

(in the sense of nearly now and in the sense of right truncated count correction)

Epinowcast: Flexible hierarchical nowcasting

Forecasting infectious disease incidence for public health

w/ Adrian Lison, Sang Woo Park, Felix Gunther, Kelly Charniga, Johannes Bracher, Carl Pearson, Hannah Choi, Michael DeWitt, Sebastian Funk and many more

Sam Abbott

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samabbott.co.uk

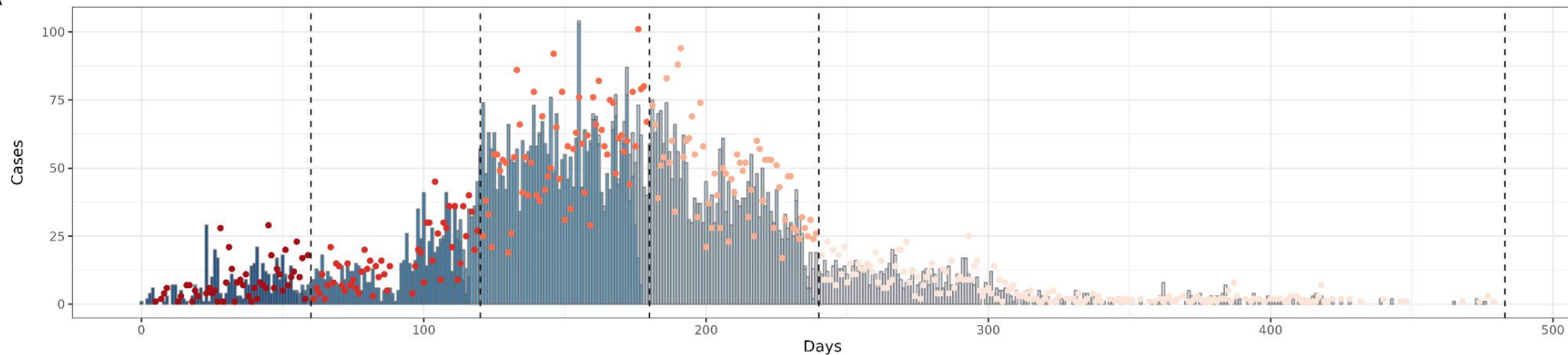
Slides: samabbott.co.uk/presentations/2023/royal-society-epinowcast.pdf

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& TROPICAL
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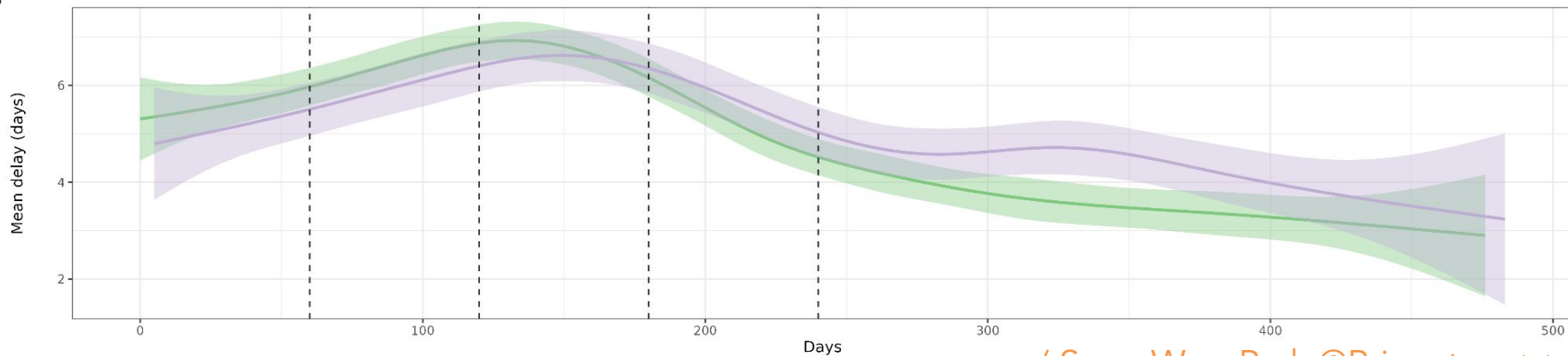


Sierra Leone Ebola virus disease outbreak (Fang et al.) - doi.org/10.1073/pnas.1518587113

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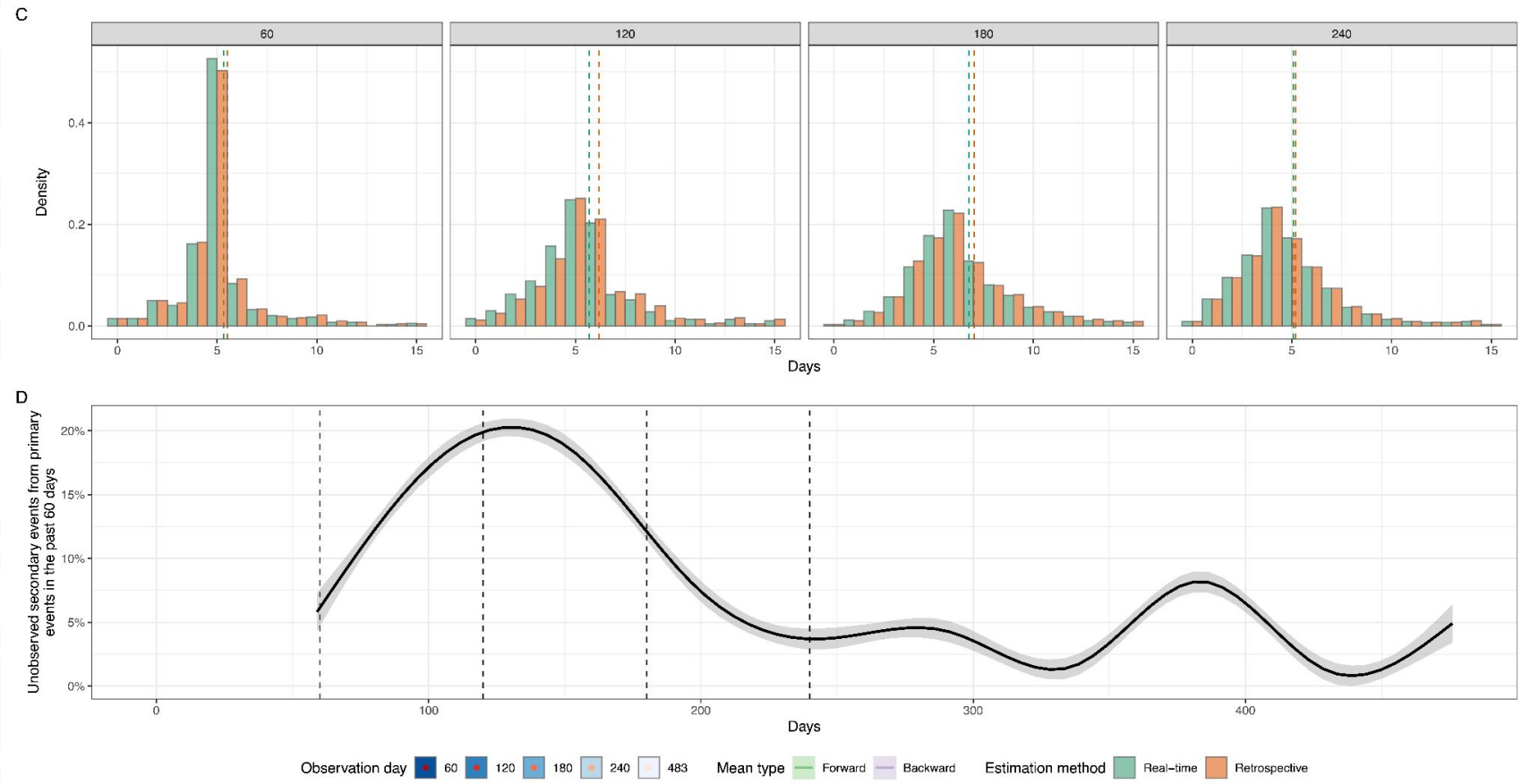


B



w/ Sang Woo Park @Princeton ++

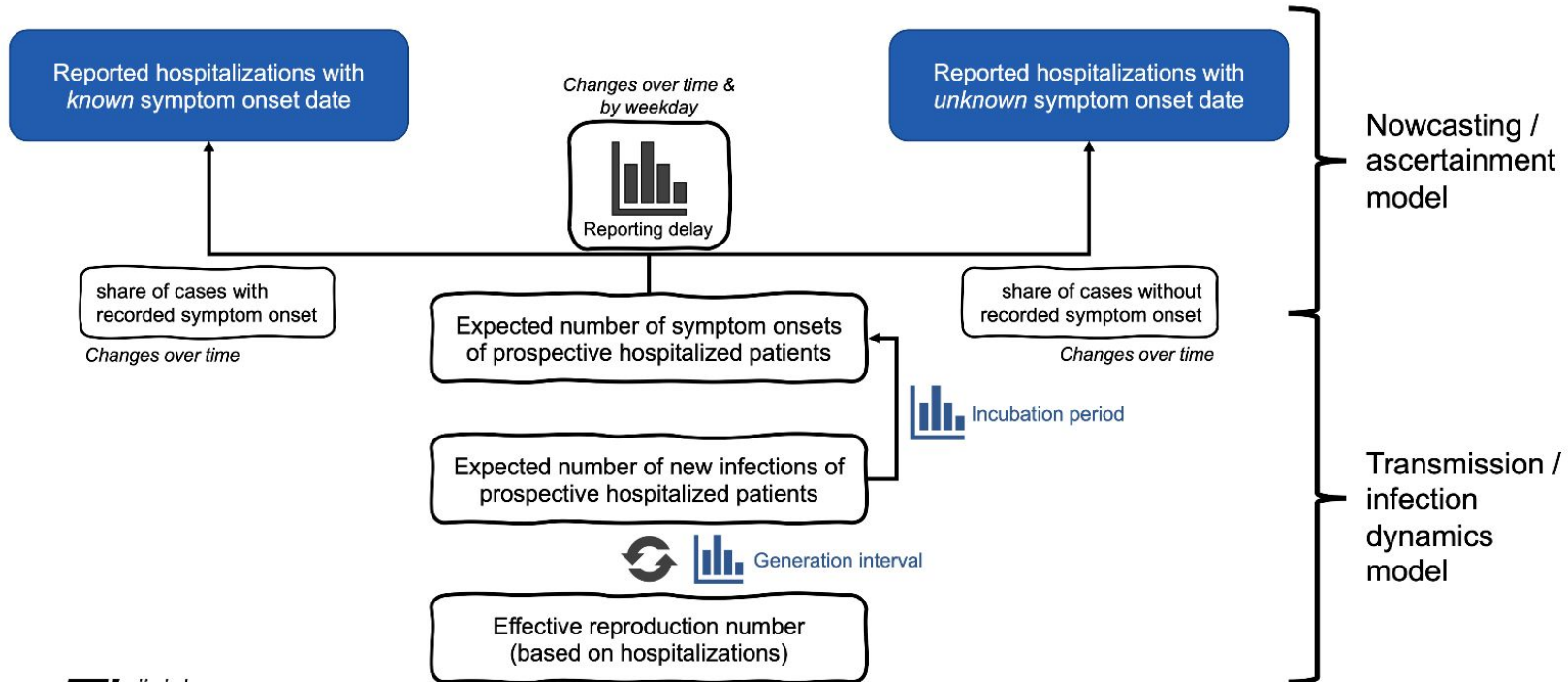
Sierra Leone Ebola virus disease outbreak (Fang et al.) - doi.org/10.1073/pnas.1518587113

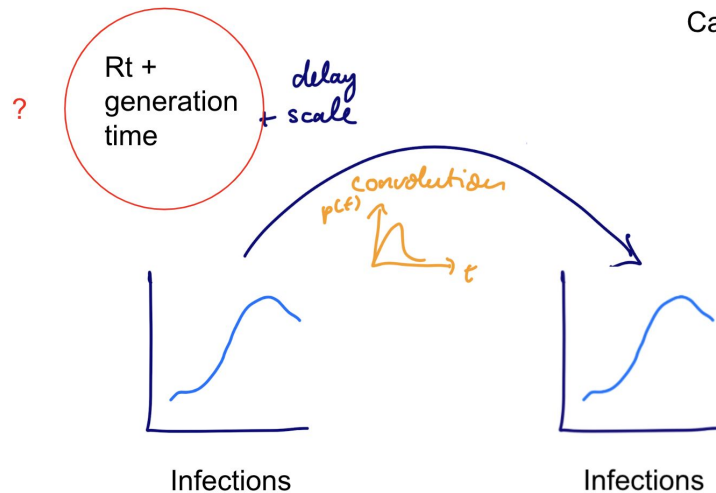
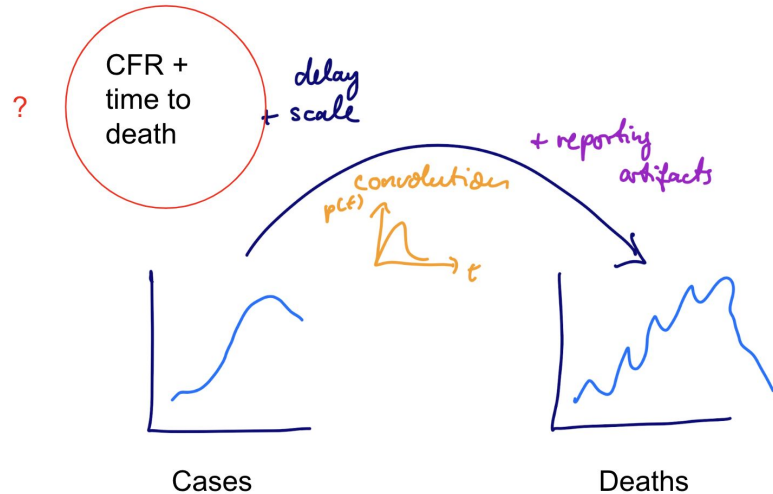
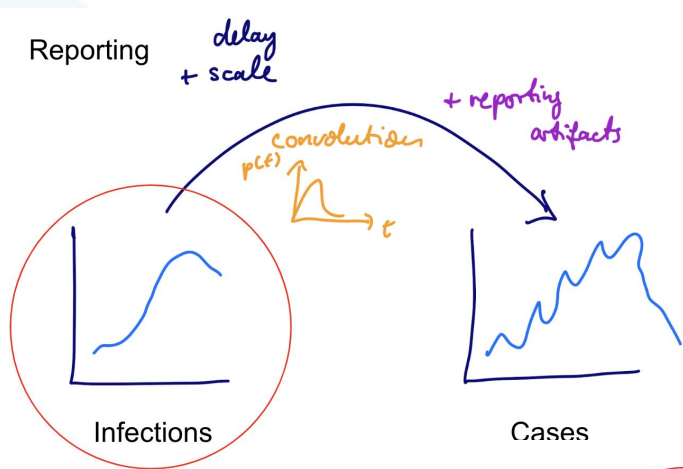


w/ Sang Woo Park @Princeton ++

Nowcasting R_t from hospitalization linelist data

Bayesian hierarchical model

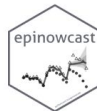




All by:

- Space/location
- Time
- Risk factors
- Society structure

Stolen without permission
from Sebastian Funk



Welcome to the Epinowcast community

We are a community of infectious disease modellers, applied epidemiologists, software developers, and others building a suite of tools for real-time analysis of infectious diseases. On top of developing these tools, we also do research on when they work and when they don't, write case studies to showcase best practices, support users and decision-makers, and compare our work to that of others.

We strongly believe that the challenges we face in the real-time analysis of infectious disease can only be overcome as a community collaboration.

We are still in the early stages of building our community so now is a great time to jump in.





Flexible hierarchical nowcasting



lifecycle experimental R-CMD-check failing codecov 88%

r-universe 0.2.0 License MIT contributors 8

DOI 10.5281/zenodo.7540583

Tools to enable flexible and efficient hierarchical nowcasting of right-truncated epidemiological time-series using a semi-mechanistic Bayesian model with support for a range of reporting and generative processes. Nowcasting, in this context, is gaining situational awareness using currently available observations and the reporting patterns of historical observations. This can be useful when tracking the spread of infectious disease in real-time: without nowcasting, changes in trends can be obfuscated by partial reporting or their detection may be delayed due to the use of simpler methods like truncation. While the package has been designed with epidemiological applications in mind, it could be applied to any set of right-truncated time-series count data.

Getting started and learning more

This README is a good place to get started with `epinowcast`, in particular the following installation and quick start sections. As you make use of the package, or if your problem requires a richer feature set than presented here, we also provide a range of other documentation, case studies, and spaces for the community to interact with each other. Below is a short list of current resources.

- **Package website:** This includes a function reference, model outline, and case studies making use of the package. The development version of our documentation (corresponding to our `develop` branch) is available [here](#).
- **Organisation website:** This includes links to our other resources as well as guest posts from community members and schedules for any related seminars being run by community members.
- **Directory of example scripts:** Not as fleshed out as our complete case studies these scripts are used during package development and each showcase a subset of package functionality. Often newly introduced features will be explored here before surfacing in other areas of our documentation.
- **Community forum:** Our community forum is where development of tools is discussed, along with related research from our members and discussions between users. If you are interested in real-time analysis of infectious disease this is likely a good place to start regardless of if you end up making use of `epinowcast`.

Links

[Browse source code](#)[Report a bug](#)

License

[Full license](#)[MIT + file LICENSE](#)

Community

[Contributing guide](#)[Code of conduct](#)

Citation

[Citing epinowcast](#)

Developers

[Sam Abbott](#)

Author, maintainer

[Adrian Lison](#)

Author



[Sebastian Funk](#)




Author

[Carl Pearson](#)

Author

[More about authors...](#)

Community

Categories

- Announcements
- General
- Introductions
- Meetings
- All categories

Messages

- Inbox
- admins


Channels

- # General
- # Lounge
- # Staff

Personal chat

- sangwoopark
- alison, johannes
- alison
- teocryan
- FelixGuenther
- kcharrniga
- medewitt
- OvertonC
- dwollfram

To make launching your new site easier, you are in bootstrap mode. All new users will be granted trust level 1 and have daily email summary emails enabled. This will be automatically turned off when 50 users have joined.

 Send invitations

all categories
all tags
Latest
Top
Categories
Docs

 + New Topic

Topic	Replies	Views	Activity
Community Seminar 2023-03-15 ■ Meetings	0	1	3m
last visit			
How should we talk about nowcasting horizons?	2	28	7d
Community Seminar 2023-03-01 - Adrian Lison - Generative modeling approaches to nowcasting with incomplete line list data ■ Meetings	0	177	14d
European forecasting hub moves to nowcasting hospital admissions	1	21	15d
Adding a new package to epinowcast github ■ Project Proposals	2	92	15d
Propagating uncertainty between models in EpiNow2 ■ Other Resources application	1	50	20d
Community meeting 2023-02-15 ■ Meetings	1	165	28d
Handling delayed entry of symptom onset dates in line lists ■ Developers model-extension	9	124	8 Feb
Community Seminar 2023-02-01 - Johannes Bracher - Collaborative nowcasting of COVID-19 hospitalization incidences in Germany ■ Meetings researcher, application, real-time-seminar	2	260	1 Feb
Community seminars for real-time infectious disease modelling ■ Meetings	1	161	1 Feb
Epinowcast meeting (2023-01-18) ■ Meetings	2	48	18 Jan
General-audience nowcasting FAQ	2	101	18 Jan

Learning more and getting involved

Talk to me?

epinowcast.org - A community of infectious disease modellers, applied epidemiologists, software developers, and others building a suite of tools for real-time analysis of infectious diseases. See our [package docs](#), the [community site](#) and our [GitHub organisation](#).

Straight to the maths - package.epinowcast.org/articles/model

See the stan code (here be demons) - github.com/epinowcast/epinowcast/tree/main/inst/stan

Summary slides from an application in Germany - samabbott.co.uk/presentations/2022/nowcasting-sacema.pdf