R submission Pilots to FDA - *By the R consortium R submission Working Group*

Presenter: Ning Leng, People and Product Lead, Product Development Data Sciences, Roche-Genentech *(we are hiring!)*

R Submission Working Group:

A cross industry collaboration to improve open-source language usage in the regulatory setting

Pilot 1 Submission to FDA:

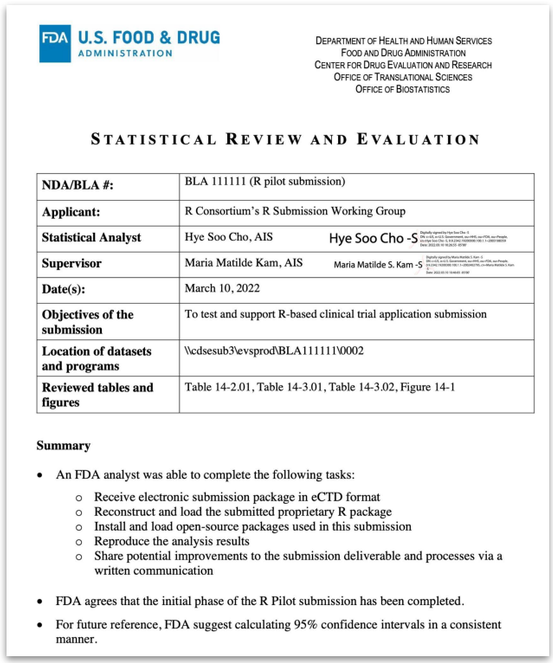
A successful open pilot that showcased using R in FDA submission

Key evaluation aspects:

- For Submitter
  - Submission of a proprietary R package (`pilot1wrappers`, in txt format)
  - Preparation of R-based submission materials (ADRG, etc.)
- For FDA staff
  - Reproduce analysis results by reconstructing submitted proprietary package (`pilot1wrappers`) / retrieving open source packages
  - Provide feedbacks and/or review comments

Data and analysis scope:

- Data from CDISC pilot 1 - publicly available, simulated data
  - Data generation script out of the scope of this pilot
- 4 TLFs - 3 tables, 1 figure
  - This pilot will provide R scripts for TLF generation and a proprietary R package which contains analysis wrappers



U.S. FOOD & DRUG ADMINISTRATION

DEPARTMENT OF HEALTH AND HUMAN SERVICES
FOOD AND DRUG ADMINISTRATION
CENTER FOR DRUG EVALUATION AND RESEARCH
OFFICE OF TRANSLATIONAL SCIENCES
OFFICE OF BIOSTATISTICS

STATISTICAL REVIEW AND EVALUATION

NDA/BLA #:	BLA 111111 (R pilot submission)
Applicant:	R Consortium's R Submission Working Group
Statistical Analyst	Hye Soo Cho, AIS
Supervisor	Maria Matilde Kam, AIS
Date(s):	March 10, 2022
Objectives of the submission	To test and support R-based clinical trial application submission
Location of datasets and programs	\\cdsesub3\evsprod\BLA111111\0002
Reviewed tables and figures	Table 14-2.01, Table 14-3.01, Table 14-3.02, Figure 14-1

Summary

- An FDA analyst was able to complete the following tasks:
  - Receive electronic submission package in eCTD format
  - Reconstruct and load the submitted proprietary R package
  - Install and load open-source packages used in this submission
  - Reproduce the analysis results
  - Share potential improvements to the submission deliverable and processes via a written communication
- FDA agrees that the initial phase of the R Pilot submission has been completed.
- For future reference, FDA suggest calculating 95% confidence intervals in a consistent manner.

The Submission pilot 1 execution team
Ning Leng, Heng Wang (Roche)
Mike Stakehouse, Eli Miller (Atorus)
Yilong Zhang, Peikun Wu (Merck)

Key Links

- Webpage: https://rconsortium.github.io/submissions-wg/
- https://github.com/RConsortium/submissions-pilot1-to-fda
  - Final submission folder for Pilot 1 - following eCTD required folder structure

All materials are open to the public
Anyone is welcome to join the working groups! (info@r-consortium.org)

Next Steps

- Pilot 2: shiny based pilot submission to FDA
- Pilot 1 extensions: pilots to additional agencies (Japan-PMDA, HTAs)