CV – data analysis work history and examples of code

**NHSEI (Feb 2019 to present)**

Low Priority Prescribing

* Challenge: How to set CCG level targets to help implementation and focus effort in a fair way?
* Solution:
  + Understand data available
  + Explore how prescribing varied across the country by patient demographics
  + Create national standardised targets
  + Apply targets to each CCG to create bespoke targets that varied as demographics varied
  + Produce all above in R code so all steps documented, transparent, reproduceable and quick to update.

Covid-19: Forecasting demand for medicines

* Challenge: How to translate forecasts of occupied beds due to Covid-19 patients in to a medicines demand forecast and compare this to supply?
* Solution:
  + Gather assumptions on treatment groups for Covid-19 patients and different medicines available to meet treatment group need.
  + Translate all assumptions around daily medicines usage for individual products into a universal unit of measure – daily dose.
  + Apply translation to medicines stock data to convert VMP units or singles to units of daily doses.
  + Forecast demand in daily doses.
  + Compare supply/medicines stock to demand and see if there are any shortfalls.

Part-time PGDip in Health Data Analysis @ UCL (ongoing)

* Principles of Health Data Analysis: How to model and optimise health services.
* Research methods for Healthcare: Theory of research and applying this to design a new research proposal.
* Statistics for Health Analysis: Linear and non-linear models

**Department for Education (Feb 2014 to Feb 2019)**

Children in need of help and protection: data and analysis

* Analysis using multiple pupil/child level datasets to understand the characteristics, experiences and educational outcomes of children in need: <https://www.gov.uk/government/publications/children-in-need-of-help-and-protection-data-and-analysis>
* Analysis based on 11 datasets, covering termly censuses, attainment data, Ofsted data, absences and exclusions data and childrens services records.
* Linked datasets for the first time to understand the attainment and experiences of children in the social care system. Report highlighted the multiple disadvantages faced by children in need and the attainment gap that exists for children in need even after taking account of other characteristics of disadvantage.
* Most analysis carried out in SQL.

Academisation: Forecast of the conversion from LA maintianted schools to academies

National funding formula: Lead analysis in the development of the schools national funding formula

Department for Work and Pensions (Sept 2012 to Feb 2014)