Slide 1

ICH Coding Club

A Shiny App for Data Generation and Teaching Statistics

20th May 2020

Dr Dean Langan
UCL Great Ormond Street Institute of Child Health

1

Slide 2

A Data Generation Exercise

- The Centre for Applied Statistics Courses (CASC) run a five-day short course 'Introduction to Statistics and Research Methods'

- Students participate in a data generation / analysis exercise is given to the students.
- Gives students a sense of the whole research process
- Research Question: **How is beermat flipping ability associated with height?**

2

Slide 3

Before…

All stages of the exercise performed manually…

Students fill in paper-based data entry forms

Entered manually by a teaching fellow

Analysed through SPSS (syntax available)

Printouts given to students

3

Slide 4

Before…   After…

All stages of the exercise performed manually… → Many stages of the exercise automated …

Students fill in paper-based data entry forms → Students now fill in google form

Entered manually by a teaching fellow → Data automatically entered into a google spreadsheet

Analysed through SPSS (syntax available) → Results viewed in real-time through the Shiny App

Printouts given to students → Students given access via web link

4

Slide 5

Code Versions (on GitHub)

There are multiple version of the app available with increasing complexity…

- V1 – Just the bare-bones for creating a blank app
- V2 – Read in data (from a google spreadsheet) and display it as a table (with some simple inputs)
- V3 – Read in data (more complicated version) with ability to create a subset based on dates
- V4 – Adding in reactive text (a warning if no data is selected)
- V5 – Adding in a new tab to the interface
- V6 – A further example of reactive text (summary statistics).
- Final – The current final version of the app.

5

Slide 6

Further Details

- Apps need to be uploaded to a shiny server to make them available online…
- Official shiny server:
    https://www.shinyapps.io/

- Other unofficial options:
    https://www.shinyproxy.io/

- Link to the online version of my app:
    https://dean-langan.shinyapps.io/beermat/

6