

Proposed Miniprojects from the National Health Service's Commissioning Support Unit (NHS CSU), for Birmingham, Black Country and Solihull

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Project: Modelling A&E Walk-Aways

A significant and growing healthcare expense are visits to urgent care or Accident & Emergency (A&E) units. Some patients at A&E have minor medical complaints that could be served better (and more economically) at General Practices (GPs) or other locations. For example, patients with chronic back pain, or cold or influenza could likely be better served elsewhere. An important question for the CSU is understanding the characteristics of this population of patients. Directly identifying such patients is difficult, but there is one population of patients that is well-identified: A&E walk-aways.

As soon as patients arrive in A&E a record is made, but some fraction of patients, about 3%, will leave without being seen. It is likely that they decided themselves that they are insufficiently ill and seek alternative treatment elsewhere (if any). But the rates of walk-aways vary considerably, being higher when A&E is busy and waiting times are long, and lower when A&E is less busy. And it is anticipated that the incidence of walk-aways will be higher when GP's are open, and provide an alternate place of treatment.

The goal of this project is to create the most accurate model for the incidence of A&E walk-aways, using the exhaustive NHS database of A&E visits in the UK. Using detailed records on the ~2 million A&E visits in a year, the model can use information on visit time-of-day, day-of-week, waiting times at the A&E, etc. The final result of this project will be a model whose interpretation will help the NHS CSU better understand A&E use and, eventually, better serve patients with minor, but urgent complaints.