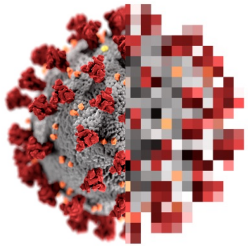
A brief introduction to Epiverse and {epiparameter}



Adam Kucharski

WHO Hub

May 2024

MRC Unit The Gambia

London School of Hygiene & Tropical Medicine

Pontificia Universidad Javeriana Colombia

Universidad de los Andes

Epiverse TRACE

powered by data.org

"Do you know whether anyone out there has a comprehensive dataset of key epidemiological quantities for each infectious agent? If something like this exists, it would save us hours or days of trawling through literature."

– Recent message from collaborator

What could the final size of an epidemic be?

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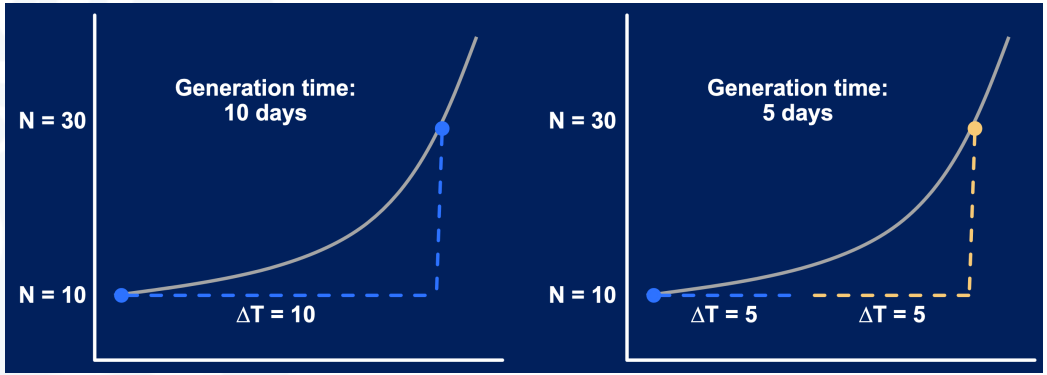
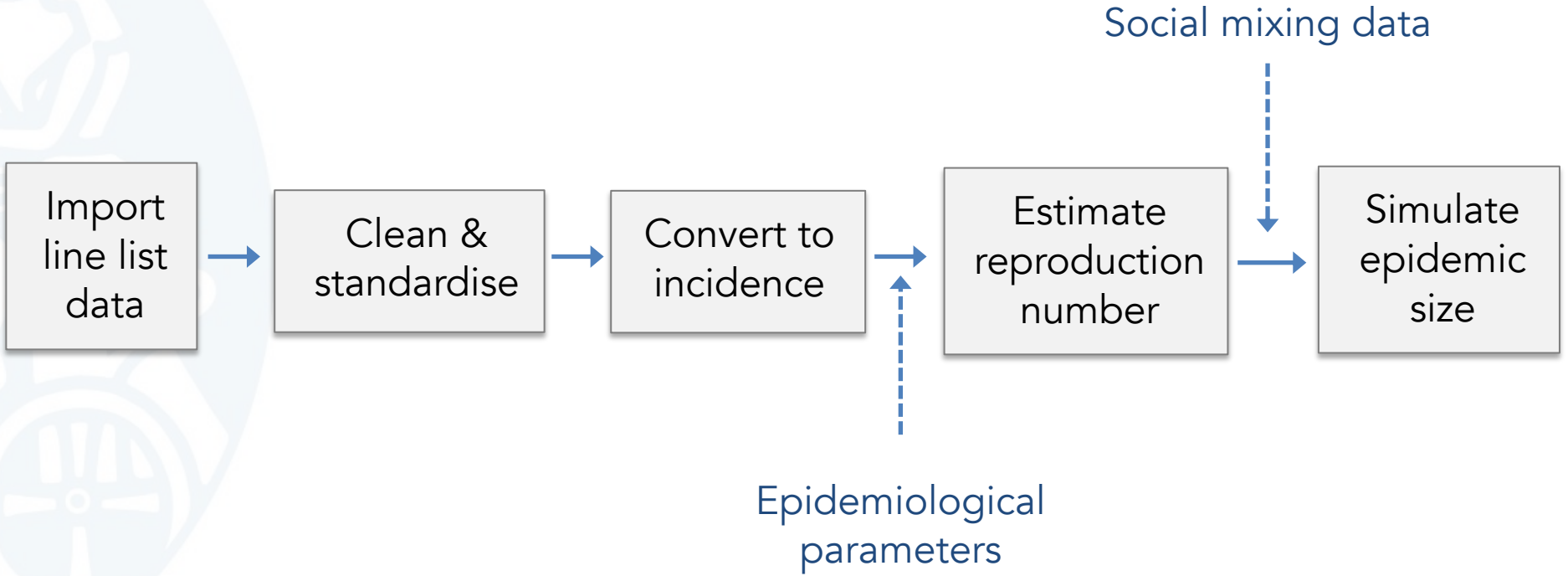
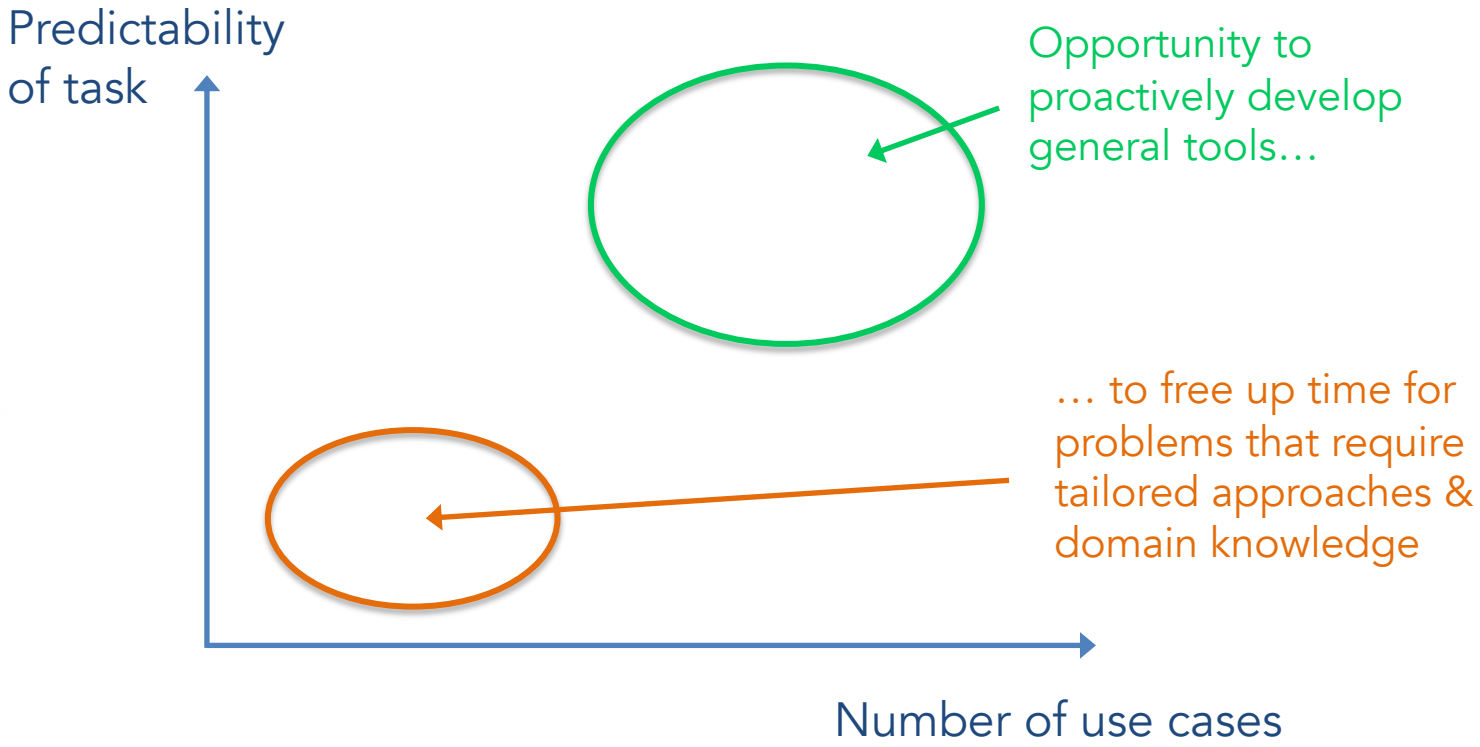
Recall from Day 1:



Basic reproduction number → Simulate epidemic size

What could the final size of an epidemic be?





Adapted from: From the 100 Day Mission to 100 lines of software development: how to improve early outbreak analytics. Tamayo-Cuartero et al. Lancet Digital Health, 2024

PERSPECTIVE

The COVID-19 response illustrates that traditional academic reward structures and metrics do not reflect crucial contributions to modern science

Adam J. Kucharski*, Sebastian Funk, Rosalind M. Eggo

PLOS Biology, 2020

The **Epiverse** initiative

Aim: help change how analytics are used in the global infectious disease response, moving from inflexible analytical tools and ad-hoc collaboration to integrated, generalisable and scalable community-driven software.

- New tool development
- Contributions to existing tools
- Integration across ecosystem

github.com/epiverse-trace

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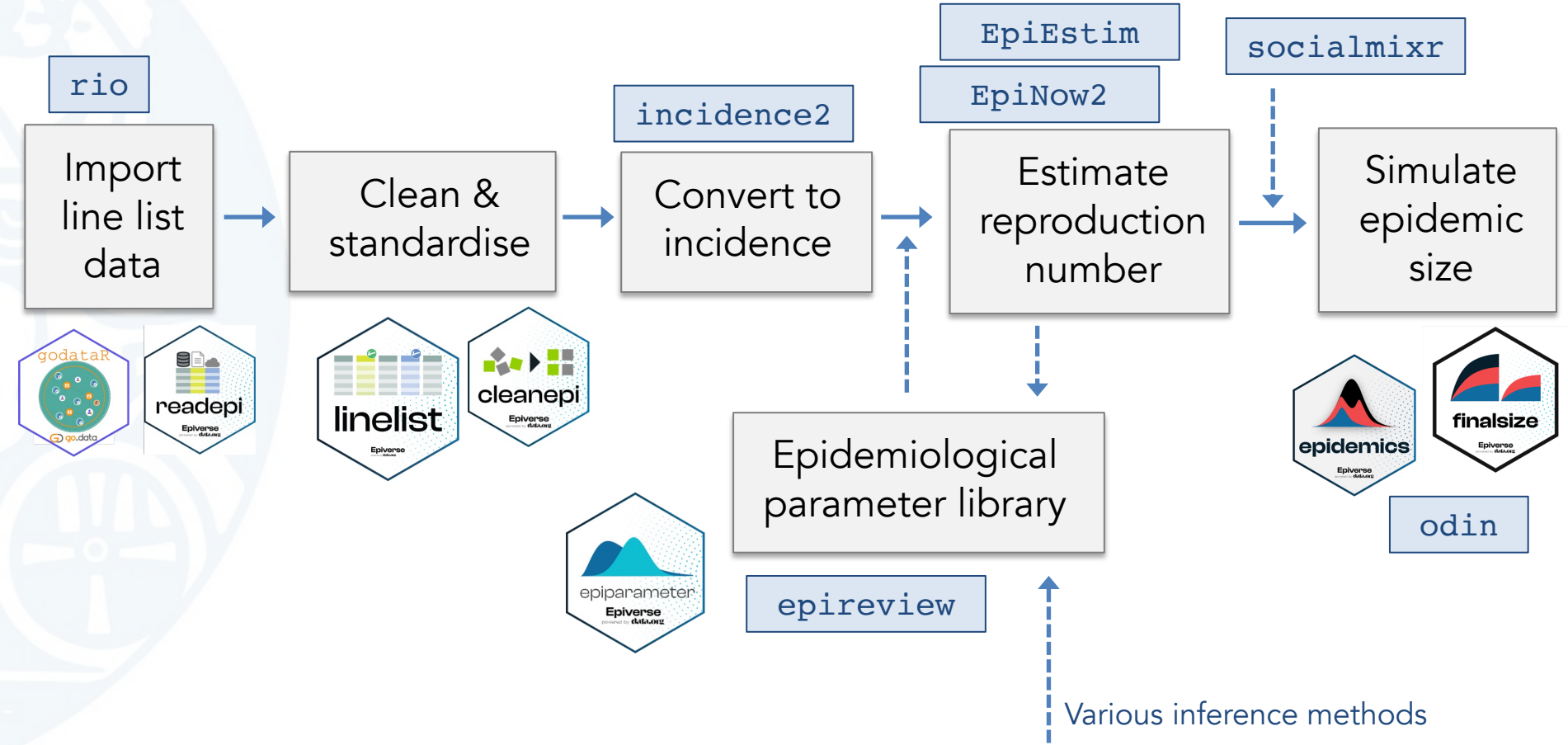
Early stage | Middle stage | Later stage

github.com/epiverse-trace

Example task: simulate final size of an epidemic



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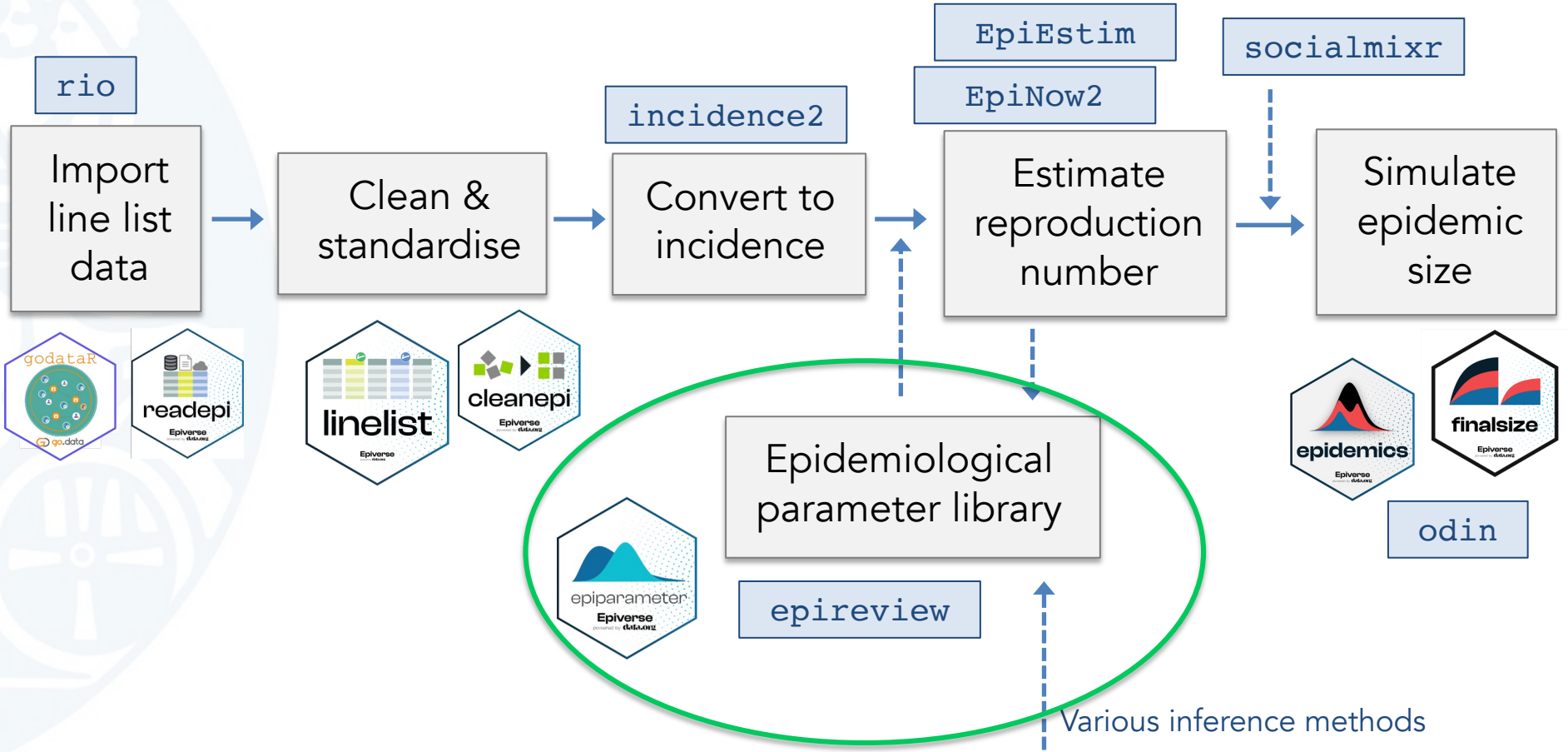


Training resources and courses: coming 2nd half of 2024

e-Epi training kit en Español

El **e-Epi-training kit** es una estrategia para el aprendizaje en línea que permite un aprendizaje progresivo y flexible. Este kit incluye el curso virtual en ciencia de datos en salud pública y modelamiento de enfermedades infecciosas, el cual está dirigido a América Latina y el Caribe y cuenta con un enfoque de género. Leer más detalles sobre la estrategia en línea.

Tutoriales en Español

Tutorial	Sitio	Repositorio	Agenda para instructoras/es	Fase de desarrollo
Análisis de Brotes y Modelamiento en Salud Pública				pre alpha

How-to guides in English

Material	Site	Repository	Instructor schedule	Development stage
How-to guides for Outbreak Analytics with R				pre alpha

Tutorials in English

Tutorial	Site	Repository	Instructor Schedule	Development stage
Reading and cleaning data for outbreak analytics with R				pre alpha
Real-time analysis and forecasting for outbreak analytics with R				pre alpha
Scenario modelling for outbreak analytics with R				pre alpha

Research Software Curriculum

The focus of these workshops is on best practices for your outbreak analytics R projects and data. This uses command line utilities and complementary R packages to improve the openness, reproducibility, and sustainability of your analysis project.

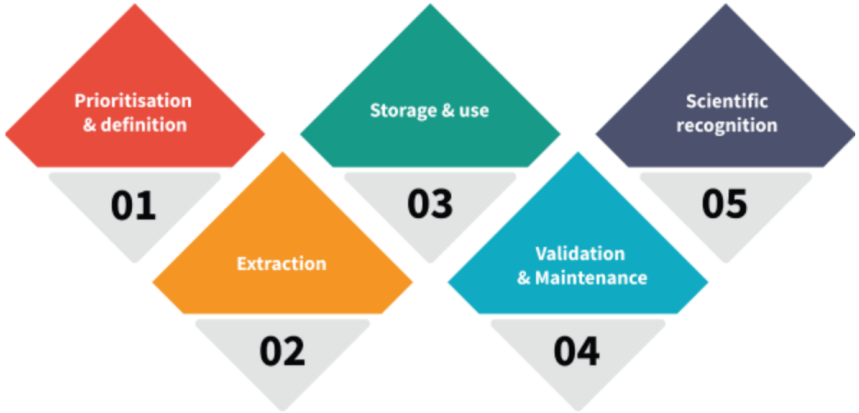
Tutorial	Site	Repository	Instructor schedule	Development stage
Version Control with Git in Rstudio				alpha
Improve your code for Epidemic Analysis with R				pre alpha

epiverse-trace.github.io/learn

WHO collaboratory community to generate standardized library

Collaboratory
Pandemic and Epidemic Intelligence

EpiParameter Community



github.com/WorldHealthOrganization/collaboratory-epiparameter-community