Horizon 2035: Health and care workforce futures

Centre for Workforce Intelligence *and* Decision Analysis Service Ltd

How might current and future pressures on the English health, public health and social care system impact the workforce, and what might the future hold for this system 20 years from now? The *Horizon 2035* programme was initiated to answer this question, with System Dynamics used to quantify a number of potential health and social care futures.

Background

The Centre for Workforce Intelligence (CfWI) was a key contributor to the planning of future workforce requirements for health and care in England. The Department of Health, as well as Health Education England and Public Health England, commissioned the CfWI to inform national and local workforce planning and policy decisions. The CfWI was supported by Decision Analysis Services (DAS) who provide specialist System Dynamics consultancy.

Horizon 2035 was an initiative commissioned by the Department of Health to investigate future workforce skills requirements, driven by changes in population health and disease profiles across the whole of the English health care, social care and public health system. As such, it departed from typical demand and supply modelling approach which generally considers individual workforces purely in terms of their size.

Approach

The project was carried out using the Robust Workforce Planning Framework, a multi-methodology framework developed by the CfWI to carry out strategic workforce analysis.

The framework consists of five linked stages and integrates horizon scanning with scenario generation, system dynamics modelling and policy analysis. A major feature of the framework is the high degree of stakeholder involvement, which is critical to arrive at a shared view of future challenges, and in making robust policy decisions. Key stakeholder groups from across the English health and care system were involved in the *Horizon 2035* programme.

Fundamental to the project was a new way of describing workforce skills, called the *H2035 Skill Taxonomy*. This conceptualised health and care skills in terms of workforce group, skill type, skill level and demand source. The whole of the English health and care system was described using this taxonomy, giving for the first time a coherent view of the whole of the system.

Six plausible, but challenging scenarios were created with the stakeholders in order to test the future supply and demand across the system. Uncertain variables, such as future workforce productivity, were evaluated using formal elicitation methods with the system stakeholders.

A System Dynamics model was then developed to enable rapid quantitative policy analysis within a risk-free environment. The model calculated how the demand for workforce skill would change based on the different scenarios. The model considered the impact demographic changes, changes in population health, changes in workforce productivity and service changes would have on demand for workforce skills across the system.

Results

The System Dynamics model was used to calculate the workforce supply and demand across the system for the six scenarios generated with stakeholders.
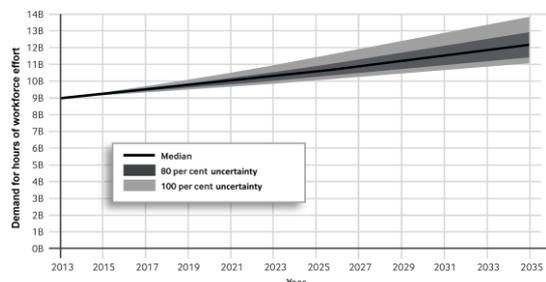
The model was fully documented and independently tested. Monte Carlo analysis was carried out using the model to enable the uncertainty associated with the projections to be made explicit.

The model results were imported into a Tableau based Data Visualisation Tool to enable them to be shared with, and explored by, key stakeholders.

The results of the modelling work suggested that:

- Demand for workforce skills will increase at a much faster rate than population projections would suggest. This was projected to increase by a median of 3.2 billion hours (36%), from 9.0 billion to 12.2 billion by 2035.
- The skill profile required from the workforce will change radically.
- Over 80% of additional demand is driven by increasing needs for health care and support associated with long-term conditions and non-communicable disease.

Impact

The results of the *Horizon 2035* were used to inform senior policy makers, and highlighted and quantified some of the critical pressures that are faced by the health and social care system, and need to be addressed by policy-makers. Recent significant developments this work influenced and contributed to has included the largest ever expansion of medical trainee places in England by an extra 1500 per year and follow-on research commissioned by the EU that identified future skills implications of the health workforce in Europe.

The work has been highlighted as best practice within a new global human resources for health toolkit from the World Health Organisation. In addition, the methods and approaches have been adopted by the Pan American Health Care Organisation to assist and guide the member countries of the Americas.

Further information

In 2016 the CfWI was merged into the Department of Health and Health Education England. However, a large amount of material describing *Horizon 2035* and many other publications is available at the Government website. This includes detailed descriptions of the analytical methods used, and results from the project.

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