



MDM 2025

*SPA and Friends
Hands-On Workshop:
Chatting with your Data*



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June 10, 2025



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Today's Schedule:

Overview



Intro + Overview



Hands-On Activity



Open Discussion



Wrap Up (Overflow)



1:00pm – 1:10pm



1:15pm – 3:00pm



3:00pm – 3:30pm



3:55pm – 4:00pm

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Preamble:

Building AI Experience for the Future



AI is Transforming..... Everything



Most are familiar with conversational AI (e.g., www.chatgpt.com) for *routine tasks*






Ability to enhance productivity and efficiency *in our actual day to day tasks*



Understand their limitations, risks and fit



Like any *new tool*, we must invest time to develop proficiency

-  Build experience and intuition through hands-on experimentation - **Today!**
-  Apply and Extend Your Learnings – **Near Future!**
-  Embrace New Ways of Working - **Future!**

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Overview:

Stage Setting

PhUSE 2014

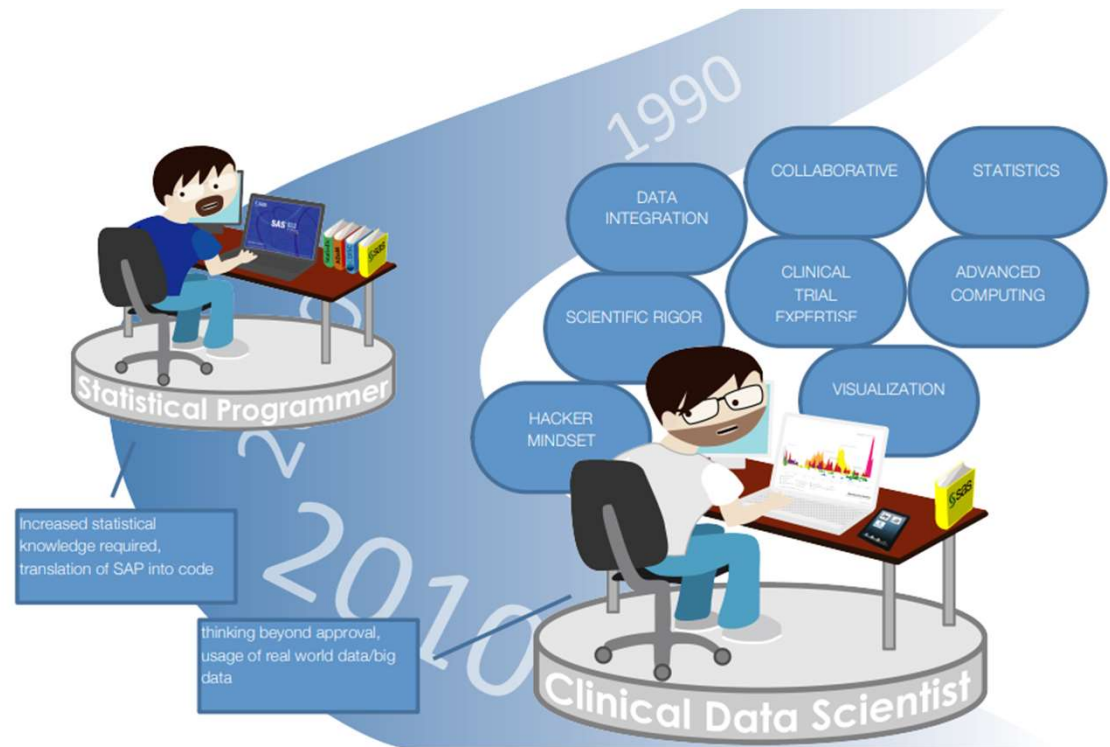
Paper PD08

Managing the Change – Evolving from Statistical Programmers to Clinical Data Scientists

Sascha Ahrweiler, Bayer Healthcare, Wuppertal, Germany

ABSTRACT

Working as a statistical programmer in the pharmaceutical industry comes along with working in a rapidly changing environment. Frequently updated regulations, cost efficient outsourcing opportunities, and the evolution of standards are just some of the challenges pharmaceutical companies are currently facing. Such challenges should be perceived as positive that come with new opportunities. Statistical programmers often have the right mix of an analytical mindset and thorough understanding of data structures and contents. Statistical programmers employed at pharmaceutical companies may have the opportunity to evolve to new roles and acquire a broader understanding of data as an asset for the company. Advanced analytical skills and tools will be required for the next evolutionary step as well. This paper outlines how leadership can support the development of statistical programmers towards a new strategic role which might be termed Clinical Data Scientists.



[Link to Paper](#)

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Overview:

The Next Evolution?



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Today's Mission

Roll up your sleeves



A “sandbox” application for you to experiment with AI has been setup!



It will allow you to **chat** naturally and **interact** with a few clinical trial data themes

- **Patient Exploration:** ADSL

- **Safety:** ADAE

- **Efficacy:** ADTTE, ADRS



Real data exploration and insights without the complexity

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Sandbox App

- 1) Chat Interface (sidebar)
- 2) An Interactive Data Table (filterable)
- 3) A few interactive visualizations

AI Workshop: ADSL Group

HI 🌟 Welcome to the SPA & Friends Hands-On AI Workshop!

You can use this sidebar to interact and filter the clinical trial data based on the columns available in the `adsl` table. Here are some examples of the kinds of questions you can ask me:

1. Filtering: Show only female subjects over 65 years old.
2. Answer questions about the data: What is the mean age for female and male subjects?

You can also say **Reset** to clear the current filter/sort, or **Help** for more usage tips.

whats the average age of males and females

The average age of females is approximately 75.17 years, and the average age of males is approximately 74.98 years.

I used the following SQL query to calculate this:

```
SELECT SEX, AVG(AGE) AS average_age
FROM adsl
GROUP BY SEX
```

SEX	average_age
F	75.17
M	74.98

Enter a message...

Total Patients
306

Total Arms
4

Total Completers
110

Data Table View

USUBJID	ARM	AGE	AGEGR1	SEX	RACE	ETHNIC	SMOKER	ALCOHOL	HEIGHTBL	WEIGHTBL	BMIBL
01-701-1015	Placebo	63	18-64	F	WHITE	HISPANIC OR LATINO	Never	Never	159.1	59.4	23.5
01-701-1023	Placebo	64	18-64	M	WHITE	HISPANIC OR LATINO	Current	Former	180	81.3	25.1
01-701-1028	Xanomeline High Dose	71	>64	M	WHITE	NOT HISPANIC OR LATINO	Never	Never	172.8	75.1	25.2

Viewing rows 1 through 3 of 306

Custom Scatter Plot

SEX: F (blue), M (red)

Custom Bar Chart

Bar chart of ARM

ARM	Count
Placebo	86
Xanomeline High Dose	84
Xanomeline Low Dose	84
Screen Failure	52

1

3

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Sandbox App Filtering

★ 1) All dashboard elements updated!

filter for females 65 years of age or older

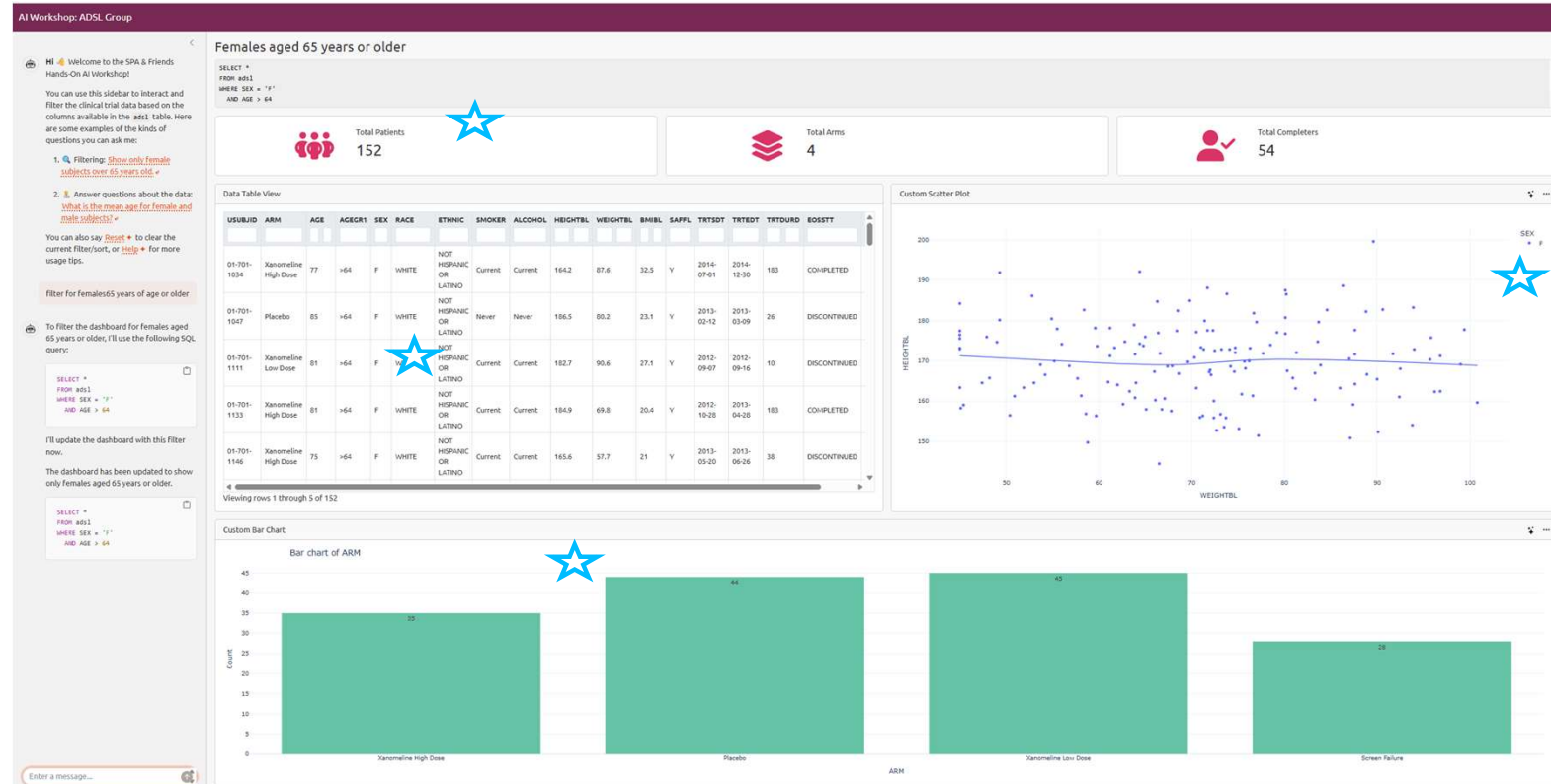


To filter the dashboard for females aged 65 years or older, I'll use the following SQL query:

```
SELECT *
FROM ads1
WHERE SEX = 'F'
AND AGE > 64
```

I'll update the dashboard with this filter now.

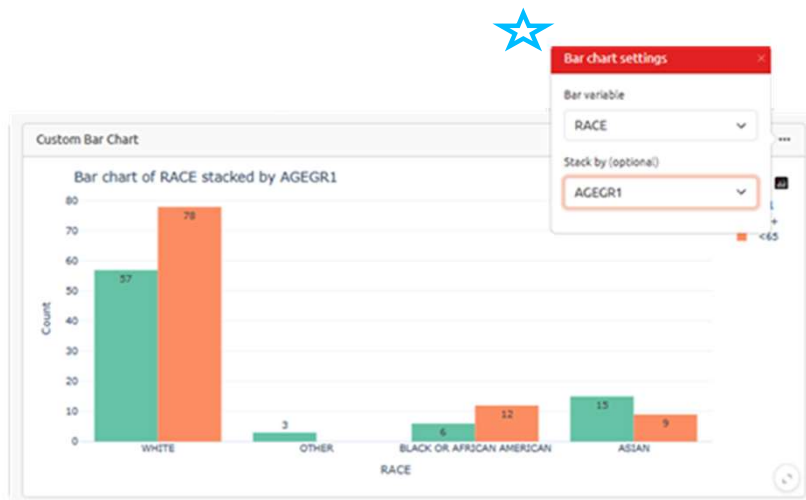
The dashboard has been updated to show only females aged 65 years or older.



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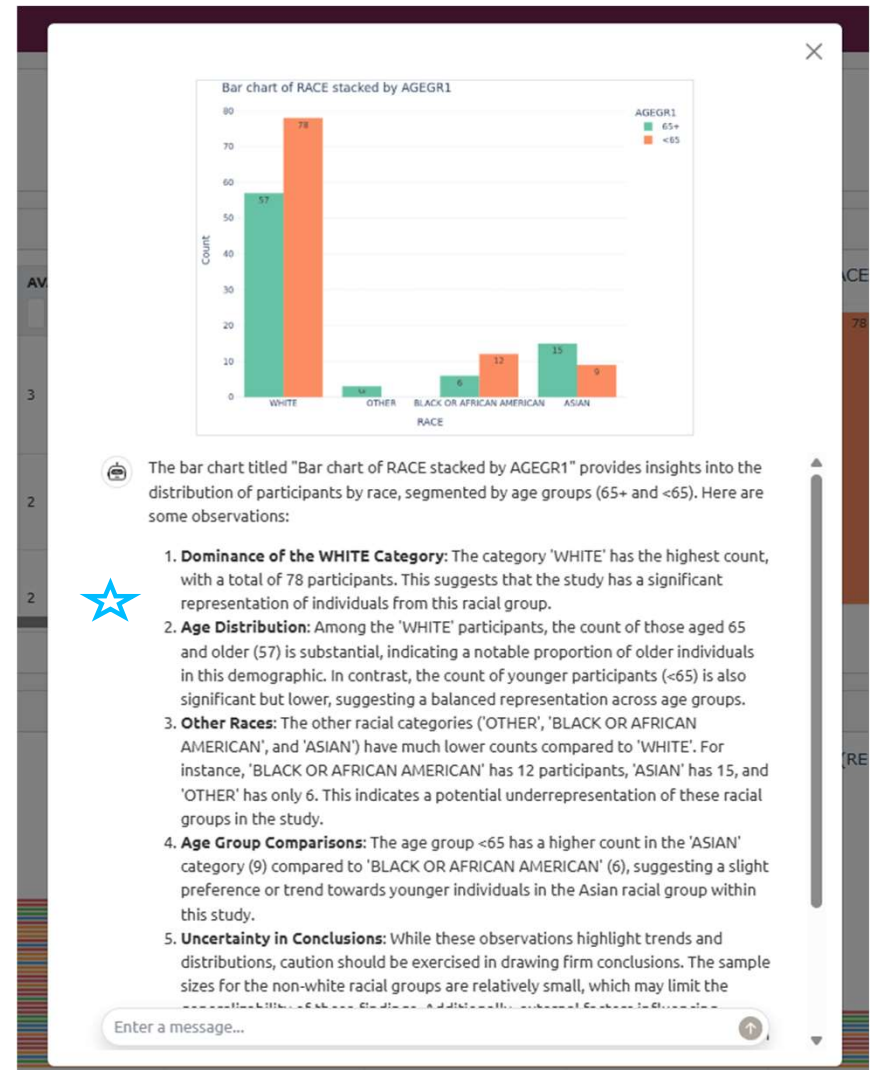


Sandbox App Visualizations



1) Visualization (Configurable)




1) Image Interpretation



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Exercise: Open Format Exploration

-  Investigate - Get comfortable with AI chat interfaces, build intuition and experience
-  Dig Deeper - Ask basic questions, build up to complex ones, find insights, use domain expertise!
-  Apply - Use insights to understand and solve real problems

Be prepared to share at least one experience related to these themes in the open discussion:

- 1) **What worked well:** What did you find? What surprised you? Find something cool? Examples
- 2) **What didn't work so well:** Where did AI have an issue? Or the app? Examples
- 3) **Future-focused:** How do you envision AI transforming parts of your current tasks? Examples

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App Links 🌐

🔗 ADSL: go/mdm-adsl

🔗 ADAE: go/mdm-adae

🔗 ADTTE: go/mdm-adtte

🔗 ADRS: go/mdm-adrs

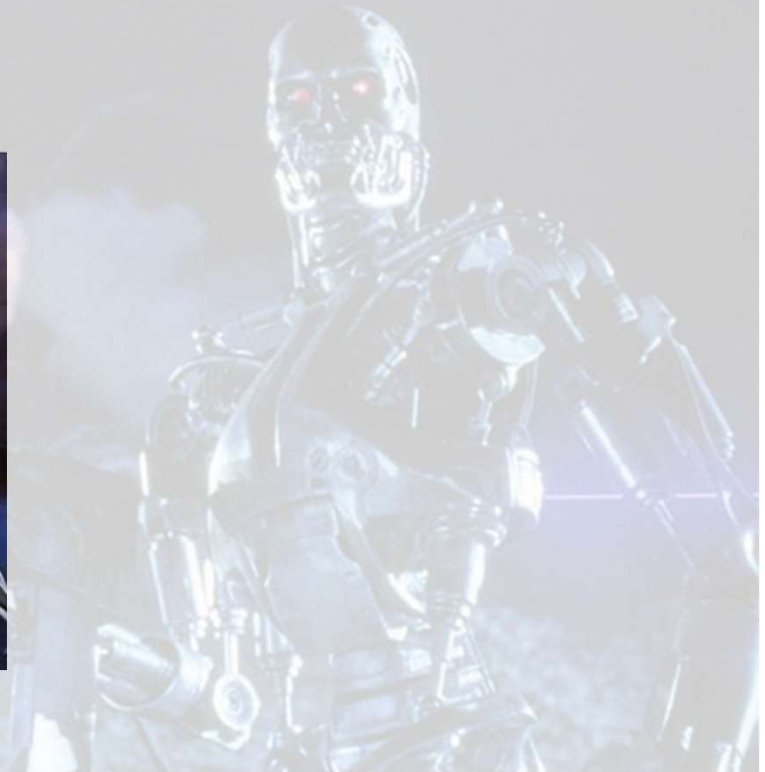
- 🧪 Experiment **boldly** - there's no wrong way to explore
- 🤝 Ask for help - we're here to support you
- 🎯 Focus on the journey - *how* you get answers matters

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How Was It?

John Connor watching y'all make friends with AI



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Open Discussion

What worked well: What did you find? What surprised you? Find something cool? Examples

Use Flipcharts in Room and take pictures for these slides

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Open Discussion

What didn't work so well: Where did AI have an issue? Or the app? Examples

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Open Discussion

Future-focused: How do you envision AI transforming parts of your current tasks? Examples

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Thank You!



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