Dynamic Display of Patient Profiles

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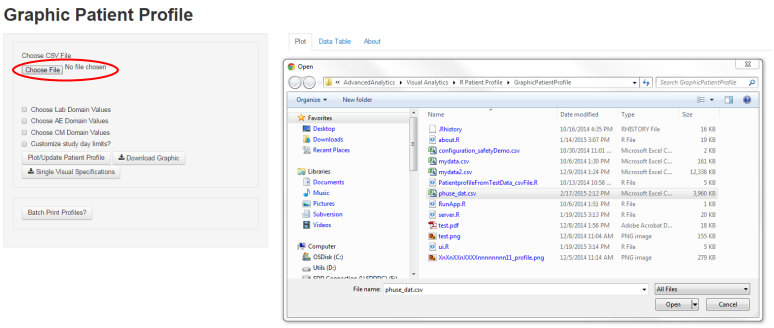
Introduction

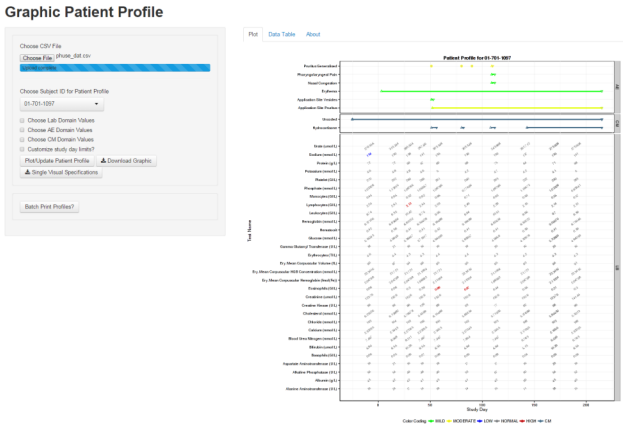
This presentation will focus on a specific tool that allows users to upload data and choose a patient for a graphic patient profile. We will show how a graphic patient profile could be easily created based off SDTM or ADaM data and the features users interact with in order to thoroughly review their data. The data used in this poster was ADaM data from the PhUSE script repository.

What is a graphic patient profile and why do we want to use it?

A graphic patient profile displays patient data from a clinical trial along a common time axis, providing an instant overview of a patient's information over time. For example, the visual will show an event's duration with a line segment and the severity by the line's color. Single point data such as laboratory data is displayed by a number or symbol colored to indicate out of range values. A graphic patient profile makes it easy to see the relationships between events by visually showing reviewers the timing of each event on a single set of axes.



Use the URL to open the tool. Once in the tool, click "Choose File" in order to upload data that will be used to create the graphic patient profiles. Navigate to the file. Select it and click "Open".



Drop down "Choose Subject ID for Patient Profile" to choose a subject.
Click "Plot/Update Patient Profile" to display the subject's visual.

Use filter panel to remove a domain, select all values in a domain, or choose specific domain values. Click "Plot/Update Patient Profile" to view new visual.

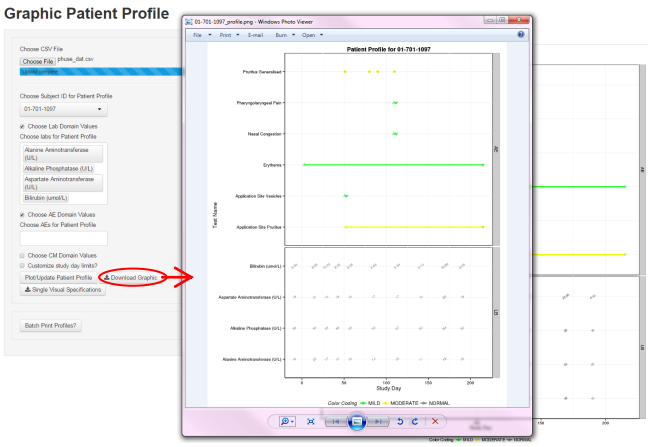
Why do we want an interactive graphic patient profile?

Interactive visuals allow users to customize the display by click of a button, keying in texts, etc. One interface can replace hundreds of static displays. Reviewers can obtain on-demand displays as they review data. Compared to traditional static displays, interactive visuals bring a much improved and more efficient review experience. Many industries have moved to interactive visualizations and these types of visuals should also be the future of clinical trial data display.

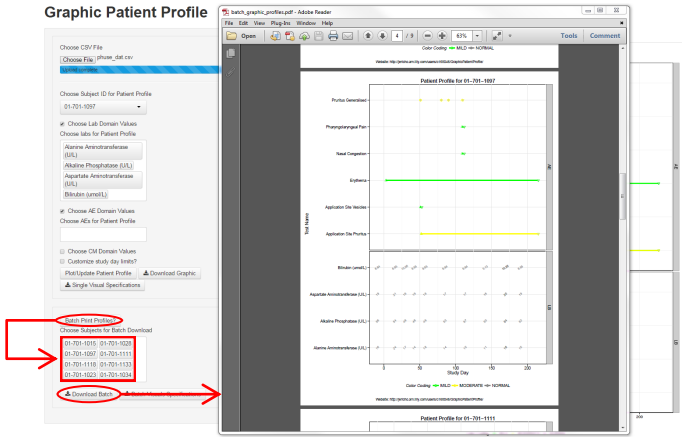
What is R shiny?

Shiny is an R package that allows programmers to create interactive applications from R and use them through the internet.

The data was pre-processed in SAS 9.2. The visuals in this poster were created using the R libraries shiny and ggplot2.



Choose "Download Graphic" to download the graphic patient profile meeting the current filter panel requirements into a PNG file.



Choose "Patch Print Profiles?" to select multiple subjects and download their graphic patient profiles into a single PDF.

Summary

Other applications, such as JMP and Spotfire, have the capability to create interactive graphic patient profiles, but they cost money. R is a free software that provides flexibility that paid-for software does not necessarily provide. The graphic patient profiles in this poster were created from ADaM datasets found in the PhUSE repository with little data processing beforehand. The final code can be standardized and stored in the PhUSE Script Repository for use across industry and academia.

References:

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