of subtle patterns and nuances to refine the characterization process. Collaboration between annotators and experts enhances data analysis, facilitating informed decision-making and advancements in specific domains.

Methods

To involve subject matter experts in data characterization, annotation features have been added to the ARES platform. The user interface allows experts to select sections of data characterization results on charts and provide descriptions and contextual notes. Interactive functionalities like click-and-drag have been implemented to mark regions of interest. A text input field accommodated short annotations and longer descriptions, tailored to the level of detail required for various characterizations. The annotations and notes are stored and associated with specific chart sections to maintain context.

Results

The integration of annotation features in the ARES platform create a user-friendly interface that facilitate active engagement of subject matter experts in data characterization. Screenshots illustrate the outcome of the annotation functionality, displaying the chart display and the ability of experts to interact directly with the charts. The annotation functionality allows experts to provide descriptions and contextual notes related to selected sections, seamlessly integrating their domain-specific knowledge into the user interface. The storage and association of annotations with chart sections ensure easy retrieval and reference of expert contributions. Annotations can be exported and shared for additional collaboration opportunities.

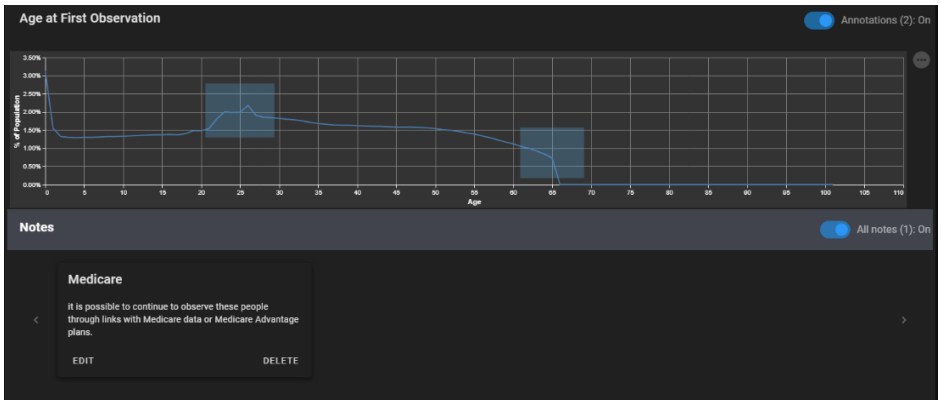

Figure 1 – Feature Demonstration Overview: Overview of the feature integration with ARES charts showing multiple selection areas, toggles for annotations and notes and additional note display.

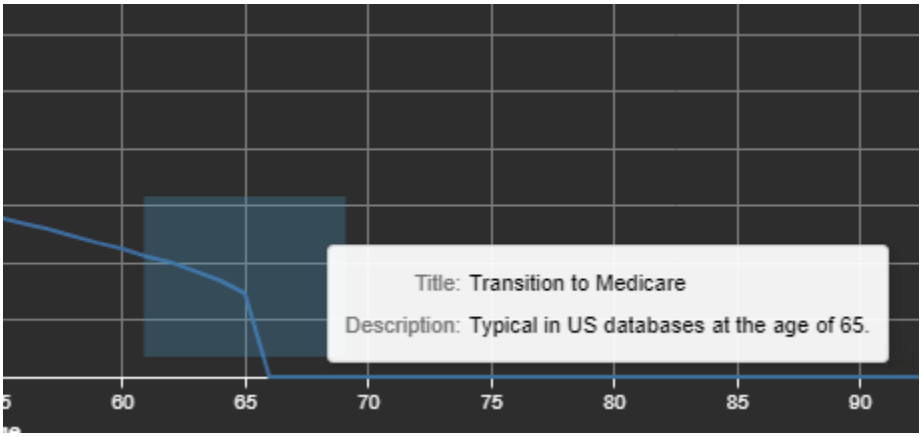

Figure 2- Annotation Selection Tooltips: Interactive tooltips display brief information during mouse interaction with selected area.

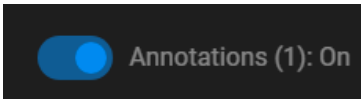

Figure 3 – Annotation Display Toggle: Toggles the visibility of annotations and displays a count of all available annotations to ensure visibility to existing content when hidden.

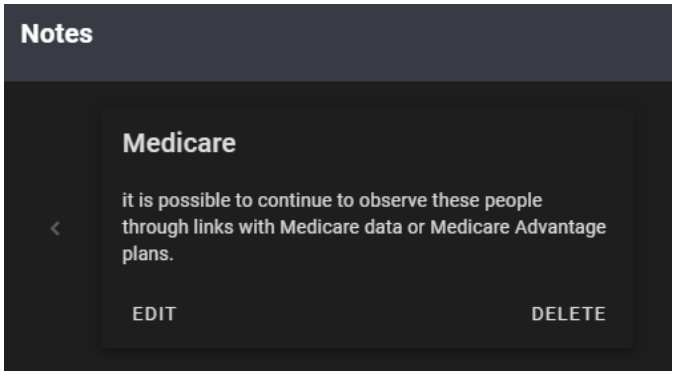

Figure 4 – Additional Notes Feature: More descriptive notes can be attached to selections providing a better experience for reviewing longer content.

Conclusion

The addition of annotation features to the ARES platform successfully empowered subject matter experts to actively participate in data characterization. The user interface facilitated the selection of sections, enabling descriptions and contextual notes that enhanced data understanding and interpretation. By leveraging subject matter expertise, the integration of annotations improved the reliability and quality of data analysis, contributing to informed decision-making and research advancements within specific domains.

References

1. ARES (https://github.com/ohdsi/ares)
2. Achilles (https://github.com/ohdsi/achilles)
3. Data Quality Dashboard (https://github.com/ohdsi/dataqualitydashboard)