

**What's the point
of learning R if I
can't use it in my
day job?!**

Andy Nicholls, Head of Data
Science, Statistics and Data
Science Innovation Hub

R Training Timeline



2010 - 2018

Biostatistics's Timeline

- Introduction to S-Plus
- Introduction to R
- Introduction to R [I'm now teaching this]
- Introduction to R

- [time passing...]

- Introduction to R
- Introduction to R [I'm still teaching this]
- ?

My Timeline

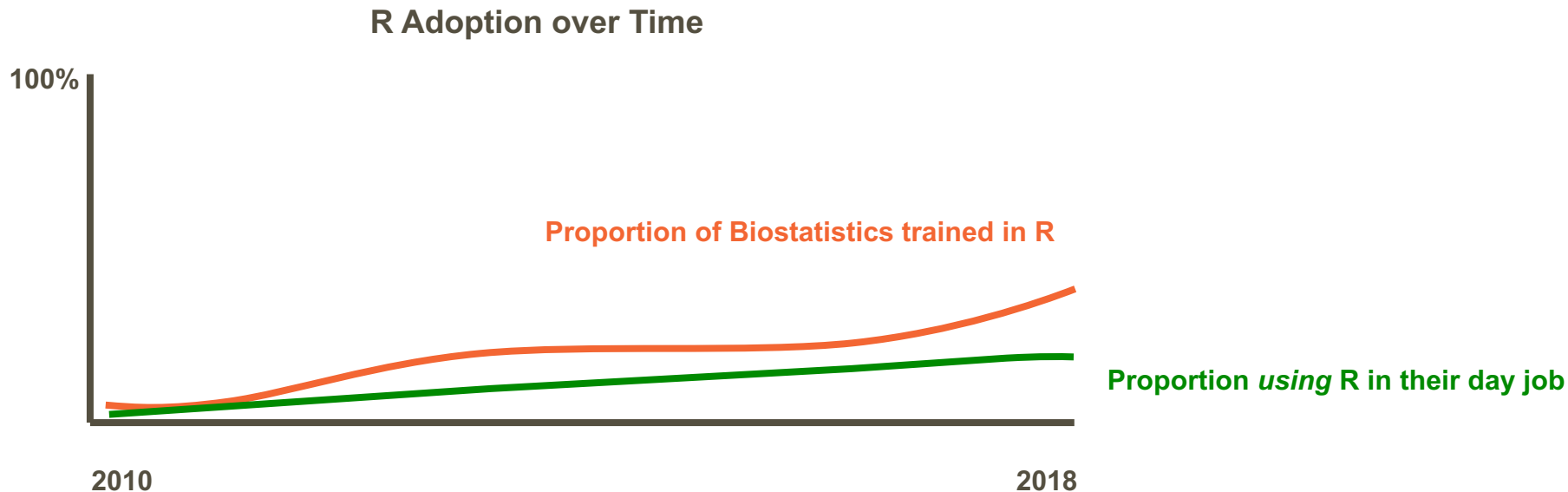
- Leave GSK, join company providing R training

- Return to GSK

The Problem



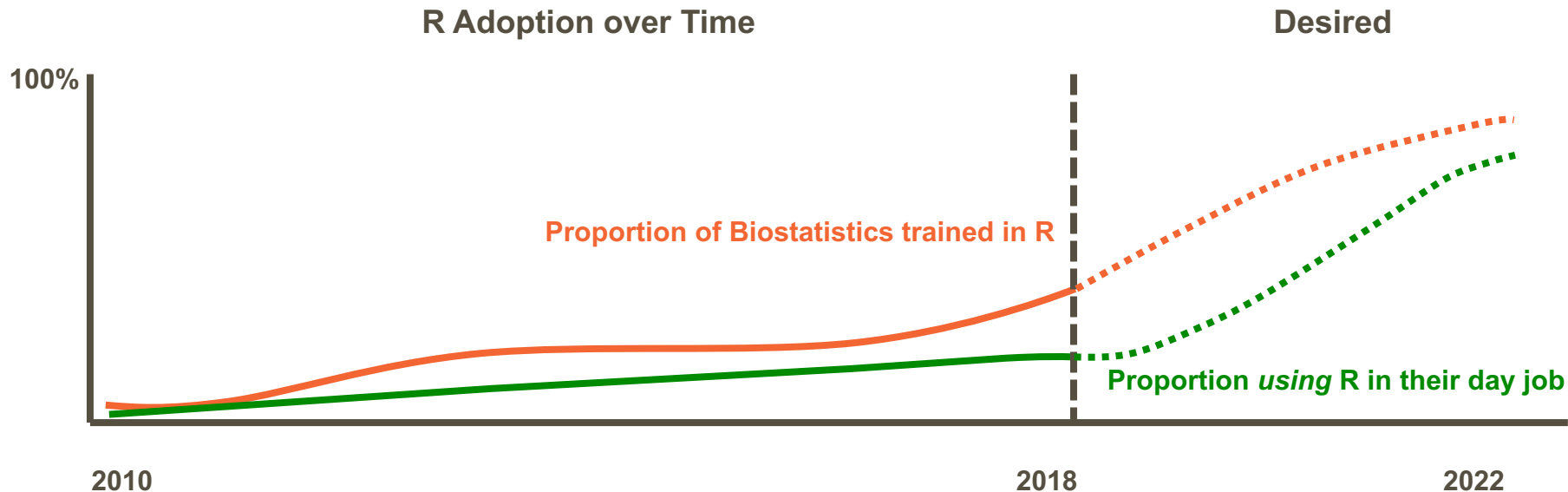
Approximation for illustration!



The Aim



Approximation for illustration!



The R Adoption Strategy



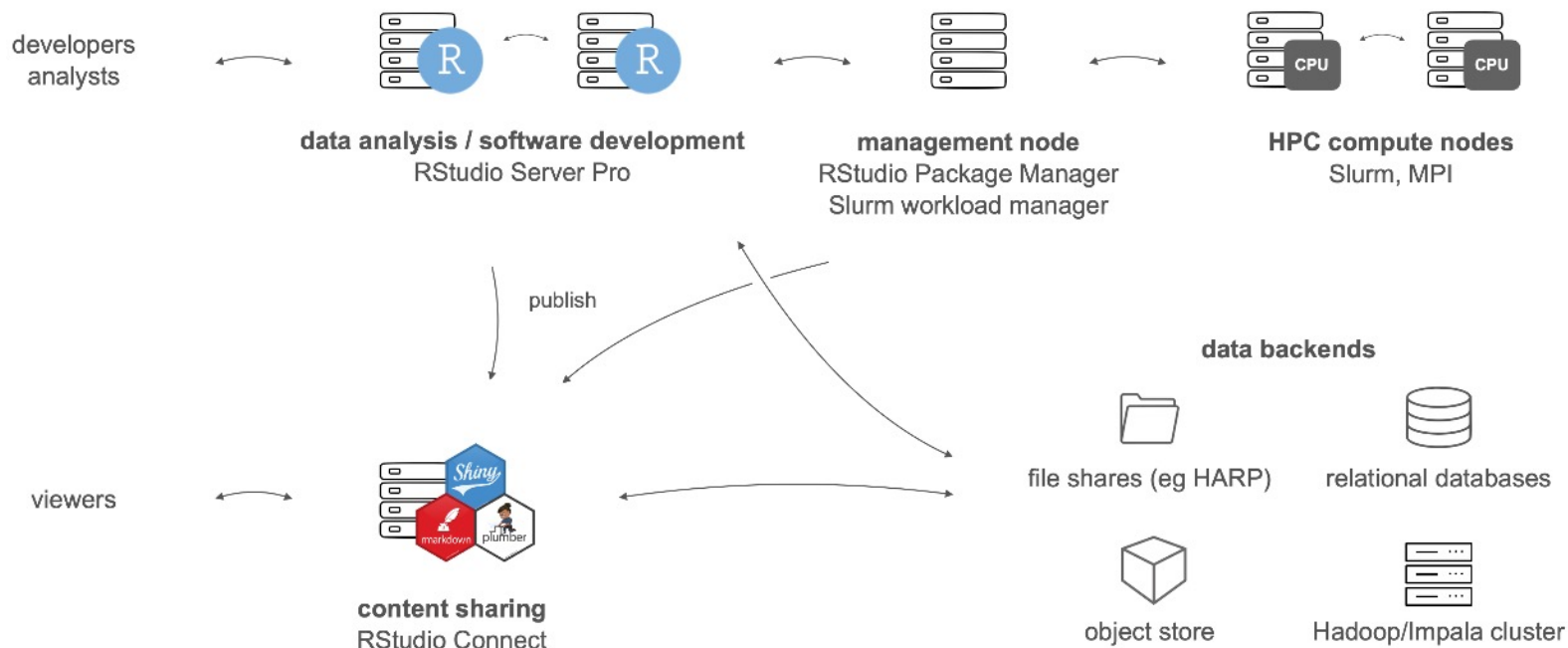
Foundations



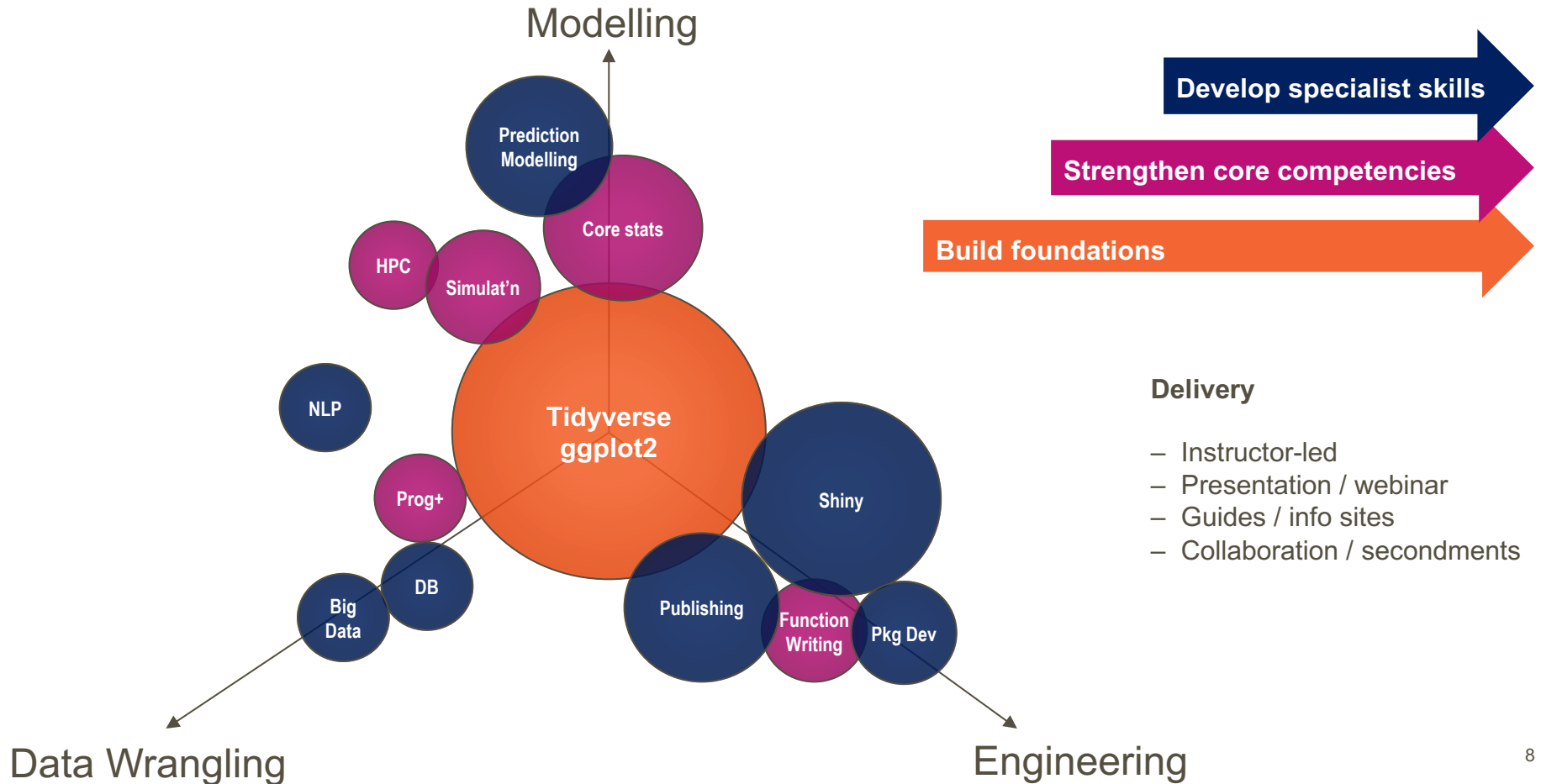
Environment



Working Area for R Programming (WARP)



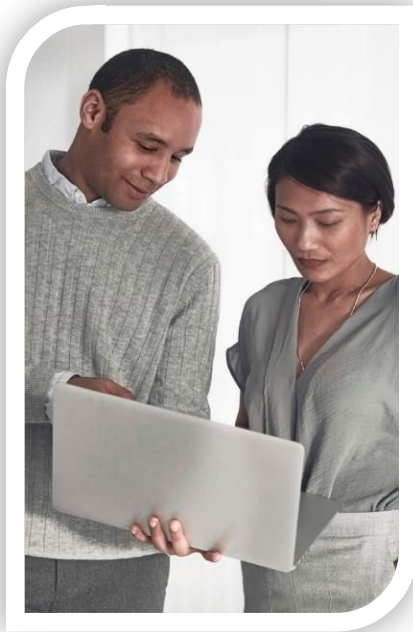
Training Strategy



What next?



Hey look, I can
do everything
you can do in
SAS, but in *R*!



And the
point is...?

Moving to R is
not just about
replicating SAS!



Shiny Things

Art of the Possible



Some things I like about R



That you don't really get with SAS



Note: It is called 'Shiny' not 'R-Shiny'! ;-)

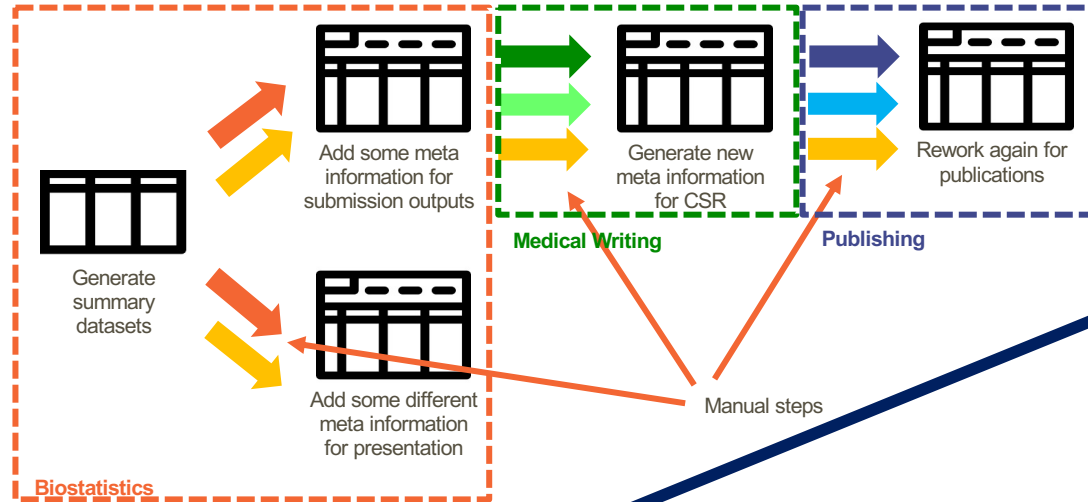
Quantitative Decision Making



- R&D drive towards Quantitative Decision Making
- Shiny pivotal in making assurance accessible for non-statisticians

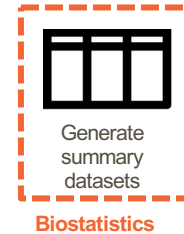


Revolutionising Output Generation



From this

To this



Saving time and reducing cycle time

- 1-2 days DBF-SAC
- 1-2 days SAC-Report Complete

Core competencies

The day job!



Tools



R packages to assist the reporting process

Internal R package releases:

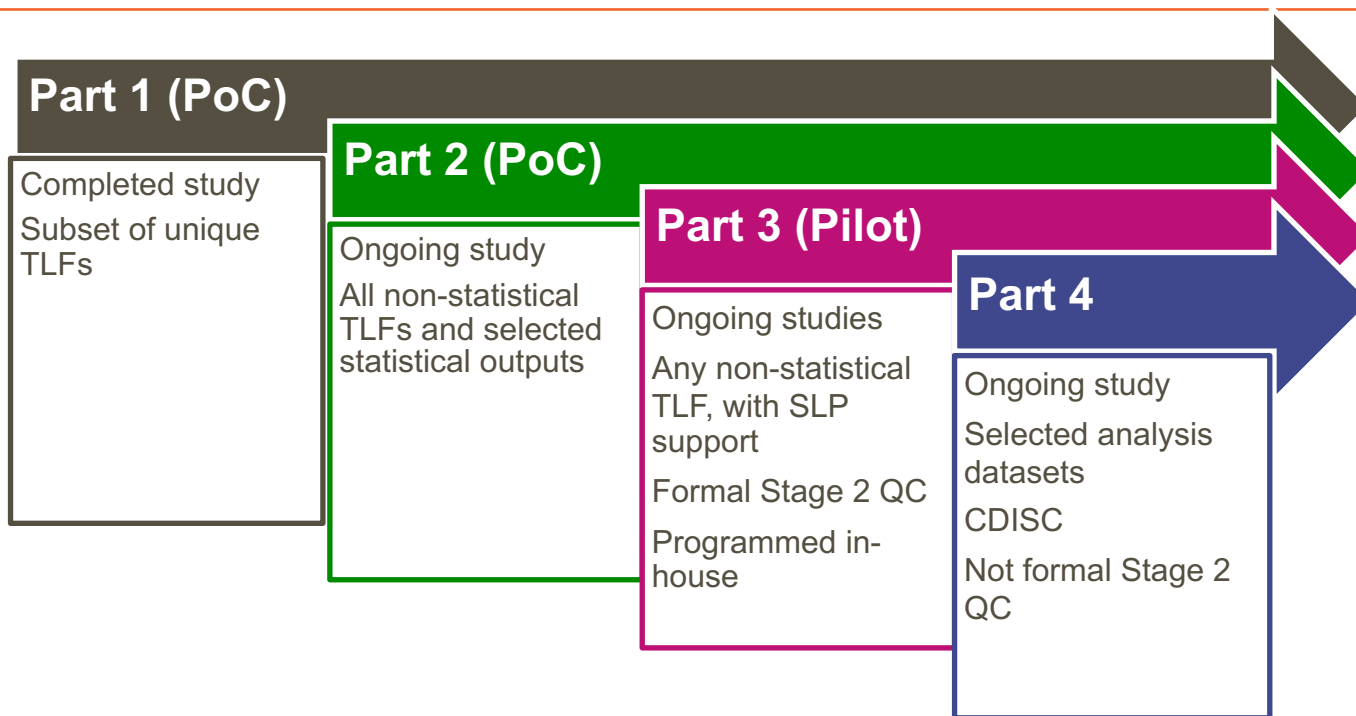
- **gskheader**: Insert standard GSK header for R programs
- **gsklog**: Generate execution/session log
- **gsktable**: Building blocks of basic summary displays
- **gskdataset**: Building blocks of dataset transformations for clinical data
- **copy4qc**: Copy files from WARP environment to Study Area to facilitate archiving



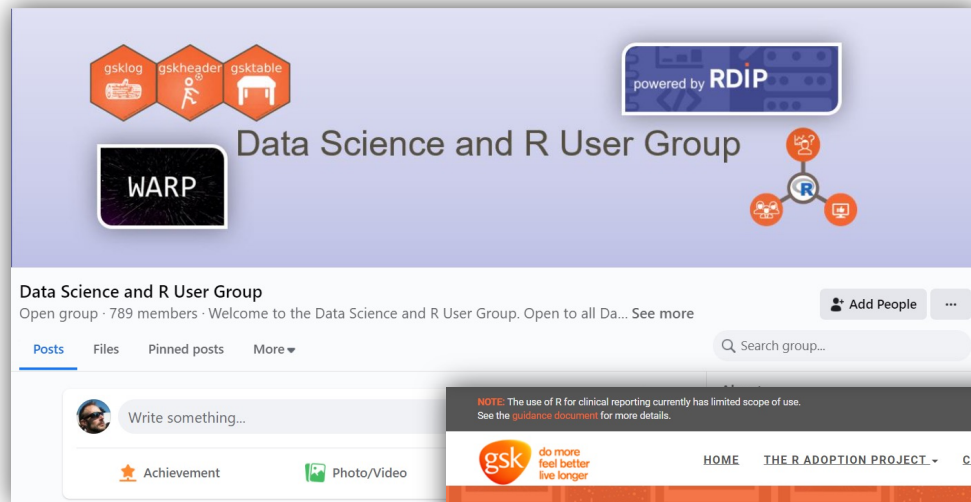
Public collaboration with Atorus:

- **xportr**: Tools to build CDISC compliant data sets
- **metacore**: Container of metadata
- **timber**: Supplemental log file





Support Mechanisms



The image shows the Facebook profile of the 'Data Science and R User Group'. The header features logos for 'gsklog', 'gskheader', and 'gsktable', a 'powered by RDIP' badge, and a 'WARP' logo. The group name 'Data Science and R User Group' is prominently displayed, along with a 'Data Science and R User Group' badge. Below the name, it states 'Open group · 789 members · Welcome to the Data Science and R User Group. Open to all Da... See more'. Navigation tabs for 'Posts', 'Files', 'Pinned posts', and 'More' are visible. A search bar and a 'Add People' button are also present. The post area shows a profile picture and a text input field 'Write something...'. Below the input field are icons for 'Achievement' and 'Photo/Video'.

Data Science and R User Group

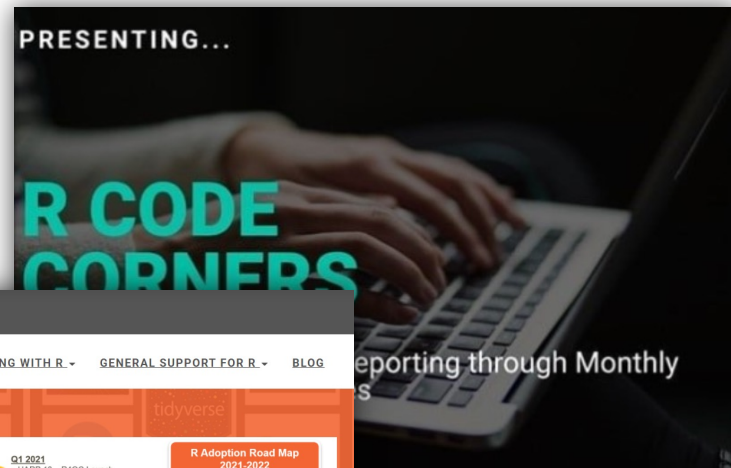
Open group · 789 members · Welcome to the Data Science and R User Group. Open to all Da... See more

Posts Files Pinned posts More ▾

Search group...

Write something...

Achievement Photo/Video



- Ongoing project with pivotal study
- ‘Data look’ in October 2021
- **All** production outputs generated using R
 - QC using SAS
- Using internal tools



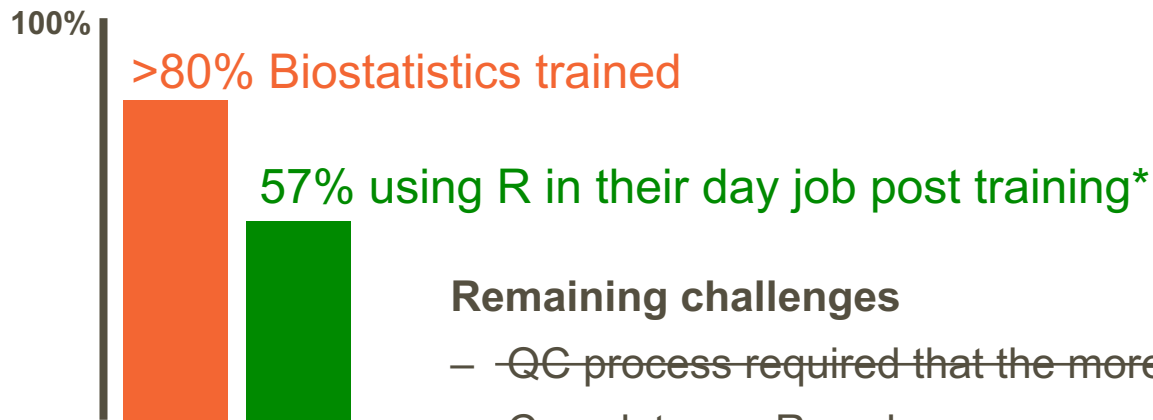
Not actually a secret!



How you doing?



How are we doing?



Remaining challenges

- ~~QC process required that the more senior person QC's~~
- Complete our R package assessment framework within WARP
- Enabling R for statistical modelling
 - See [Clinical Statistical Reporting in a Multilingual World](#)

*Based on 2021 survey of 173 training course attendees: Using R in daily work

- Transition from repeated training to a new life with R
 - Laid foundations with new Tidyverse training and dedicated R environment
 - Demonstrated the value through tools such as *shiny* and *officer*
 - Now embedding R into the day job through R4QC and R4Prod initiatives

