



2023

US

INTERCHANGE

FALLS CHURCH, VA | 18-19 OCTOBER





# Meet the Speaker

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**Organization:** Atorus Research

I'm Zelos Zhu, a Data Solutions Engineer at Atorus Research, where I have the privilege of serving as a core developer for the R-Package, Admiral. My journey into clinical trials began as a Research Assistant at UCSF Breast Care Center and later as a Clinical Data Scientist at Boehringer Ingelheim, where I worked primarily on early phase oncology trials. When I'm not delving into the intricacies of data, you'll often find me pursuing my passions such as: cooking up delicious meals, embarking on breathtaking hikes, scaling V2s at the local bouldering gym, or working my way to 100 on a golf course.



# Disclaimer and Disclosures

- *The views and opinions expressed in this presentation are those of the author(s) and do not necessarily reflect the official policy or position of CDISC.*
- *The author has no real or apparent conflicts of interest to report*



## Agenda

1. What is Admiral?
2. Why use Admiral?
3. Admiral Core Values
4. Future of Admiral

# What is Admiral?





# What is admiral about?

Admiral is an **open source modularized toolbox** that **enables companies and communities** to develop ADaM datasets in R.



Think of **admiral as a toolbox of modular** blocks (toolbox of R functions) →

- each block has a **stand alone** purpose (each function provides a specific functionality)
- Data Scientists can create their **own** blocks (create own R functions)

Constructing an ADaM dataset should become like building out of blocks that are based on admiral modular functions and user-created modular functions.



```
create_advs (  
  vs,  
  param_01 = ,  
  param_02 = ,  
  .../  
  param_99 =  
)
```



```
vs %>%  
  derive_var_a() %>%  
  derive_var_b() %>%  
  derive_param_x() %>%  
  ...
```



# Why use Admiral?







# Why admiral?

Across the pharmaceutical industry we all face the same challenge when it comes to analysis and creating ADaM datasets!

- We all work on our own “standard solutions” for ADaMs
- We all face the challenge of a changing and novel data landscape
- New therapeutic areas and analysis concepts
- Individual “blackbox” solutions instead re-use , co-creation and sharing
- We tend to see siloed and hierarchical approaches as more efficient

# Way to go!



Enable



Collaborate and contribute



Co-create and re-use

# What's in for you?



- **As a company:** **harmonization and robustness**
  - A robust framework for R-based ADaM shared ready-to-use modules
  - Imagine ADaM code becomes more transparent across the industry (QC, readable code, talent flow ..)
- **As a Data Scientist:** **contribute to something bigger**
  - An option to make a name for yourself in the Pharma open-source community (i.e. an extension of just sharing a paper), and an avenue to collaborate with other like-minded people across the world
  - Share, re-use and inheritance as a community instead of re-inventing the analysis for each study
- **Patients & Society:** **concentrate on the right work**
  - If we can collectively reduce the burden of ADaM across-industry, imagine the data scientist skills and resources this unleashes towards making more with the insights of our data, and the speed at which we're able to bring treatments to patients

# Admiral Core Values

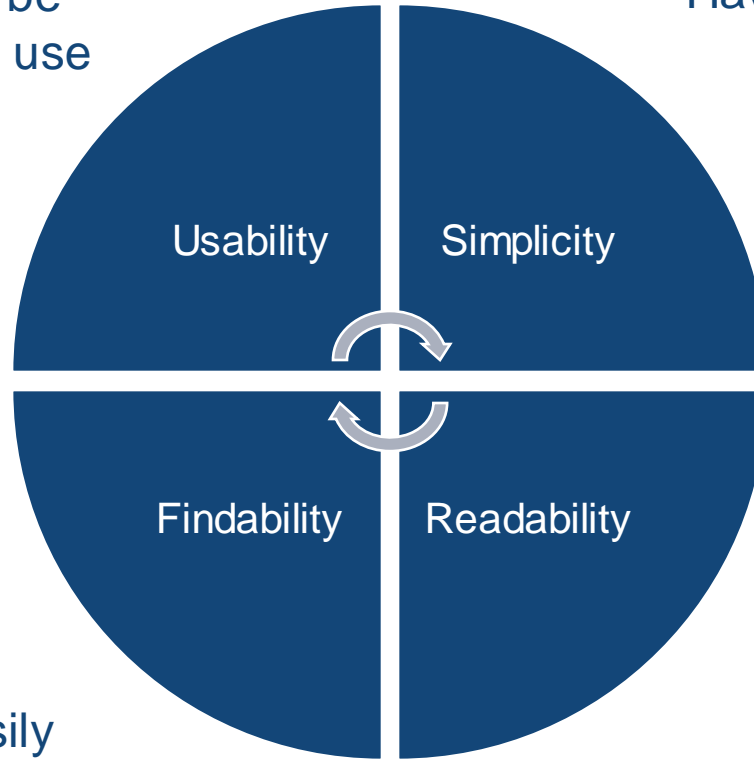




# Manifesto: All Admiral Functions

Should be  
easy to use

Have a clear  
purpose



Are easily  
findable

Follow a  
Programming Strategy



# Example Functionality

Derive/Impute Numeric  
Date/Time and Analysis Day  
(ADT, ADY, ADTF, ...)

derive\_vars\_dtm  
derive\_vars\_dy

Example Call

```
derive_vars_dy( datain, reference_date = TRTSDTM, source_vars = exprs(TRTSDTM, ASTDTM, AENDT) )
```

TRTSDTM	ASTDTM	AENDT	TRTSDY	ASTDY	AENDY
<dtm>	<dtm>	<date>	<dbl>	<dbl>	<dbl>
2014-01-17 23:59:59	2014-01-18 13:09:09	2014-01-20	1	2	4

Functions are developed, documented, and unit-tested by admiral core team  
Open-source team allows iteration to address user needs over time



[ADaM in R Asset Library •  
admiral \(pharmaverse.github.io\)](#)

# Future of Admiral





# Release v1.0.0 – Coming Dec 2023



Focus for {admiral} 1.0 will be the release of a “mature” package users can reliably adopt to start a study and use across the lifecycle of the study

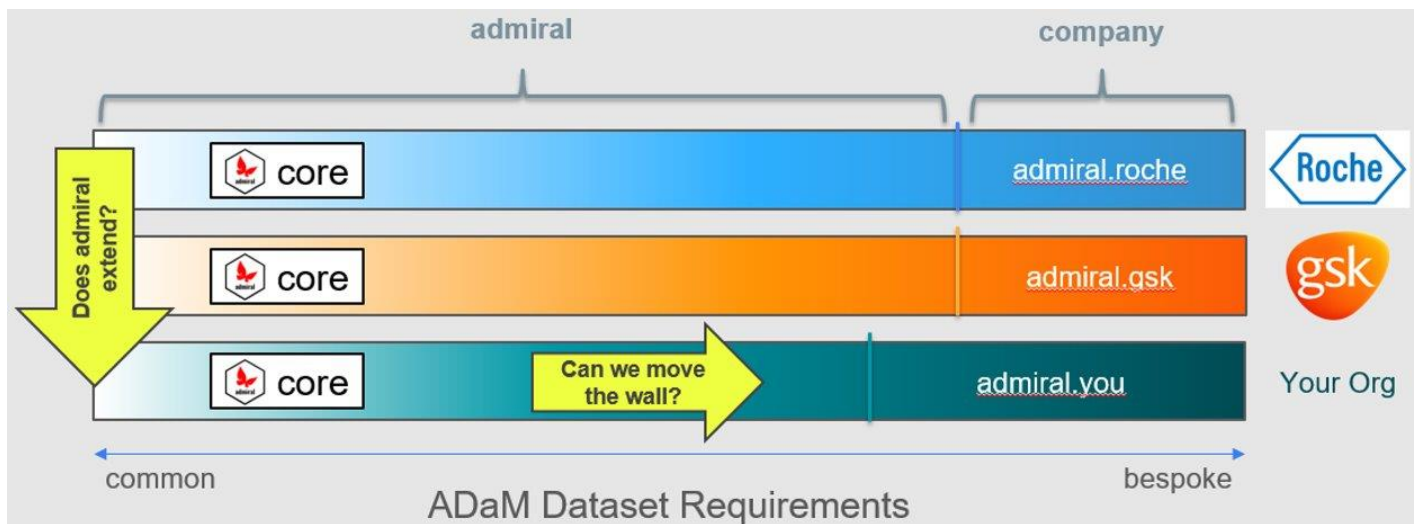


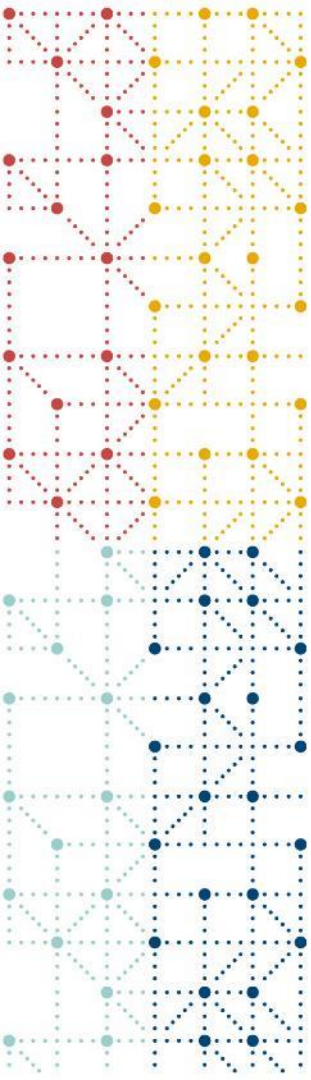
Once released, aiming for enhancements, avoiding future breaking changes, emphasizing superseding functions instead of full-deprecation process



Release schedule for 2024 will slow down towards consolidation of existing functionality and improve documentation

# How we see industry collaboration working?





**Thank You!**

