

Validating In-House R Packages



Community Meeting
9:00 PST/12:00 EST
May 27th, 2025

Our Past Meetings

- May 2024: Tackling Hurdles: Embracing Open-Source Packages in Projects
- August 2024: Analyzing Change in Assessed Risk Across Package Releases
- November 2024: Navigating Programming Language Transitions in Pharma
- February 2024: Shiny App Validation in Regulatory Submissions

- **Today: Validating In-House R Packages**

R Consortium Pragmatic Support with Global Reach

- R Consortium Community **Grants** and Sponsorships Over **USD \$1.4 Million**
- Organize large scale **collaborative projects**
 - **R Validation Hub**
 - R-Ladies
 - R Submissions Working Group
- Co-host multidisciplinary **data science forums**
 - Stanford Data Institute
- Direct support for key **R events**
 - useR!, New York R, R/Medicine, R/Pharma, more
- Direct support for **R User Groups**



Join the R Consortium!

The R Validation Hub is a Working Group under the R Consortium



- Enhance the R ecosystem
- Help ensure the future of R
- **Collaborate** with your peers across industry
- Provide **leadership** in the **R Community**
- **Protect** your **investment** in R
- Support open source

Our Membership

ASA

Biogen

esri

Genentech

Google

GSK

Janssen

Johnson & Johnson

Lander Analytics

Merck

Microsoft

Oracle

Parexel

Pfizer

Posit

Procogia

Sanofi

Swiss Re

... and more!



Structure of today's community meeting

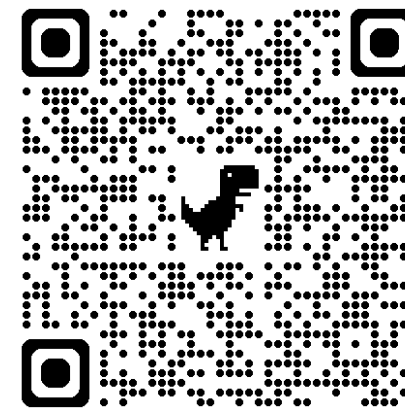
- Primer on today's topic
- Polling about everyone's experience with in-house packages
- Briefing on in-house package examples
- Discussion



Today's Topic

As always, we welcome submissions to our form regarding future topics you wish to engage with for upcoming R Validation Hub community meetings!

- **In-house packages**
 - Formalized on a repository (functions, data, documentation, etc.)
- **Collection of functions**
 - R file(s) containing helper, plotting, etc. functions
 - Carried across projects and tasks
- **Validation for open-source versus internal packages**
 - Are there different considerations?
 - In-house package requirements (maintainers, documentation, "downloads", etc.)



Submit to our survey here!

Let's learn about each other!

- To what extent have you worked with in-house packages?
- When comparing in-house versus open-source package validation, which metrics are different?
- What makes you lose confidence in using in-house packages?

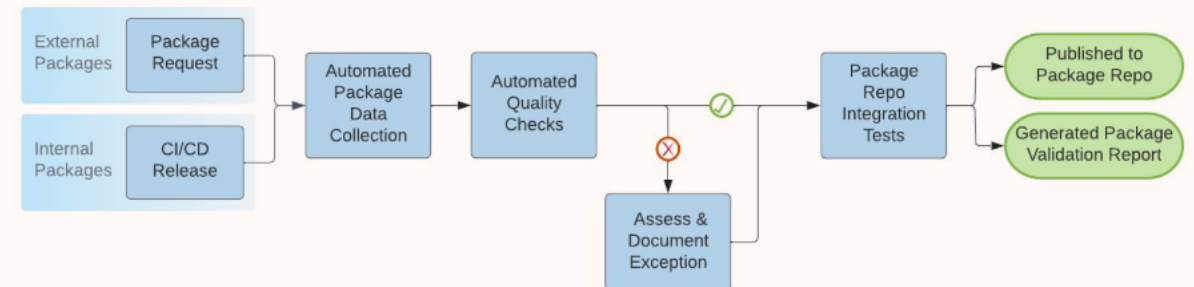
Join the Mentimeter to submit your responses (it's anonymous!)



Examples of In-House vs. External Package Validation

Shoutout to our case studies on our R Validation Hub website (pharmar.org/categories/case-studies/) that houses a handful of examples of validation across different companies!

- **Merck** ([link](#))
 - Framework to classify external CRAN packages into three levels of confidence
 1. Generally accepted core CRAN packages
 2. “Add-on” standard packages with sufficient documented evidence establishing trustworthiness
 3. User to ensure proper quality control and documentation
 - Riskmetric score, including unit testing, community usage, maintainers, and more
- **Roche** ([link](#))
 - Both external and internal packages undergo automated package data collected alike
 - “Human-in-the-middle” component
- **Novartis**
 - From a past community meeting last year ([slides](#))!



Discussion Questions

- Is our trust in in-house validated packages inherent?
- What kind of metrics go into your risk assessment for in-house packages given some metrics, like download counts?
- At which points do we "move on" from internal packages (lack of maintenance or better open-source methods come along) or publish them (ex: CRAN), if either?
- What are challenges you have encountered during the use/validation of in-house R packages?



Thank you for joining!

