

## **Understanding the drivers of behind future demand for hospital services in Scotland and to support the development of wider whole system modelling**

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Public Health Scotland is developing a number of models to represent the health and social care system. The goal of these models is to combine them over time to create a whole system view. This will be used to support the long term planning of services and workforce and to understand the long term demands on the system that the population will require.

Hospital services make up a considerable part of the whole system and will be a key plank of the future whole system model. Being able to predict future demand in the different specialties within the hospital system is essential as well as combining them to see the overall trends in hospital care.

The overall aim of the whole system working is to explore the question: What are the drivers for long term health and social care demand? Though for this study it is specifically hospital demand.

The open data that is available for this study covers a number of different possible drivers. The core dataset is hospital activity by board of treatment which provides a number of metrics by time, admission type, specialty, and location. Beyond this data set there are a number of others that can be used to further explore what is happening including data on: sex, age, deprivation, and board of residence. Further data could be sourced from other open data from PHS or other national bodies.

Example research questions could include, but are not limited to:

- Are there key cohorts of patient (based on their demographics) that drive the overall hospital activity?
- How significant is deprivation as a driver of hospital activity?
- Are there specialty's that have more stable activity patterns over time and how much of an impact is stability on overall activity?
- How significant are the differences in hospital activity across the country? Does urban/rural have an impact or is it related to the size and capacity of the health board?

This study will be used to support whole system modelling within Public Health Scotland. It will lay down a range of options that can be pursued and hopefully identify avenues that will not be successful. It will provide some structure that can support future developments. It will also help support health and social care organisations to deliver care across the country.

Useful courses:

### **Links to datasets**

- [Hospital Activity page](#)
- [Hospital Activity by Specialty](#)
- [Hospital Activity and Patient Demographics](#)
- [Hospital Activity and Deprivation](#)