

Using Shiny to track winter pressures in the UK National Health Service (NHS)

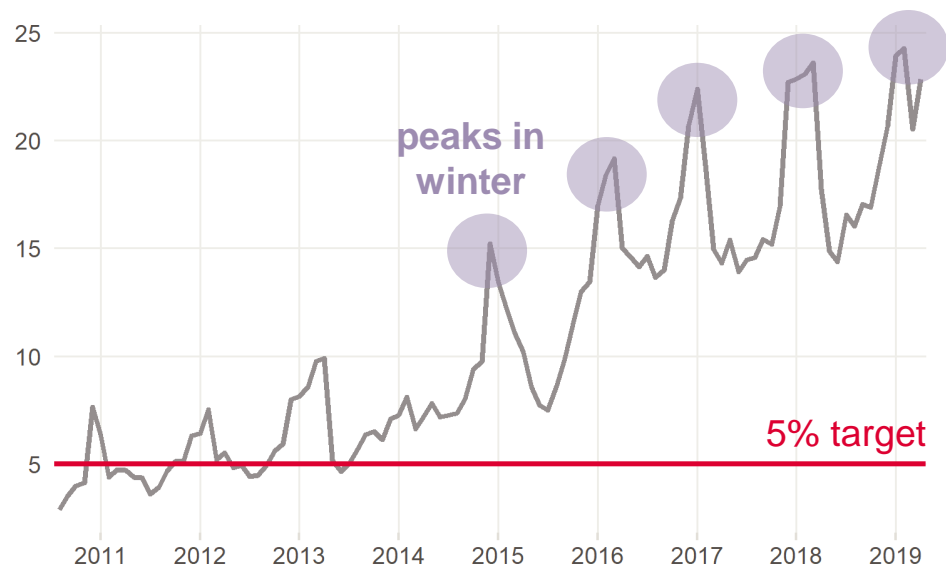
Fiona Grimm, Sarah Deeny

useR! 2019 Toulouse



Winter is a challenging time for the NHS

Emergency care waiting time > 4 hours (%)



Daily Mail
WEDNESDAY JANUARY 2, 2019 www.dailymail.co.uk NEWSPAPER OF THE YEAR 65p

WINTER CRISIS CRIPPLES NHS

++ Up to 55,000 operations postponed ++ Patients to be put on mixed wards ++ Senior doctors will man doors at A&E to turn away non-urgent cases

Tracking data on NHS winter pressures



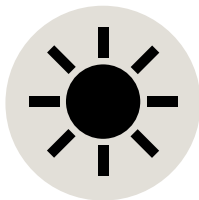
Tracking data on NHS winter pressures





Throughout

Promoting the use of R in the NHS



This winter

Shiny NHS Winter Tracker



Last winter

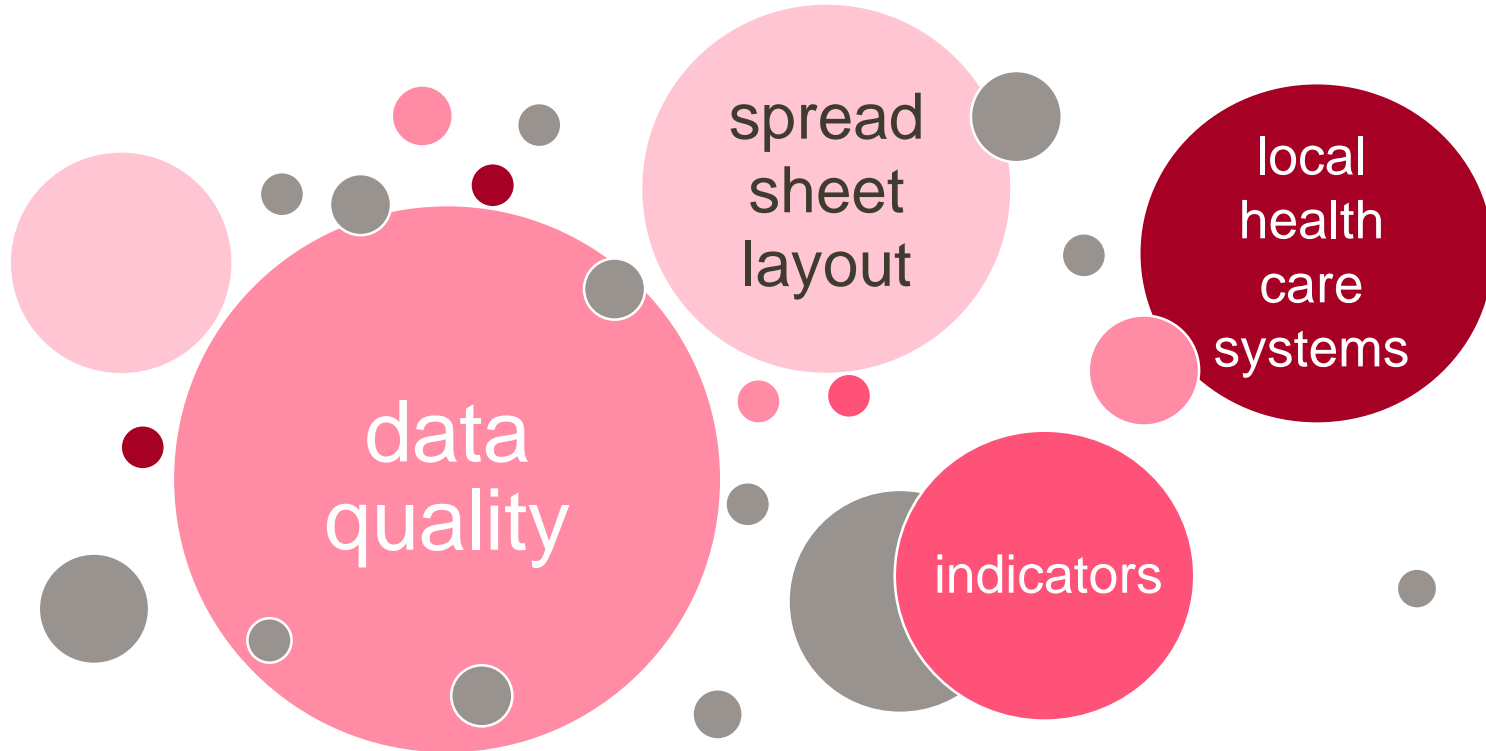
An R workflow for analysis & visualisation



Before

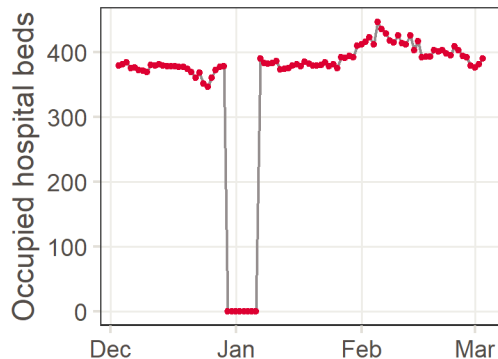
Copy & paste

Challenges: things change all the time

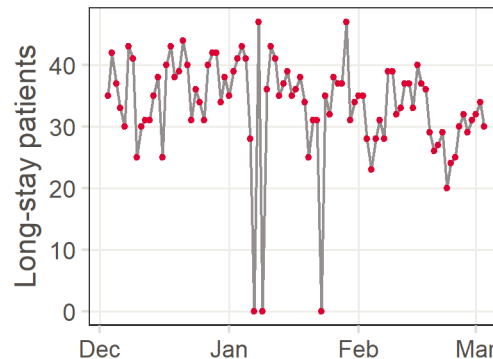


Challenges: missing or not?

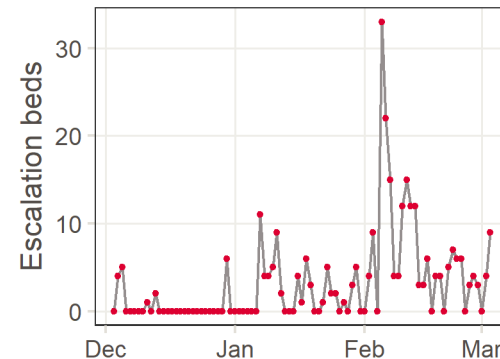
Large data gaps



Small data gaps



Ambiguous gaps?



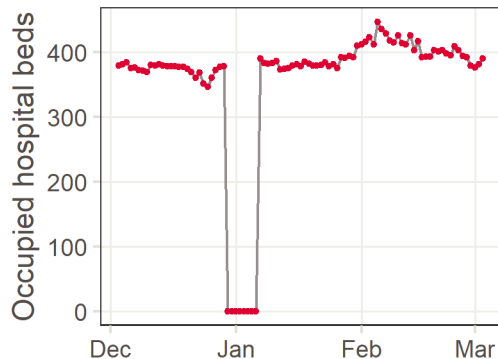
Cleaning

Interpretability

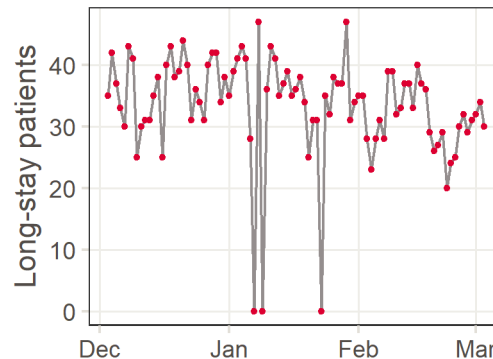


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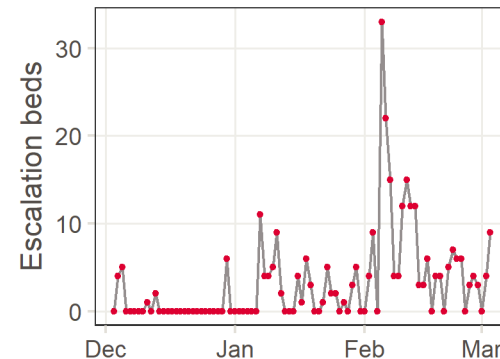
Large data gaps



Small data gaps

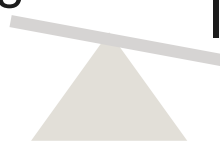


Ambiguous gaps?



Cleaning

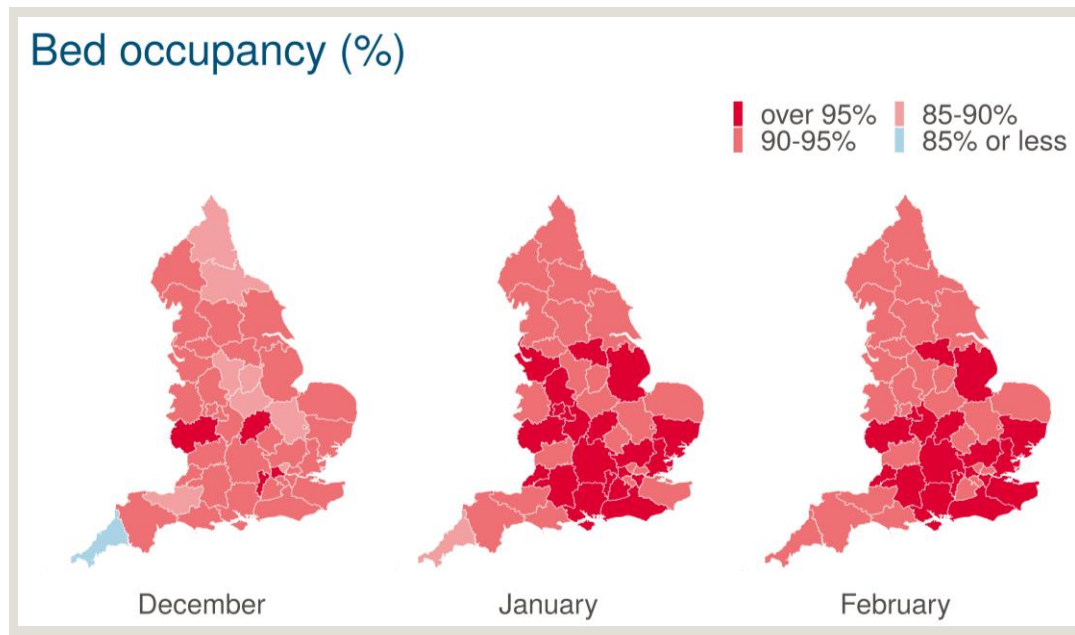
Interpretability



Our workflow



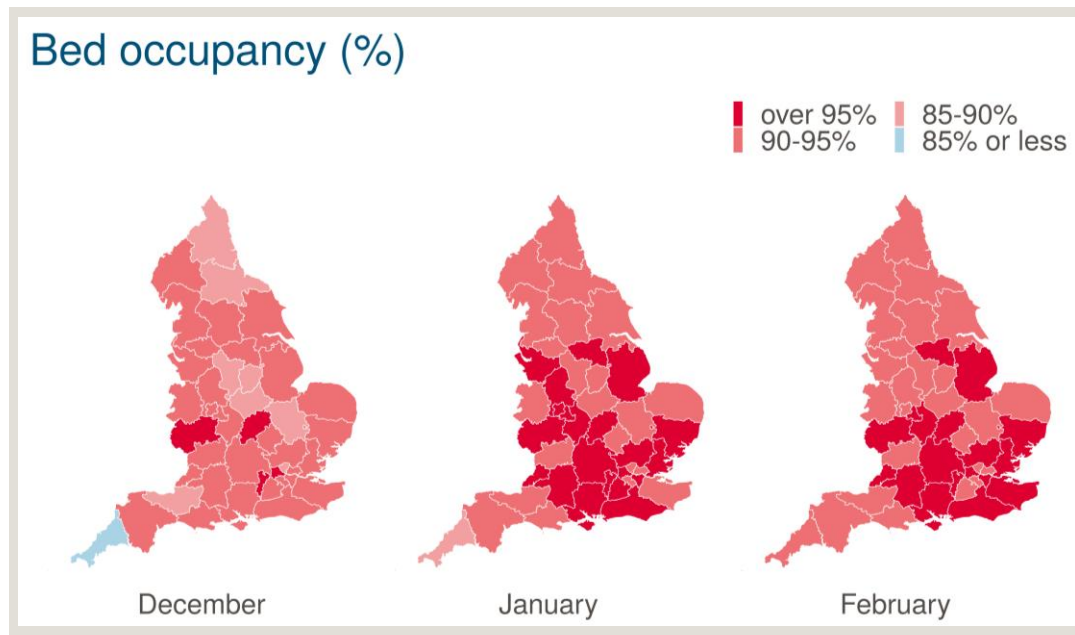
+  maptools
 geojsonio



Our workflow

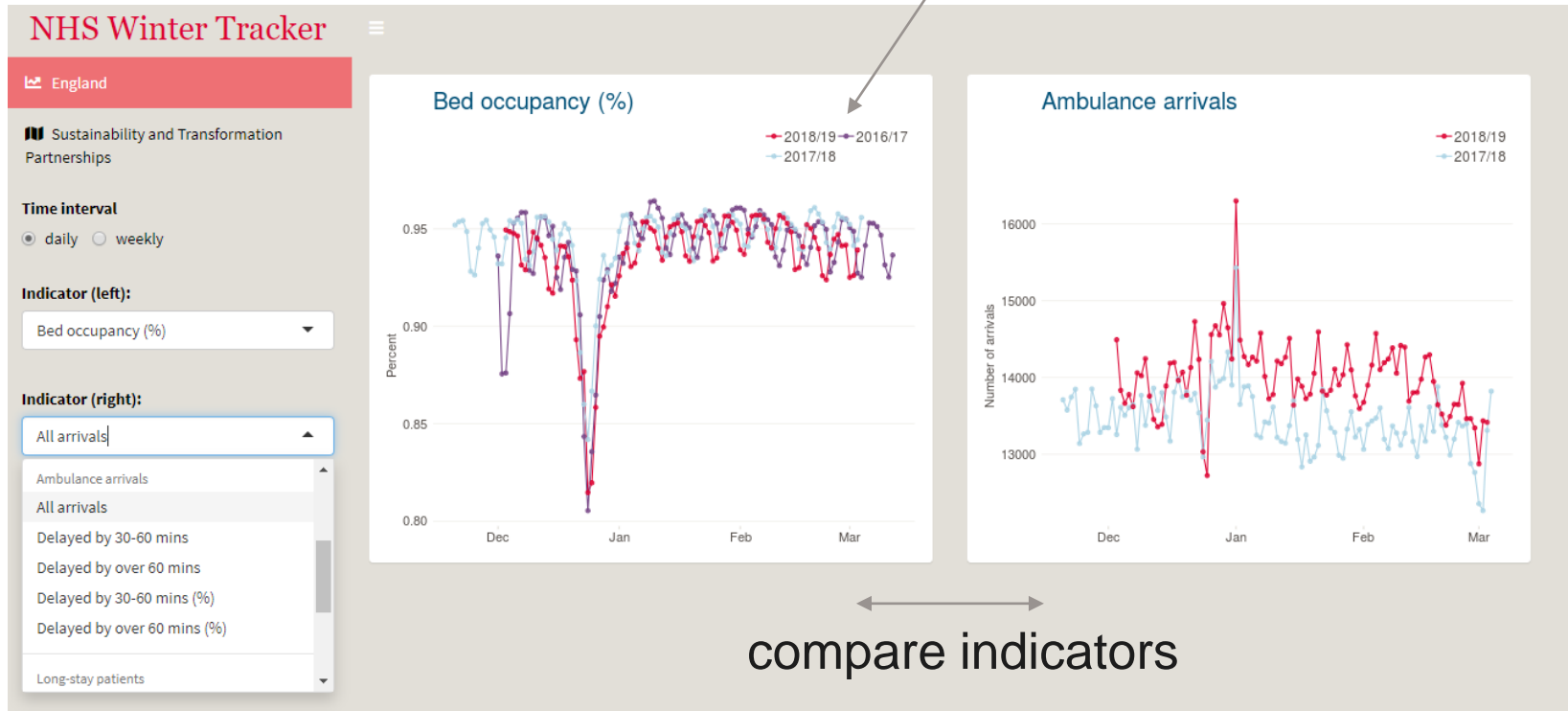


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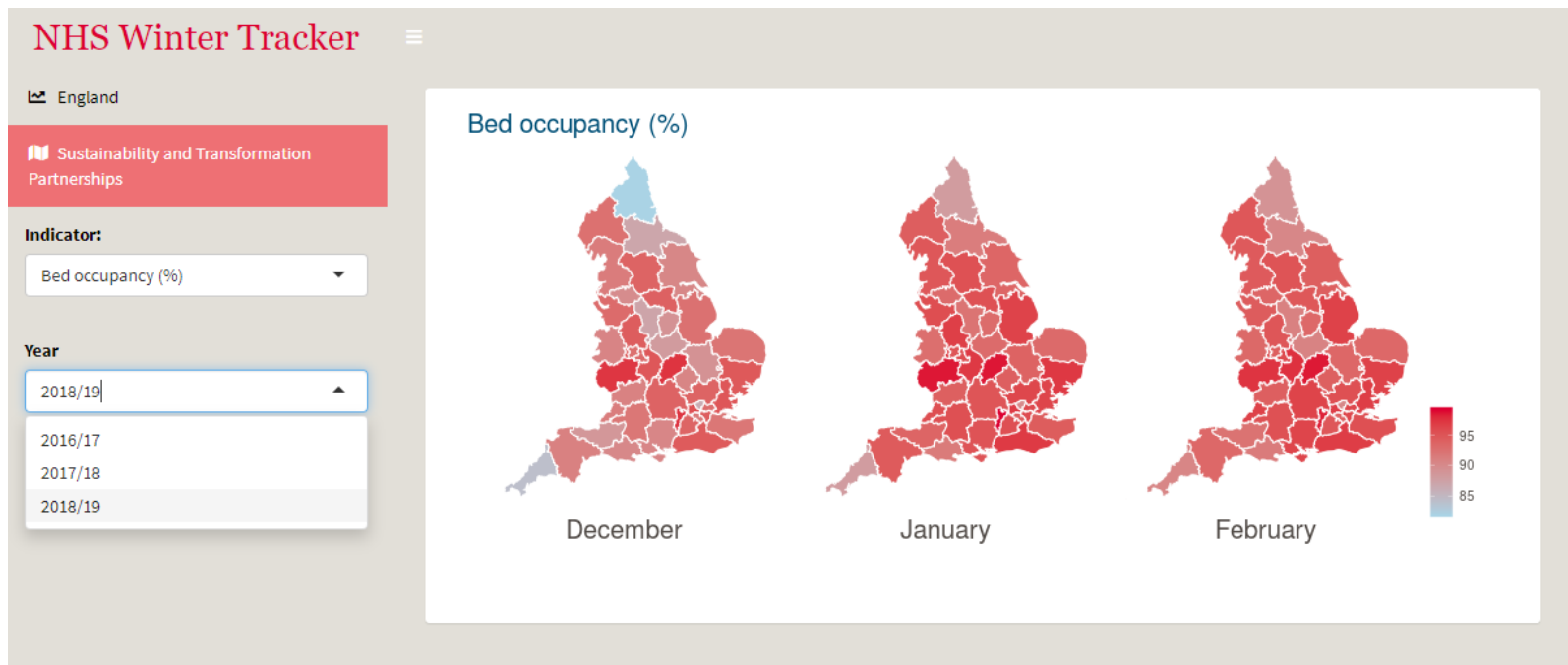


Shiny: national trends

compare to previous years



Shiny: variation between local health systems



What did we learn?

Even **simple** analyses involve lots of decisions that impact results and interpretability.

It's worth sharing the how AND the why.

www.health.org.uk

github.com/fiona-grimm

medium.com/@fionagrimm

The NHS this winter: looking beneath the national view

14 March 2019

 Lucinda Allen

 [Blog](#) / [Analytics and data](#) / [Quality of care](#)

@LucindaRAllen



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How we swapped 'copy and paste' for a reproducible and time-efficient workflow in R



Fiona Grimm

Mar 14 · 13 min read ★

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