

R we there yet?

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Statistical Programmers

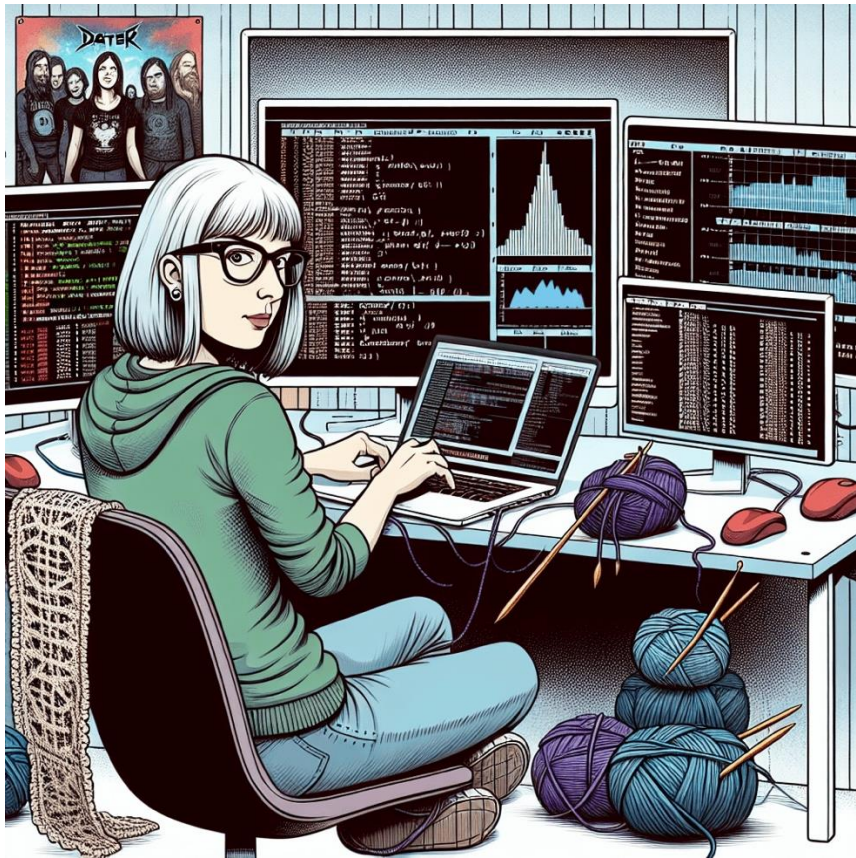
10 October 2024

Dermatology
beyond the skin

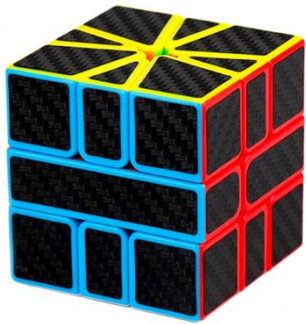


The presenters

Ida



Anne



The audience

- How many code in R?
- How many prefer R over SAS?
- How many prefer SAS over R?
- How many work with validation of R packages?

Interest in R for regulatory work – First plan

- Where?
 - Statistical computing environment – LSAF
- How?
 - Start with parallel programs for QC
- Result?
 - The R version was not as new as we wanted
 - The solution did not fulfil our needs



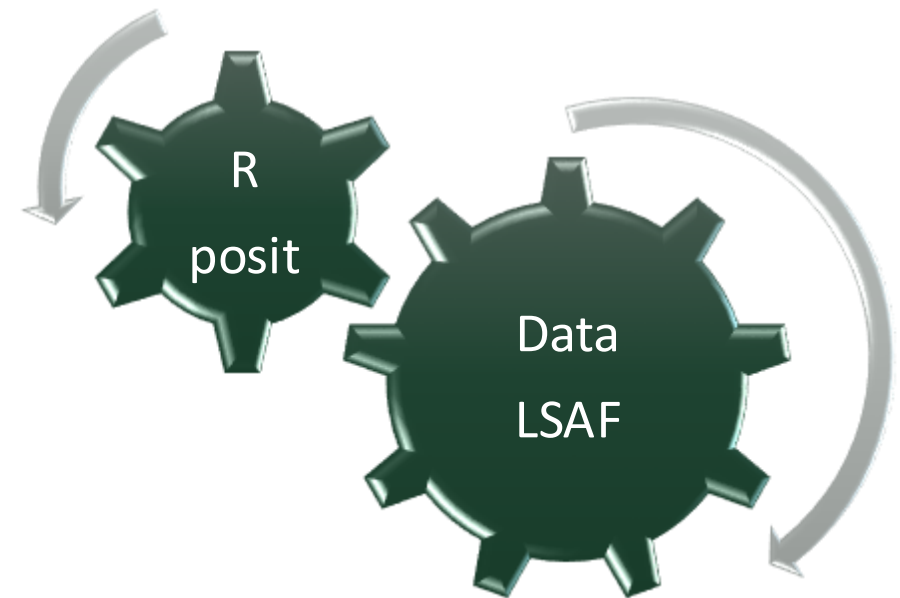
Inclusive thinking

- R is already used by multiple functions
- Scoping project started to identify needs
- Many functions = many varying needs



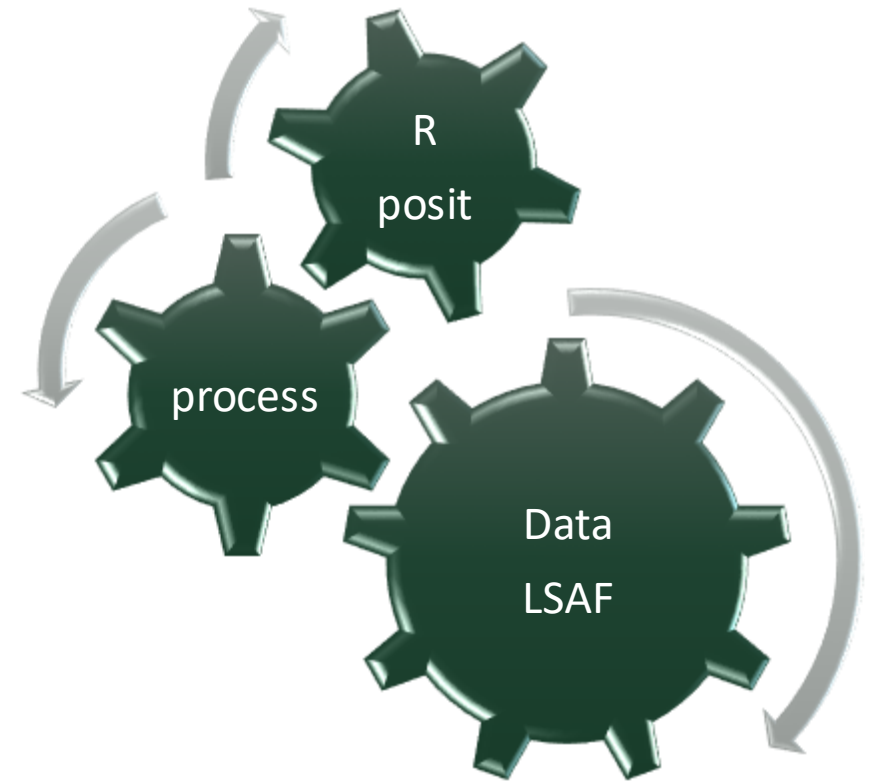
Second plan

- Use Statistical computing environment – LSAF as data repository
 - Access control
 - Data integrity (versioning)
- Use Posit (former R studio) for R programs
 - Focus on a set of validated R packages
 - Many discussions about governance and validation of packages



Second plan

- Use Statistical computing environment – LSAF as data repository
 - Access control
 - Data integrity (versioning)
- Use Posit (former R studio) for R programs
 - Focus on a set of validated R packages
 - Many discussions about governance and validation of packages
- Process control will be instrumental in linking the work in the two separate systems



Inclusive thinking

- R is already used by multiple functions
- Scoping project started to identify needs
- Many functions = many varying needs
- And then more urgent needs appeared



Trial need driving fast implementation

Adolescent trial (age 12 – 17)



Trial need driving fast implementation

Adolescent trial (98 randomized)



Pivotal trials (960 randomized)



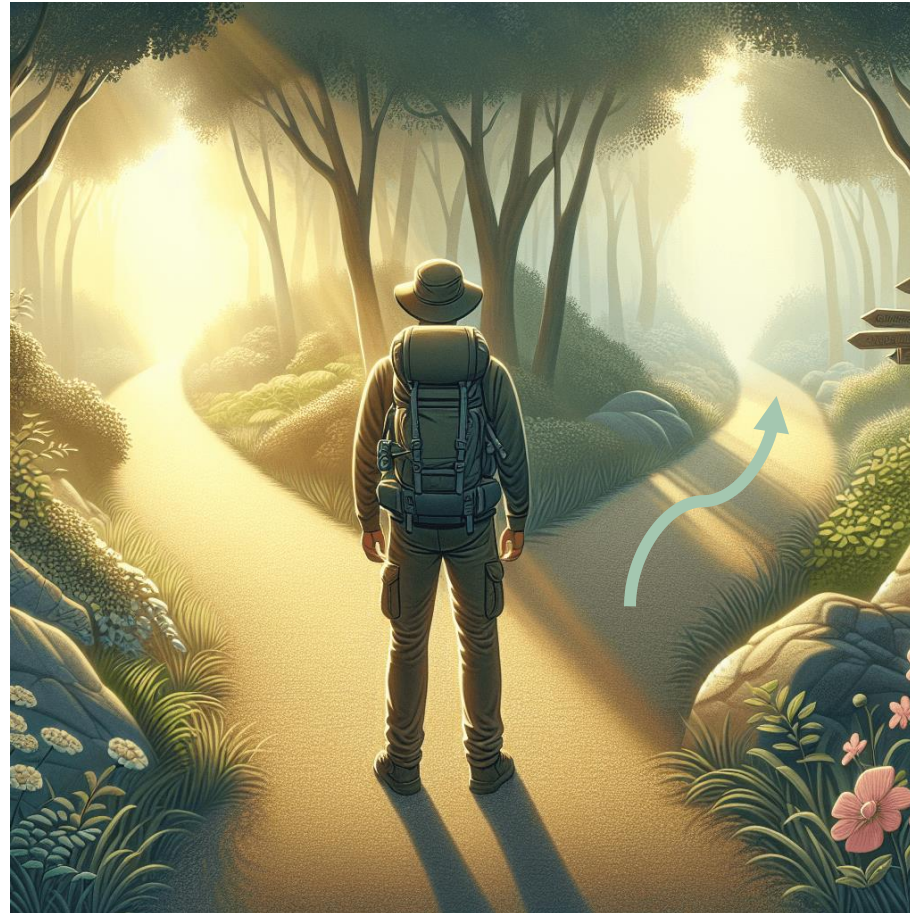
Baysian approach for
efficacy endpoints

Trial need driving fast implementation

Use SAS software

Validated system

No procedure

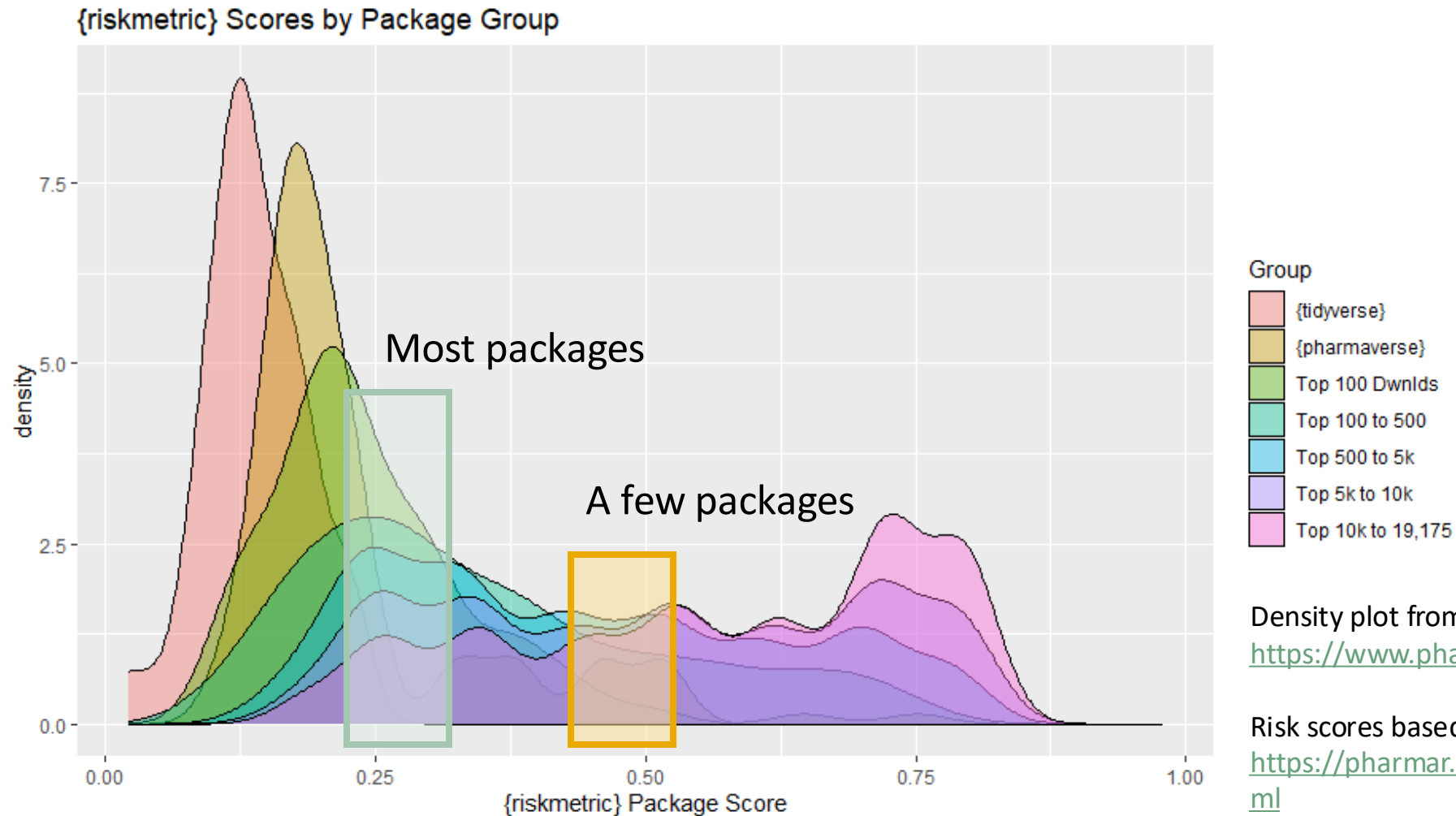


Use R

No validated system

Existing R package

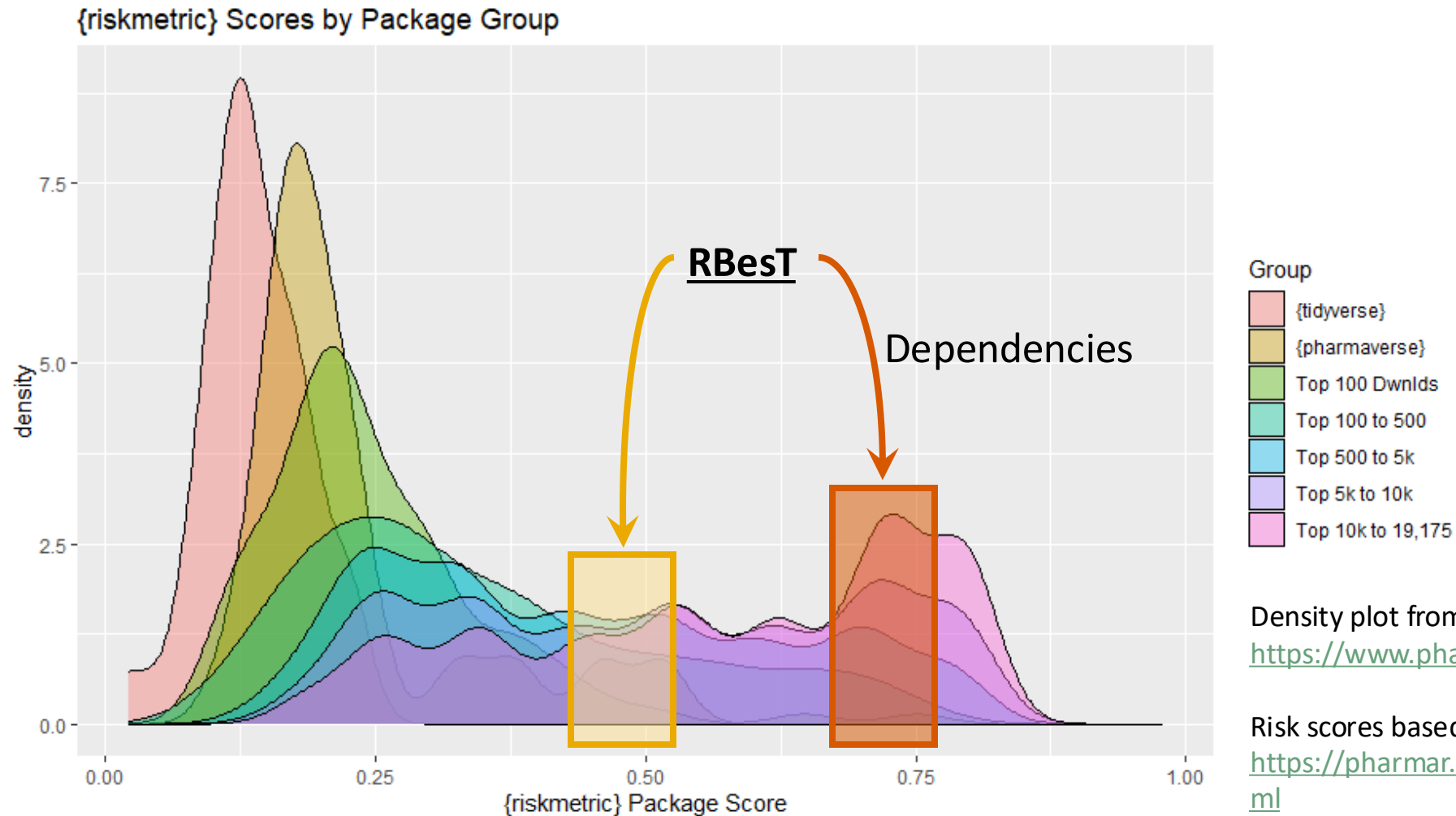
Risk score for required packages:



Density plot from R validation hub:
<https://www.pharmar.org/riskmetric/>

Risk scores based on the {riskmetric} tool:
<https://pharmar.github.io/riskmetric/index.html>

Risk score for required packages:

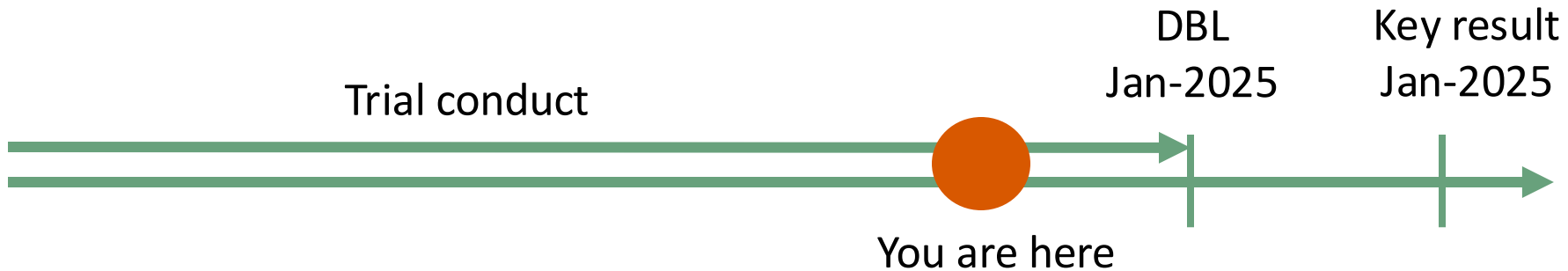


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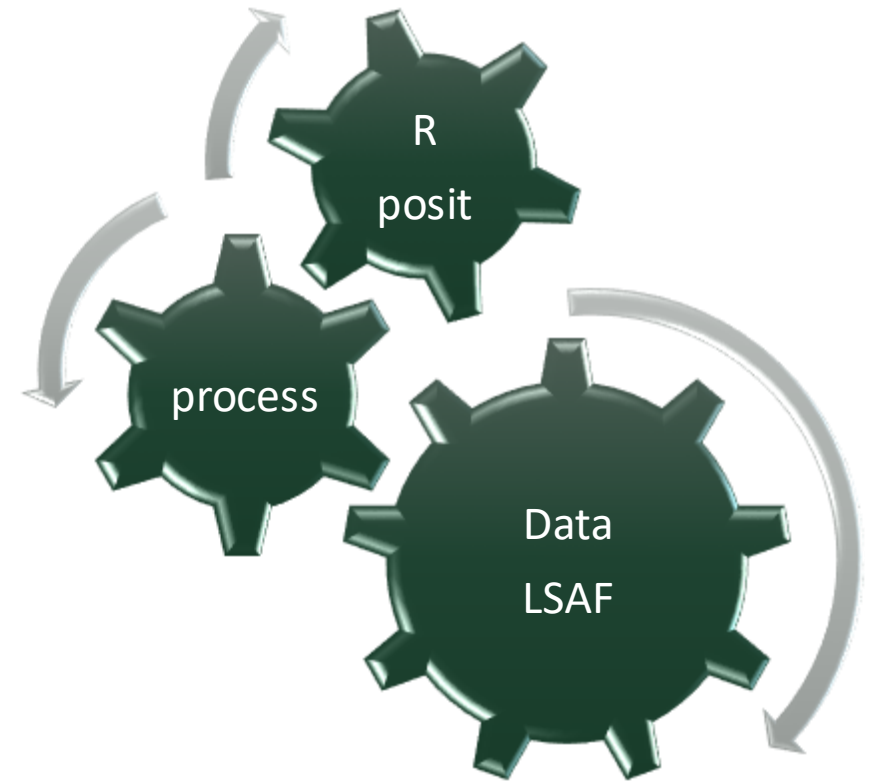
Trial need driving fast implementation

Trial timeline



Third plan

- Use Statistical computing environment – LSAF as data repository
 - Access control
 - Data integrity (versioning)
- Use Posit (former R studio) for R programs
- Process control will be instrumental to link the work in the two separate systems
- ONLY include the essential R packages as a start



From grand to good to – go ?

- We have re-scoped our plans to fit the shorter timeline
- Fortunately, IT have been working all along so they will be ready with a minor scope
- We expect to learn a lot along the way



Love to talk to you all

