Seroincidence package installation manual

European Centre for Disease Prevention and Control (ECDC) 2018-06-05

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1. Introduction

Package **seroincidence** is written in programming language R and end user must have access to a working installation of R engine. This document describes the most common setup with R installed locally on the user's computer. The screenshots refer to the classical R interface, but the package can also be opened in other Graphical User Interfaces fo R like e.g. RStudio.

2. Installation steps

R is a free software and can be downloaded from http://cran.r-project.org/. Latest version as of writing this document is **R 3.5.0**. Once the appropriate, operating system dependent, version is downloaded, install it on your computer following the standard procedure applicable to the operating system. For Windows the file to be downloaded is the so-called *base* distribution: http://cran.r-project.org/bin/windows/base/.

2.1. Installing R

Start the R installer and follow the presented steps:

😰 Setup - R for Windows 3.5.0 —		×
Information Please read the following important information before continuing.		R
When you are ready to continue with Setup, click Next.		
GNU GENERAL PUBLIC LICENSE Version 2, June 1991	^	,
Copyright (C) 1989, 1991 Free Software Foundation, Inc. 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.		
Preamble		
The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software-to make sure the software is free for all its users. This General Public License applies to most of the Free Software		,
Next >	Car	ncel

It is advised to have R installed in folder that does not contain spaces, therefore please adjust the destination location accordingly:

😼 Setup - R for Windows 3.5.0	_		×
Select Destination Location Where should R for Windows 3.5.0 be installed?			R
Setup will install R for Windows 3,5,0 into the following fold	ler.		
To continue, click Next. If you would like to select a different folder,	, click E	Browse.	
C:\k\R-3.5.0		Browse	
At least 1.2 MB of free disk space is required.			
< Back Nex	(t >	C	ancel

The **seroincidence** package is compatible with both the 32-bit and the 64-bit version of R. Choose the preferred platform (or both). If unsure install the 32-bit version only, however on compatible platforms the 64-bit version may provide better performance:

😼 Setup - R for Windows 3.5.0	-		×		
Select Components Which components should be installed?			R		
Select the components you want to install; clear the components you install. Click Next when you are ready to continue.	do not	want to			
Custom installation		~			
Core Files		84.6 MB]		
32-bit Files		49.5 MB			
G4-bit Files		51.3 MB			
Message translations		7.3 MB			
	_				
Current selection requires at least 193.5 MB of disk space.					
< Back Next	>	Can	cel		

It is advised to select $Registry\ entries$ in the next step for best experience:

🔂 Setup - R for Windows 3.5.0	_		×
Select Additional Tasks Which additional tasks should be performed?			R
Select the additional tasks you would like Setup to perform while ins Windows 3.5.0, then click Next.	stalling R	for	
Additional shortcuts:			
☑ Create a desktop shortcut			
Create a Quick Launch shortcut			
Registry entries:			
Save version number in registry			
Associate R with .RData files			
< Back Ne	xt >	Ca	ancel

R interpreter, when installed on Windows, can be invoked from the start menu folder named **R**.

Start the preferred version of R (if both the 32-bit: R i386 and the 64-bit: x64 are installed). Graphical user interface for R interpreter will start in a new window:

RGui (64-bit)	_		\times
File Edit View Misc Packages Windows Help			
R Console			83
R version 3.5.0 (2018-04-23) "Joy in Playing" Copyright (C) 2018 The R Foundation for Statistical Computing Platform: x86_64-w64-mingw32/x64 (64-bit)			^
R is free software and comes with ABSOLUTELY NO WARRANTY. You are welcome to redistribute it under certain conditions. Type 'license()' or 'licence()' for distribution details.			
Natural language support but running in an English locale			
R is a collaborative project with many contributors. Type 'contributors()' for more information and 'citation()' on how to cite R or R packages in publications.			
Type 'demo()' for some demos, 'help()' for on-line help, or 'help.start()' for an HTML browser interface to help. Type 'q()' to quit R.			
>			
<			× •
	_	_	×

2.2. Installing seroincidence package

Since this is a new installation of R, the **seroincidence** package must be installed before first use. The package can be installed either through a menu option in the graphical user interface (GUI) or with a command executed in the R console. Both options are presented:

2.2.1. Package installation from the graphical user interface

Download the seroincidence calculator package from ECDC website: https://ecdc.europa.eu/en/publications-data/seroincidence-calculator-tool. Two versions of the package are made available:

• binary package (seroincidence_[version].zip) - Microsoft Windows compatible

 Source package (seroincidence_[version].tar.gz) - cross-platform compatible (MS Windows, Linux, MacOS)

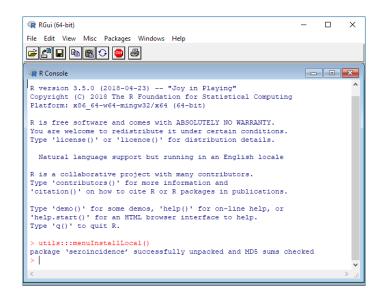
If your operating system is Windows then it is best to download the Windows binary package. Go to menu Packages and select command $Install \ package(s) \ from \ local \ files...:$

ඹ RGui (64-bit)			89	×
File Edit View Misc P	ackages Windows Help			
🚅 💾 🖬 🖪 t	Load package			
R Console	Set CRAN mirror Select repositories			×
R version 3.5.0 Copyright (C) 201	Install package(s) Update packages	Computing		
Platform: x86_64	Install package(s) from local files			
R is a collaborati Type 'contributors	support but running in an Englis ve project with many contributors ()' for more information and w to cite R or R packages in publ	•		
	some demos, 'help()' for on-line an HTML browser interface to hel R.			
>				
				-
<				2.

Select the package file and click "Open":

R Select files X							
\leftarrow \rightarrow \checkmark \uparrow \square \Rightarrow This PC	▹ Local Disk (D:) ⇒ R packag	✓ ♂ Search R packages	م ر				
Organize 🔻 New folder			===	- 🔳 🔞			
💻 This PC 🔷	Name	Date modified	Туре	Size			
🐂 Libraries	seroincidence_2.0.0	3/5/2018 12:13	Compressed (zipped) Folder	4,370 KB			
Network	(
•4 Homegroup							
~							
File name:			 ✓ All files (*.*) 	~			
			Open	Cancel:			

Post-installation message should appear:



The package is now installed in R.

2.2.2. Package installation from R console

Alternatively, installation of the package can also be performed by executing one of the following commands in the R console:

```
# OPTION A
# Install Windows binary package "seroincidence" directly from internet ECDC website:
install.packages(
   pkgs = "http://ecdc.europa.eu/en/data-tools/seroincidence-calculator-tool/Documents/
                seroincidence 2.0.0.zip",
   repos = NULL, type = "win.binary")
# OPTION B
# Install source package directly from internet CRAN repository:
install.packages("seroincidence")
# OPTION C
# Install Windows binary package from a local file:
#
    install.packages("[PATH/TO/FILE/]seroincidence_[version].zip",
#
                        repos = NULL, type = "win.binary")
# For instance:
install.packages(pkgs = "C:/seroincidence_2.0.0.zip", repos = NULL, type = "win.binary")
# OPTION D
# Install source package from a local file:
install.packages(pkgs = "C:/seroincidence_2.0.0.tar.gz", repos = NULL, type = "source")
```

3. Post-installation

Successful installation can be confirmed by loading the package into the workspace and exploring help files and manuals distributed with the package:

```
# Load package "seroincidence".
library(seroincidence)
# Show R help for the package.
?seroincidence
# Show tutorial for the package.
vignette(topic = "tutorial", package = "seroincidence")
```

Additionally, most package details can be found when executing the following commands:

Show description.
packageDescription("seroincidence")

```
## Package: seroincidence
## Type: Package
## Title: Estimating Infection Rates from Serological Data
## Version: 2.0.0
## Date: 2018-06-05
## Authors@R: c( person(given = "Peter", family = "Teunis", email =
          "p.teunis@emory.edu", role = c("aut"), comment = "Author of
##
##
          the method and original code."), person(given = "Jan",
          family = "van Eijkeren", role = c("aut"), comment = "Author
##
##
          of the method and original code."), person(given =
          "Daniel", family = "Lewandowski", email =
##
##
          "daniel@nextpagesoft.net", role = c("com", "ctb"), comment
          = "Creator of the R package."), person(given = "Chantal",
##
##
          family = "Quinten", email = "seroincidence@ecdc.europa.eu",
##
          role = c("cre", "ctb"), comment = "Project manager and the
##
          package maintainer."))
## Maintainer: Chantal Quinten <seroincidence@ecdc.europa.eu>
## Description: Translates antibody levels measured in a
          (cross-sectional) population sample into an estimate of the
##
##
          frequency with which seroconversions (infections) occur in
##
          the sampled population.
## Depends: R (>= 2.10)
## License: GPL-3
## Imports: stats, utils
## Suggests: knitr, rmarkdown, parallel
## VignetteBuilder: knitr
## LazyData: true
## Encoding: UTF-8
## URL:
          \verb+https://ecdc.europa.eu/en/publications-data/seroincidence-calculator-tool+
##
## RoxygenNote: 6.0.1
## Author: Peter Teunis [aut] (Author of the method and original
          code.), Jan van Eijkeren [aut] (Author of the method and
##
##
          original code.), Daniel Lewandowski [com, ctb] (Creator of
##
          the R package.), Chantal Quinten [cre, ctb] (Project
          manager and the package maintainer.)
##
## Built: R 3.5.0; ; 2018-06-05 15:08:46 UTC; windows
##
## -- File: C:/Users/Daniel Lewandowski/AppData/Local/Temp/RtmpIj79P1/Rinst32847b08472b/seroincidence/M
```

```
# Show citation.
citation("seroincidence")
```

```
##
## To cite package 'seroincidence' in publications use:
##
##
    Peter Teunis and Jan van Eijkeren (2018). Estimating Infection
     Rates from Serological Data. R package version 2.0.0.
##
##
## A BibTeX entry for LaTeX users is
##
##
     @Manual{,
       title = {seroincidence: Estimating Infection Rates from Serological Data},
##
       author = {Peter Teunis and Jan {van Eijkeren}},
##
##
       year = \{2018\},\
       note = {R package version 2.0.0},
##
       url = {https://ecdc.europa.eu/en/publications-data/seroincidence-calculator-tool},
##
##
     }
```