Links to Resources and Knowledge

Open Source (general)	
Page	**Description**
Open Source Guides	General Open Source Guides like how to contribute, how to start, best practices and much more
The Legal Side of Open Source	The Legal Side of Open Source Guide, details on how to legally use Open Source
Open Source Portal for Clinical Study Evaluations	Collection of open source tools which can be used for clinical study evaluations, including searchable macros and programs

R / RStudio / Shiny / Tidyverse	
Page	**Description**
R Self Assessment	Are you ready for Shiny? Self Assessment Quiz
Using Python with RStudio	Description of using Python with Rstudio
Happy Git with R	Install Git and get it working smoothly with GitHub, in the shell and in the RStudio IDE. Develop a few key workflows that cover your most common tasks. Integrate Git and GitHub into your daily work with R and R Markdown.
The Coprehensive R Archive Network	CRAN is a network of ftp and web servers around the world that store identical, up-to-date, versions of code and documentation for R.
CRAN R Packages	Available CRAN Packages by Name
Download RStudio	RStudio is a set of integrated tools designed to help you be more productive with R. It includes a console, syntax-highlighting editor that supports direct code execution, and a variety of robust tools for plotting, viewing history, debugging and managing your workspace.
Download RStudio Server	RStudio Server enables you to provide a browser based interface to a version of R running on a remote Linux server, bringing the power and productivity of the RStudio IDE to server-based deployments of R.
A Quick introduction to RStudio	RStudio is not R or a “type” of R. It is a program that runs R and provides extra tools that are helpful when writing R code, kind of like how your operating system can run a web browser. This workshop will assume you are using RStudio to interact with R, although everything here can be done without RStudio. Most R users seem to use RStudio and we like it, so we recommend using it.
Installing RStudio for Windows	A guide to installing RStudio for Windows
Setup an RStudio Server in Ubuntu	A concise step-by-step guide to setup a Rstudio Server in Ubuntu Linux. The assumption is made that the server is already setup.
Setup a Shiny Server in AWS (Amazon)	A step-by-step guide to setup a Shiny Server in AWS along with a method that makes publishing apps easier
RStudio Quickstart	Experience RStudio Team using a virtual machine on your desktop. RStudio Team QuickStart VM makes it quick and easy to learn through hands-on experience.

Learning Analytic Administration through a Sandbox	It all starts with sandboxes. Development sandboxes are dedicated safe spaces for experimentation and creativity. A sandbox is a place where you can go to test and break things, without the ramifications of breaking the real, important things. If you're an analytic administrator who doesn't have access or means to get a sandbox, I recommend that you consider advocating to change that. Here are just some of the arguments for why sandboxes are a powerful tool for the R admin that you may find helpful.
Tidyverse	The tidyverse is an opinionated collection of R packages designed for data science. All packages share an underlying design philosophy, grammar, and data structures.
RStudio Cloud	Created to make it easy for professionals, hobbyists, trainers, teachers and students to do, share, teach and learn data science using R.
RStudio Cloud Cheatsheets	Cheatsheets for working with popular R packages
RStudio Cloud Guide	Guide to using RStudio Cloud
R Start Here	A Guide to some of the most useful R Packages
GGPLOT Toolbox	Plotting System for R
Radiant	Radiant is an open-source platform-independent browser-based interface for business analytics in R. The application is based on the Shiny package and can be run locally or on a server.
bioCancer: Interactive Multi-OMICS Cancers Data Visualization and Analysis	bioCancer is a platform-independent interface for dynamic interaction with cancer genomics data. The web is implemented in the R language and based on the Shiny package. It runs on any modern Web browser and requires no programming skills, increasing the accessibility to the huge, complex and heterogeneous cancer genomic data.
GGPLOT GUI	This package allows users to visualize their data using an online graphical user interface (GUI) that makes use of R's visualization package ggplot. There are two ways of using this functionality: 1) online, where users can upload their data and visualize it without needing R, by visiting this link: https://site.shinyserver.dck.gmw.rug.nl/ggplotgui/; 2) from within the R-environment (by using the ggplot_shiny() function). In either case, R-code will be provided such that the user can recreate the graphs within the R-environment.
Managing libraries for Rstudio Server	R users have access to thousands of community contributed packages. Most users rely on dozens if not hundreds of packages. Organizing these packages can take a fair amount of administrative effort, especially when multiple versions of R exist across multiple servers. This document lays out a simple strategy for managing packages for a team of analysts on a server.
R Installation and Administration	This is a guide to installation and administration for R. This manual is for R, version 3.6.2 (2019-12-12)
Strategy Maps	Strategies to Reproduce Environments Over Time
Crandash	A live visualization of the most popular R packages
Navigating the R Package Universe	There are more than 11,000 packages on CRAN, and R users must approach this abundance of packages with effective strategies to find what they need and choose which packages to invest time in learning how to use. Our session centered on this issue, with three themes in our discussion.
The lazy and easily distracted report writer: Using rmarkdown and parameterised reports	Mike K Smith presents : My brain is lazy, shallow and easily distracted. Learn how I use notebooks to keep my present-self organised, my future-self up to speed with what I was thinking months ago, and also how I use parameterised reports to share results for both quantitative and non-quantitative audiences across multiple endpoints. I can update and render outputs for a variety of outputs from a single markdown notebook or report. I'll show you how I organise my work using the tidyverse, use child documents with parameterisation and also how this is served out to my colleagues via RStudio Connect.
A Gentle Guide to Tidy Statistics in R (Part 1)	Thomas Mock
A Gentle Guide to Tidy Statistics in R (Part 2)	Thomas Mock
Installing Older Versions of Packages	You may need to install an older version of a package if the package has changed in a way that is incompatible with the version of R you have installed, or with your R code. You may also need to use an older version of a package if you are deploying an application to a location such as shinyapps.io, Shiny Server , or RStudio Connect where the environment may not allow you to run the latest version of the package. Here are instructions on several methods you can use:

How to install a package of a particular version in R	How to install a package of a particular version in R
sessioninfo	Query and print information about the current R session. It is similar to utils::sessionInfo(), but includes more information about packages, and where they were installed from.
Multiple versions of R	Data scientists prefer using the latest R packages to analyze their data. To ensure a good user experience, you will need a recent version of R running on a modern operating system. If you run R on a production server – and especially if you use RStudio Connect – plan to support multiple versions of R side by side so that your code, reports, and apps remain stable over time. You can support multiple versions of R concurrently by building R from source. Plan to install a new version of R at least once per year on your servers.
tidylog	Tidylog provides feedback about dplyr and tidyr operations. It provides simple wrapper functions for the most common functions, such as filter, mutate, select, and group_by.
xpose	xpose was designed as a ggplot2-based alternative to xpose4. xpose aims to reduce the post processing burden and improve diagnostics commonly associated the development of non-linear mixed effect models.
CRAN Task View: Clinical Trial Design, Monitoring, and Analysis	This task view gathers information on specific R packages for design, monitoring and analysis of data from clinical trials. It focuses on including packages for clinical trial design and monitoring in general plus data analysis packages for a specific type of design. Also, it gives a brief introduction to important packages for analyzing clinical trial data.
The Shiny Cheat Sheet	Quick reference guide for building shiny apps
Shiny Function Reference	Function Reference version 1.4.0
Shiny Widgets Gallery	Shiny Widgets Gallery
How to build a Shiny app	Let's walk through the steps of building a simple Shiny application. A Shiny application is simply a directory containing an R script called app.R which is made up of a user interface object and a server function. This folder can also contain any any additional data, scripts, or other resources required to support the application.
Build a user Interface	How to build a user interface in Shiny
Gallery	Shiny User Showcase
Scoping Rules for Shiny apps	Where you define objects will determine where the objects are visible. There are three different levels of visibility that you'll want to be aware of when writing Shiny apps. Some objects are visible within the server code of each user session; other objects are visible in the server code across all sessions (multiple users could use a shared variable); and yet others are visible in the server and the ui code across all user sessions. This document describes how scoping works within a single R process.
The awesomeness that is the global.R file. Or how to clean up your shiny app	Description and use of the global.R file
Build a dynamic UI that reacts to user input	Shiny apps are often more than just a fixed set of controls that affect a fixed set of outputs. Inputs may need to be shown or hidden depending on the state of another input, or input controls may need to be created on-the-fly in response to user input.
More Shiny Examples	More Shiny Examples
Enterprise-ready dashboards	Design a Shiny Dashboard
Shiny dashboard	Design a Shiny Dashboard
shinymaterial	Material design in Shiny apps
Alternative Design for Shiny	Most Shiny apps out there have a similar design style. It is usually easy for a seasoned Shiny developer to tell the difference between a Shiny app and a standard website. Why is this? Shiny apps ARE websites for all intents and purposes. Why do they not vary as greatly as the rest of the sites we encounter when surfing the web?
shinydashboard Plus	shinydashboardPlus is based on the idea of ygdashboard, the latter not compatible with shinydashboard (you cannot use shinydashboard and ygdashboard at the same time). With shinydashboardPlus you can still work with the shinydashboard classic functions and enrich your dashboard with all additional functions of shinydashboardPlus!

shinyMixR	The shinyMixR package is initially developed as a graphical interface for the nlmixr package. The package include a shiny (dashboard) interface and helps in managing, running, editing and analysing nlmixr models. Although the main focus was to build an interface, many of the package functions are also directly available for usage in an interactive R session
HTML Templates	In most cases, the best way to create a Shiny application's user interface is to build it with R code, using functions like fluidPage(), div(), and so on. Sometimes, though, you may want to integrate Shiny with existing HTML, and starting with Shiny 0.13 (and htmltools 0.3), this can be done with the HTML templates. Templates can be used to generate complete web pages, and they can also be used to generate the HTML for components that are included in a Shiny app.
RinteRface	RinteRface aims at bringing the most famous open source HTML templates to R
ggedit – interactive ggplot aesthetic and theme editor	ggedit is a package that helps users bridge the gap between making a plot and getting all of those pesky plot aesthetics just right, all while keeping everything portable for further research and collaboration.
Intro to RStudio Addins and Shiny Gadgets	R is a powerful programming language for statistical computing with many packages and tools. The goal of this article is to arm you with tools and techniques for using addins and gadgets.
ggthemeassist	A RStudio addin for ggplot2 theme tweaking
esqisse	RStudio add-in to make plots with ggplot2
Shiny Debugging	Debugging with Shiny
Debugging Shiny applications	Debugging Shiny applications can be challenging. Because Shiny is reactive, code execution isn't as linear as you might be used to, and your application code runs behind a web server and the Shiny framework itself, which can make it harder to access. The goal of this article is to arm you with tools and techniques for debugging in Shiny specifically. If you're interested in tools for debugging R more generally, we recommend reading Debugging with RStudio instead. The Debugging and Exceptions chapter in Hadley Wickham's excellent book Advanced R is also extremely helpful if you're new to debugging in R.
Profiling with RStudio	Guide to Profiling with RStudio
Debugging in RStudio	Debugging techniques in RStudio
Building Shiny Apps: With Great Power Comes Great Responsibility	Presentation on building and testing Shiny Apps
Getting started with shinytest	After you get your Shiny application to a state where it works, it's often useful to have an automated system that checks that it continues to work as expected.
Testing Shiny applications with Shinytest	Testing Shiny applications with Shinytest
Articles	List of RStudio Shiny Articles that go through start to finish of development
Shiny v1.3.2	Shiny v1.3.2
Reactivity Pt 1	Reactive programming is at the heart of the Shiny framework, and thinking reactively is one of the most difficult yet most rewarding aspects of learning Shiny. This tutorial will go beyond the basics, explaining the philosophy behind Shiny's reactive programming framework and exploring patterns and techniques for using it well.
Reactivity Pt 2	Reactive programming is at the heart of the Shiny framework, and thinking reactively is one of the most difficult yet most rewarding aspects of learning Shiny. This tutorial will go beyond the basics, explaining the philosophy behind Shiny's reactive programming framework and exploring patterns and techniques for using it well.
Shiny in production: Principles, practices, and tools	Shiny is a web framework for R, a language not traditionally known for web frameworks, to say the least. As such, Shiny has always faced questions about whether it can or should be used "in production". In this talk we'll explore what "production" even means, review some of the historical obstacles and objections to using Shiny for production purposes, and discuss practices and tools that can help your Shiny apps flourish.
Effective use of Shiny modules in application development	As a Shiny application grows in scale, organizing code into reusable and streamlined components becomes vital to manage future enhancements and avoid unnecessary duplication.
Load Testing Shiny Applications	The shinyloadtest package and the accompanying shinycannon software enable load testing deployed Shiny applications.

golem	A Framework for Building Robust Shiny Apps
shinymeta	The shinymeta R package provides tools for capturing logic in a Shiny app and exposing it as code that can be run outside of Shiny (e.g., from an R console). It also provides tools for bundling both the code and results to the end user
shinymeta	Record and expose Shiny app logic using metaprogramming
Shiny's Holy Grail: Interactivity with reproducibility	Presentation by Joe Cheng useR! 2019
medplot	Functions for drawing graphs in R visualizing medical information
drake	An R-focused pipeline toolkit for reproducibility and high-performance computing
renv	Project environments for R
[https://rstudio.github.io/packrat/ Packrat}	Packrat is a dependency management system for R
Up to Bat with Packrat	Guide to packrat
Lite Intro to Docker / Rocker for R Analysis via Windows Box	Lite Intro to Docker / Rocker for R Analysis via Windows Box
Running RStudio with Docker containers	Running RStudio with Docker containers
Using Docker images with RStudio Server Pro, Launcher, and Kubernetes	Using Docker images with RStudio Server Pro, Launcher, and Kubernetes
It's a Nonlinear World - Interactive Dashboard	"I created a quick plot, that then turned into a R Notebook, that then turned into an interactive dashboard."
R Markdown	R Markdown
Package Vignettes	How to build package vignettes with knitr
rticles	LaTeX Journal Article Templates for R Markdown
Job Scheduling R Markdown Reports via R	Intro to Job Scheduling R Markdown Reports via R
rmd2ppt	Contains examples of R Markdown input and PPT output
Distill for R Markdown	Distill for R Markdown is based on the Distill web framework, which was originally created for use in the Distill Machine Learning Journal. Distill for R Markdown combines the technical authoring features of Distill with R Markdown, enabling a fully reproducible workflow based on literate programming.
xaringan	An R package for creating slideshows with remark.js through R Markdown. The package name xaringan comes from Sharingan, a djutsu in Naruto with two abilities: the "Eye of Insight" and the "Eye of Hypnotism". A presentation ninja should have these basic abilities, and I think remark.js may help you acquire these abilities, even if you are not a member of the Uchiha clan
The R Markdown Cheat sheet	The R Markdown cheat sheet is a quick reference guide for writing reports with R Markdown
Flexdashboard for R	flexdashboard: Easy interactive dashboards for R
rmdcss	CSS templates for R Markdown documents
Markdown CSS	A Collection of stylesheets to make generated markdown, or raw HTML, look beautiful

prettydoc	Creating Pretty HTML From R Markdown
scottishsnow	Many reports from 1 RMarkdown file
radix for R Markdown	Radix for R Markdown
Distill for R Markdown	Distill for R Markdown is a web publishing format optimized for scientific and technical communication
Creating a Website	Share a set of Distill articles as a website
Word Up - Gotta Get Up To Get Bookdown	R is a powerful programming language for statistical computing with many packages and tools. The goal of this article is to arm you with tools and techniques for using bookdown and generating word output.
nlmixr	nlmixr: an R package for population PKPD modeling
nlmixrdevelopment	Running PK models with nlmixr
Combining Shiny and R Markdown	R is a powerful programming language for statistical computing with many packages and tools. The goal of this article is to outline some ways to combine Shiny & R Markdown.
gt	Easily generate information-rich, publication-quality tables for R
learnr	Guide to Create Interactive Tutorials from R Markdown documents
Leaflet for R	Leaflet is one of the most popular open-source JavaScript libraries for interactive maps. It's used by websites ranging from The New York Times and The Washington Post to GitHub and Flickr, as well as GIS specialists like OpenStreetMap, Mapbox, and CartoDB.
rpivotTable	A R wrapper for the great library pivottable
DT	DT: An R interface to the DataTables library
Learning D3	Learning D3
r2d3: R Interface to D3 Visualizations	r2d3: R Interface to D3 Visualizations
Package Development	Package Development for D3
Interactive Plots in Shiny	Interactive Plots in Shiny
RStudio Portfolio Training Exercises	This document will guide you through a series of exercises that will introduce Shiny, Flexdashboards, R Markdown, parameterized reports, and Plumber APIs. These artifacts will be explored in the context of RStudio Connect.
RStudio 1.2 Preview: Reticulated Python	RStudio 1.2 Preview: Reticulated Python
reticulate	R Interface to Python
Reticulated Shiny	Reticulated Shiny
Keras	Keras is a high-level neural networks API developed with a focus on enabling fast experimentation. Being able to go from idea to result with the least possible delay is key to doing good research.

Python	
Page	**Description**
Using Python with RStudio	Description of using Python with Rstudio
reticulate	R Interface to Python
Reticulated Shiny	Reticulated Shiny

The Ultimate guide to AI, Data Science & Machine Learning, Articles, Cheatsheets and Tutorials ALL in one place	This is a carefully curated compendium of articles & tutorials covering all things AI, Data Science & Machine Learning for the beginner to advanced practitioner. I will be periodically updating this document with popular topics from time to time. My hope is that you find something of use and/or the content will generate ideas for you to pursue.
Machine Learning Mastery	Collection of Links and tutorials for Machine Learning

Git and GitHub

Page	Description
Happy Git with R	Install Git and get it working smoothly with GitHub, in the shell and in the RStudio IDE. Develop a few key workflows that cover your most common tasks. Integrate Git and GitHub into your daily work with R and R Markdown.
Git Handbook	Handbook for Git
Git Cheat Sheets	Reference sheets covering Git commands, features, SVN migrations, and bash. Available in a multiple languages.
Learn Version Control with Git: A step-by-step course for the complete beginner ebook	Version control is an essential tool if you want to be successful in today's web & software world. This book will help you master it with ease.
Git Cheat Sheet	Download our popular cheat sheet for the Git version control system
Git for Subversion Users	Sometimes, prior knowledge can be a disadvantage. For example when you're starting with Git - while trying to approach it like a new Subversion. You'll have to let go of a couple of old concepts before you can understand the new ones. Our cheat sheet compares the most important tasks in both systems - and helps you make the switch to Git!
Workflow of Version Control	Understand the basic workflow of version control with Git
Xcode Cheat Sheet	Knowing your tools inside out is paramount - because you spend countless hours with them. If Xcode is one of the tools you use, we have something for you: we created a nice cheat sheet that we would like to share with you. On the front you can find all the essential keyboard shortcuts. On the back, our "tips & tricks" help you get the most out of Xcode.
Command Line Cheat Sheet	For many, the command line belongs to long gone days: when computers were controlled by typing mystical commands into a black window; when the mouse possessed no power. But for many use cases, the command line is still absolutely indispensable! Our cheat sheet not only features the most important commands. On the back, it also explains some tips & tricks that make working with the CLI a lot easier.
Bourbon, Bitters, and Neat	Bourbon, Neat, and Bitters help you produce awesome CSS - with less code and in less time. The popular Sass framework family is the lightweight alternative to whoppers like Bootstrap & Foundation. Our cheat sheet presents the most important mixins and helpers at a glance. On the back, we added a step-by-step instruction on how to set up your projects.
Website Optimization Cheat Sheet	25% of users abandon a web page if it takes more than four little seconds to load. This cheat sheet helps you keep the visitors you worked so hard to attract. Let's get your website in front of your users as fast as possible!

Books to Read

Book	Author
Mastering Shiny	Hadley Wickham
R for Data Science	Hadley Wickham
R Graphics Cookbook, 2nd Edition	Winston Chang
An Introduction to Statistical Learning with Applications in R	Gareth James, Daniela Witten, Trevor Hastie, and Robert Tibshirani
Applied Predictive Modeling	Max Kuhn and Kjell Johnson
R Markdown: the Definitive Guide	Yihui Xie, J. J. Allaire, and Garrett Grolemund
Text Mining with R A Tidy Approach	Julia Silge and David Robinson
Advanced R	Hadley Wickham
bookdown: Authoring Books and Technical Documents with R Markdown	Yihui Xie
Learn Version Control with Git: A step-by-step course for the complete beginner ebook	Tobias Günther

Examples, Case Studies, Papers, and Presentations from the Clinical Research Industry and Regulators

Page	Description
Pharmacometrics: Some Shiny applications	Example of Live Data Visualization Pharma Tool / App
ICGC Pancreatic Cancer (Ductal Adenocarcinoma) - Genome Viewer	Example of Live Data Visualization Pharma Tool / App
Visualisations of proteomics data using R and Bioconductor	Example of Live Data Visualization Pharma Tool / App
CanvaseXpress	Example of Live Data Visualization Pharma Tool / App
Advanced Visual Analytics of Safety Data from Different Data Sources	Presentation by Melvin S. Munsaka, PHD, AbbVie
Bayesian Tutorial	This tutorial is a reasonably self-contained tutorial and documentation source about trasitioning to bayesian analysis from traditional first order estimation techniques for nonlinear-mixed-effects modeling. The overarching objective is to provide a resource for some of the additional complexity that bayesian analysis suggests/requires (mu-modeling, additional estimation tuning, etc) and to compare output under various scenarios to that of FOCE-based estimation. As a secondary objective, this project should serve as a case study to managing a collaborative project using git, github and other 'modern' tooling for reproducible science.
Adverse Event Data gRaphically	Paper DV11 PHUSE EU Connect 2018, Lina Rajput and Prajakta Chitale, Cytel
Adverse Event Data gRaphically	Presentation DV11 PHUSE EU Connect 2018, Lina Rajput and Prajakta Chitale, Cytel
How do I select an R Package for my clinical workflow?	Paper TT11 PHUSE US Connect 2019, Sean Lopp and Phil Bowsher, RStudio
AEPLOT	R Package for summarizing Adverse Event Data
Modernizing the Clinical Trial Analysis Pipeline with R and JavaScript	This repo contains the slides and abstract for the ePoster presented at Rstudio::conf 2019
safetyGraphics: Clinical Trial Safety Graphics with R	The safetyGraphics package provides a framework for evaluation of clinical trial safety in R. It includes several safety-focused visualizations to empower clinical data monitoring. Chief among these is the Hepatic Explorer, based on the Evaluation of the Drug-Induced Serious Hepatotoxicity (eDish) visualization.
Infrastructure for World-Wide Clinical Trials: The BeiGene Case Study	PharmaSUG China 2018, Alan Hopkins PhD, BeiGene
CEDR Application 208573Orig1s000	Submission of Venetoclax by AbbVie using R
CEDR Application 209296Orig1s000	Submission of Cinvanti by Heron Therapeutics using R
Using R in a regulatory environment: FDA experience	Presentation by Paul Schuette, FDA
R: Regulatory Compliance and Validation Issues A Guidance Document for the Use of R in Regulated Clinical Trial Environments	R: Regulatory Compliance and Validation Issues A Guidance Document for the Use of R in Regulated Clinical Trial Environments
RValidation	Slides from R in Pharma Conference

Using R in a Regulatory Environment: some FDA perspectives	PDF file form Paul Schuette (FDA) on using R in a Regulatory Environment
Build your PK model	Marc Lavielle, Live example of Shiny in Pharma
Pharmacometrics: some Shiny applications	Marc Lavielle, These applications require the mlxR package for the simulation and visualization of longitudinal data.
medplot	A Web Application for Dynamic Summary and Analysis of Longitudinal Medical Data Based on R
Bioequivalence v0.3	Live example of Shiny in Pharma
Application Development Framwork for R/Shiny	PharmaSUG 2018, Ashok Guguganti, Pfizer
Empowering Users By Creating Data Visualization Applications In R/Shiny	PharmaSUG 2016, Sudhir Singh, Brian Munneke, Amulya Bista, Jeff Cai, Pharmacyclics LLC
Dynamic Display of Patient Profiles	Paper PP26, PHUSE CSS 2015, Rebeka Tabbey and Wei Wang, Eli Lilly and Company
Reimagining Statistical Reports with R Shiny	Paper AD048, PharmaSUG 2019, Sudharsan Dhanavel and Harinarayan Gopichandran, Cognizant Technology Solutions
Why SAS Programmers Should Learn Python Too	Paper AD12, PharmaSUG 2018, Michael Stackhouse, Covance
Simplify and Streamline Using Python	PharmaSUG 2018, Michael Stackhouse, Covance
Ensuring Programming Integrity with Python: Dynamic Code Plagiarism Detection	Paper TT04, PHUSE US Connect 2019, Michael Stackhouse, Covance
Tame Your SHARE with a PYTHON and SAS	Paper PP13, PHUSE US Connect 2019, Michael Stackhouse and Terek Peterson, Covance
Cluster Analysis: What it is and How to Use It	Paper ST183, PharmaSUG 2019, Alyssa Wittle and Michael Stackhouse, Covance
Impact of HIV Pre-Exposure Prophylaxis among MSM in the United States	Live Shiny Development example
CDC Zika Data	Live Shiny Development example
IMMUNOGENICITY	Live Shiny Development example
Developing and deploying large scale Shiny applications for non-life insurance	Video presentation of deploying large scale Shiny applications using HTMLWidgets and HTMLTemplates
Integrate Shiny with existing HTML	Live Example of Shiny HTML Templates
rpharma-demo	This repo contains an example Shiny app that demonstrates some features that may be particularly useful to pharma
FDA Adverse Event Dashboard	Live Example of Shiny Dashboard
Principles and Guidelines for Reporting Preclinical Research	Notes on Reproducibility in Pharma

The Economics of Reproducibility in Preclinical Research	Notes on Reproducibility in Pharma
Reproducible research is still a challenge	Notes on Reproducibility in Pharma
The reproducibility crisis in science and prospects for R	Notes on Reproducibility in Pharma
A statistical definition for reproducibility and replicability	Notes on Reproducibility in Pharma
statwonk	A dashboard to explore, monitor and learn about OpenFDA data.
Resources Links on Using R in Regulated Clinical Trial Environments	A large list of Resources Links on Using R in Regulated Clinical Trial Environments
Using Flexdashboards to Monitor Clinical Research	Using Flexdashboards to Monitor Clinical Research
Cancer prediction using caret (from Ch. 3 of 'Machine Learning with R')	Cancer prediction using caret (from Ch. 3 of 'Machine Learning with R')
TCGA PRAD	TCGA prostate cancer differential expression by race
GLMM	GLMM with various R packages
A not so short review on survival analysis in R	The aim of this document is to give a short but yet comprehensive review on how to conduct survival analysis in R. The literature on the topic is extensive and only a limited number of (common) problems/features will be covered. The amount of R packages available reflects the extent of the research on the topic. A broad (yet not complete) task view presenting useful R packages for different aspects of survival analysis can be found on the dedicated CRAN Task View at https://CRAN.R-project.org/view=Survival.
Access to Hospital Care Dashboard	Access to Hospital Care Dashboard
Comparative Protein Structure Analysis with Bio3D	Bio3D is an R package that provides interactive tools for the analysis of bimolecular structure, sequence and simulation data. The aim of this document, termed a vignette in R parlance, is to provide a brief task-oriented introduction to facilities for analyzing protein structure data with Bio3D
Survival Analysis	Survival Analysis
Keynote EARL London 2018 - Garrett Grolemund, Rstudio	Keynote EARL London 2018 - Garrett Grolemund, Rstudio
R Markdown for Medicine	A four-hour workshop that will take you on a tour of how to get from data to manuscript using R Markdown
openfda	Convenient access to the OpenFDA API
openfda-dashboard	OpenFDA Dashboard
openFDA	Live OpenFDA Dashboard
BigQuery public datasets	BigQuery public datasets
clinical-drugs	RxNorm was created by the U.S. National Library of Medicine (NLM) to provide a normalized naming system for clinical drugs, defined as the combination of {ingredient + strength + dose form}
Gene Expression Biclustering	Live example of Flexdashboard
Iris K-Means Clustering	Live example of Flexdashboard
[1]	Live example of Flexdashboard
Population Health Data Science with R	Live example of bookdown

Visualizing US Clinical Trials	Visualizing U.S. Clinical Trials
Creating Simplified TS.XPT Files	Guidance from the FDA on creating TS.XPT files using R or Python with instructions and code

Disclaimer: The educational material/courses provided above are for information sharing purpose only and not for any promotional intent. OSTCR, the PHUSE Working Group project, does not recommend or rank any courses in anyway and are only listed to provide information about their availability. If you would like to provide information about training options you know about please email workinggroups@phuse.global.