



SOLAR powe-R: an analysis of clinical data reporting using R

Jack Hodgkinson and Matt Bearham

Agenda

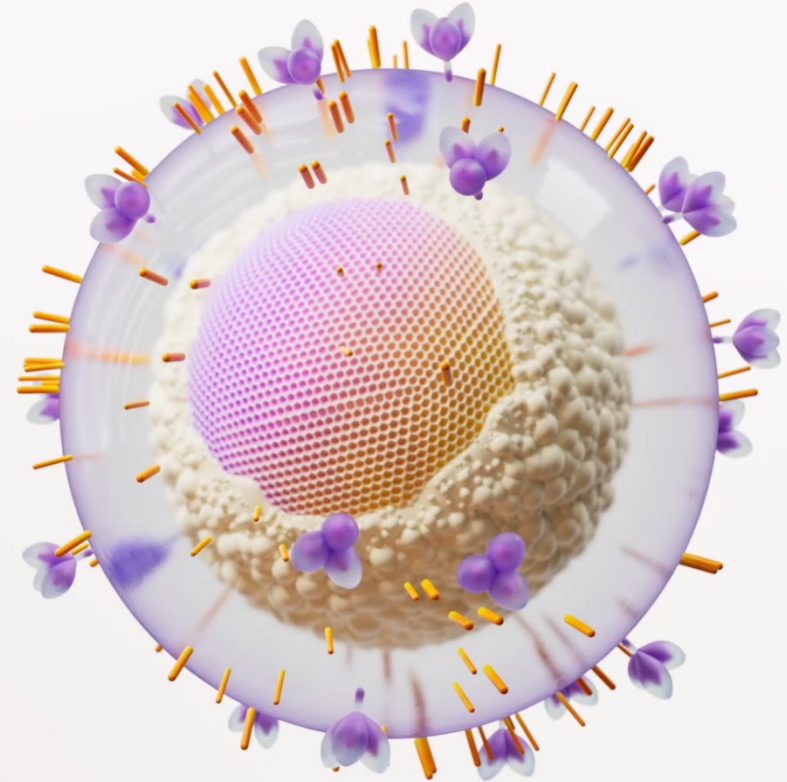
Topics to be discussed

1. Introduction to SOLAR
2. SAS vs R
3. Language Adoption
4. Tools
5. Closing Remarks

Introduction to SOLAR

What is SOLAR?

- Investigating long-acting HIV medication Cabenuva
- Phase IIIb HIV Study - injectable *Cabenuva* vs daily oral *Biktarvy*
- First GSK study to use R for production



SAS vs R

Language Strengths and Weaknesses

SAS

- ↑ Professional support
- ↑ Approved by regulators
- ↑ Reliably performs statistical methods
- ↓ License is costly

R

- ↑ Open-source
- ↑ Easier debugging
- ↑ Tidyverse syntax
- ↓ Changes with releases

R Adoption

Successes and Challenges

Successes

- R easier to learn than SAS for new programmers
- Large online R community
- Convenience of Posit

Challenges

- Lack of regulation for external packages
- Different syntactically from SAS
- Data handling – column vs row

Tools

Accommodating Process Change

GitHub



- Branches mirror 'reporting effort' structure
- IDE integration
- Concept of git confusing

Current A&R Platform



- Built around SAS



SPACE

Statistics & Programming Analytics Computing Environment



Closing Remarks

Our Findings

Learning curve for new
processes

Expanding the data
science toolkit

Start of a new future for
clinical reporting

Questions?

GSK