Demand modelling and analysis

The Economics team at The Health Foundation has developed a projection model for health care demand that has had impact on health care policy in both England and Wales[1]. The model has been used effectively to highlight the extent of the pressures facing the health care service and help ensure that the budget for health care has been protected in a time of austerity[2].

While the model in its current state is useful, there are multiple limitations, including the use of unlinked hospital data, which gives only a partial view of disease prevalence and health care use. Over the next few years, the team will use cutting edge projection methods and exploit linked data to overcome the shortcomings of the current model. This will improve the model's capabilities, the levels of accuracy, and the range of questions that can be addressed. Developing the microsimulation model or set of models that will be used by the wider Sustainability Research Centre (SRC) is complex and will be an iterative process, starting simple to ensure a working model exists early and developing to more detailed analysis over time. We propose from the start to develop our model of demand as a combined health and social care model – existing models all treat health and social care separately.

This research will be used in to produce a series of projections, as well as a series of briefing papers on topics of particular policy relevance e.g. results on disease prevalence and hospital use.

Workforce demand—including demand for nurses—will be derived from this model of health care demand. At its simplest this will require outputs from our supply and demand models being consistent. In the first instance we can estimate workforce demand based on future activity growth implied by our demand model. This can be finessed by calculating staffing ratios – attaching workforce requirements to specific units of care. Eventually we will want to interact the supply and demand models with each other. We will develop our approach to the relationship between our models in partnership with the supplier and as we make progress on other elements of the modelling.

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[1] Watt, T. and A. Roberts (2016) "The path to sustainability - Funding projections for the NHS in Wales to 2019/20 and 2030/31" Health Foundation Research Report October 2016, available at https://www.health.org.uk/sites/default/files/PathToSustainability_0.pdf

[2] Johnson P, Kelly E, Lee T, Stoye G, Zaranko B, Charlesworth A, Firth Z, Gershlick B, Watt T (2018). Securing the future: funding health and social care to the 2030s [online]. Institute for Fiscal Studies website. Available at: www.ifs.org.uk/publications/12994