GOOD PRACTICE BRIEF

World Health Organization
REGIONAL OFFICE FOR **Europe**

HORIZON SCANNING FUTURE HEALTH AND CARE DEMAND FOR WORKFORCE SKILLS IN ENGLAND, UK: Noncommunicable disease and future skills implications

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Motivation

In England, over 15 million people (out of a total population of 55 million) were recognized as suffering from one or more long-term conditions in 2015; they are therefore one of the major sources of demand for health and care services (Department of Health, 2015). During the next decade, this number is set to increase further, with an increase in the proportion of people who have three or more conditions at the same time. Such increases in population demand have significant implications for the future requirements for human resources for health in terms of numbers and skills.

Projecting future demand for health and care skills

The overall purpose and aim of the Department of Health in England is to help people live better for longer. This includes overall responsibility for planning for existing and future challenges to meet the health and care needs of our population. Planning the workforce is a key aspect of this.

In 2015, the Department published the results of research from the Horizon 2035 programme (Centre for Workforce Intelligence, 2015) concerning future demand for skills and competencies of the health and care workforce. Broad categories of the roles and responsibilities for different workforces were defined, and future changes in the demand were explored in six challenging scenarios.
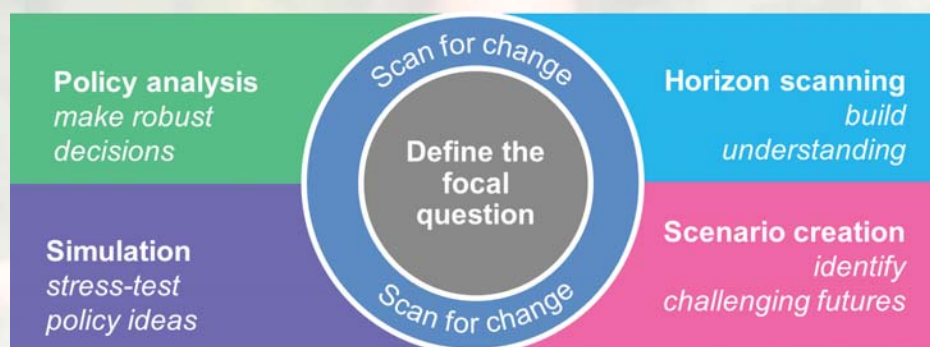
Approach

The research was based on the robust workforce planning framework (Fig. 1), which includes extensive stakeholder engagement and a mix of qualitative and quantitative approaches to investigate multiple plausible futures and simulate interventions to inform policy decisions (Centre for Workforce Intelligence, 2014).

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Key Messages

- Investigation of skills mix and future demand for the whole system can reveal new ways of thinking and planning.

- Small annual changes in demand can add up to larger changes over time requiring major shifts in the skills and competencies of the health workforce.

- It is important to understand the context of the system to be investigated, ensuring that the appropriate scope, level of enquiry and methods are selected.

- It pays off to experiment with a range of techniques and approaches to accommodate variation in systems.

- Ensure that stakeholders are involved at every stage of the workforce review, including modelling and validation of variables.

Figure 1. Robust workforce planning framework

Source: Horizon 2035, Centre for Workforce Intelligence, UK

The features of this approach included:

- use of "systems thinking" methods to analyse the complex factors and forces that impact the system and a system dynamics model to simulate future changes;

- creation of a "well-being skills cube" to classify workforce skills and competence by eight types of skill, six skill levels and seven sources of population demand;

- delivering facilitated workshops to create six challenging but plausible visions of the future health and care system (Fig. 2); and

- use of best practice elicitation methods to quantify parameters for modelling and capture their uncertainty. Understanding uncertainty is important for making effective workforce planning decisions.

Figure 2. Using multiple plausible scenarios to consider different futures and the implications for skills
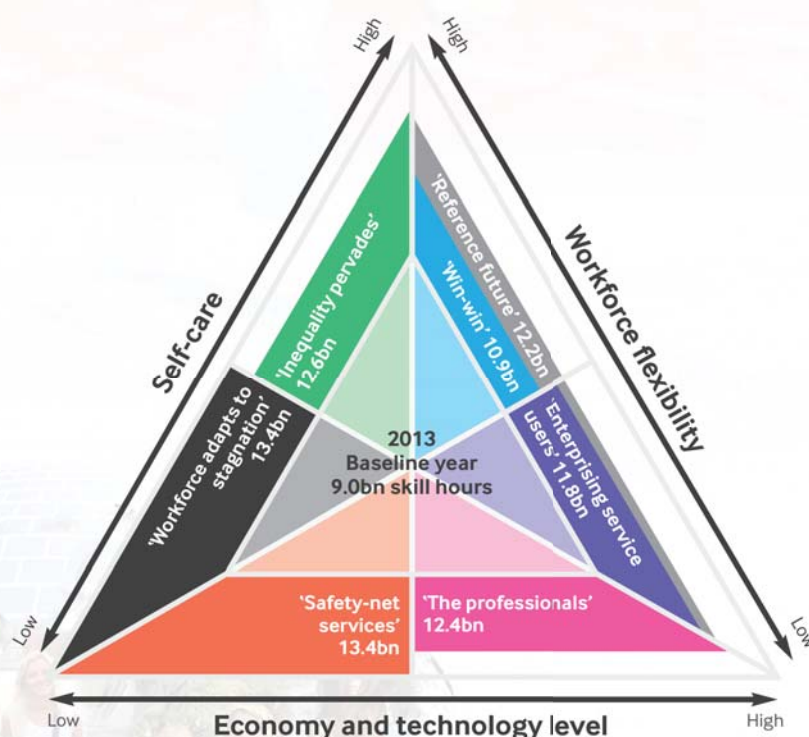
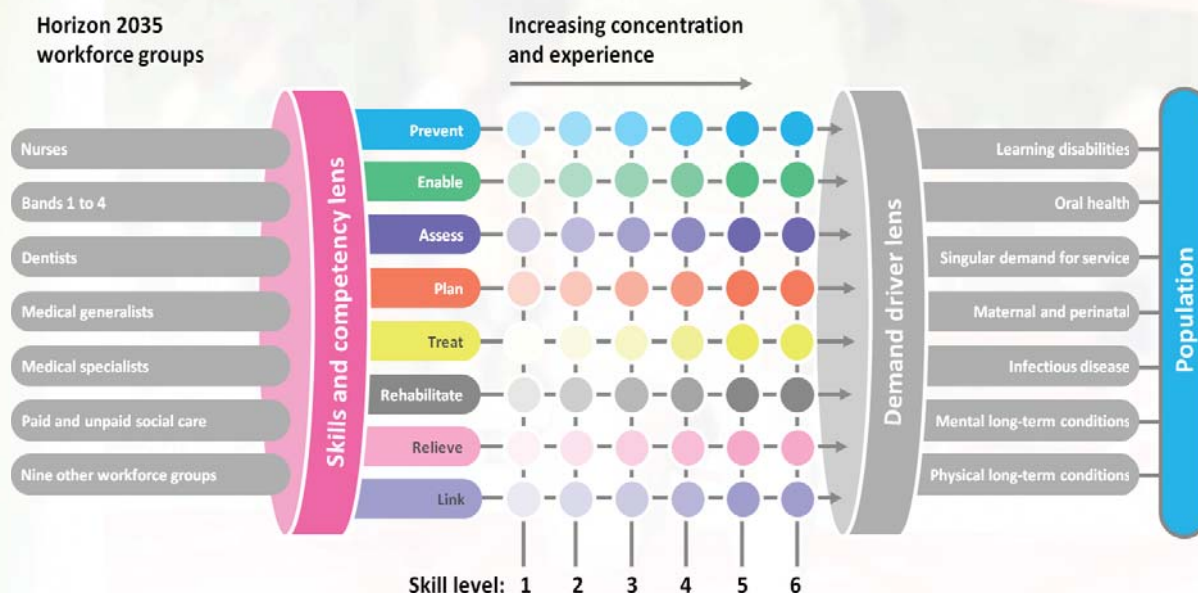*Source: Horizon 2035, Centre for Workforce Intelligence, UK*

Modelling population demand for workforce skills

After extensive mapping of workforce skills (Fig. 3) and quantification of population health demand, the model included the following parameters:

- **population growth:** changes in population size due to projected births, deaths and net migration;

- **population ageing:** change in population size and level of activity associated with each age group for different sources of demand;

- **level of well-being:** change in the prevalence of each demand source, for example physical or mental long-term health conditions, by age in comparison with the 2014 baseline;
- **shift to prevention:** aggregate change towards more prevention activities in the overall system; and
- **productivity:** for different levels of well-being skills, whether more or less skill outputs for service users will be achieved in the same workforce time in 2035, relative to today.

**Figure 3. Map of Horizon 2035 workforce skills and population demand**

Source: Horizon 2035, Centre for Workforce Intelligence, UK

Findings

Demand for workforce time is growing faster than the population. Projections show that the demand for health and care workforce time could grow more than twice as fast (average annual growth rate, +1.3%) as overall population growth (average annual growth rate, +0.6%) by 2035.

The total workforce hours required by the system in 2035 are projected to increase by a median of 3.2 billion hours (36%), from 9.0 billion to 12.2 billion (Fig.4).

Figure 4. Total hours in reference scenario constraints, median and uncertainty, 2014–2035
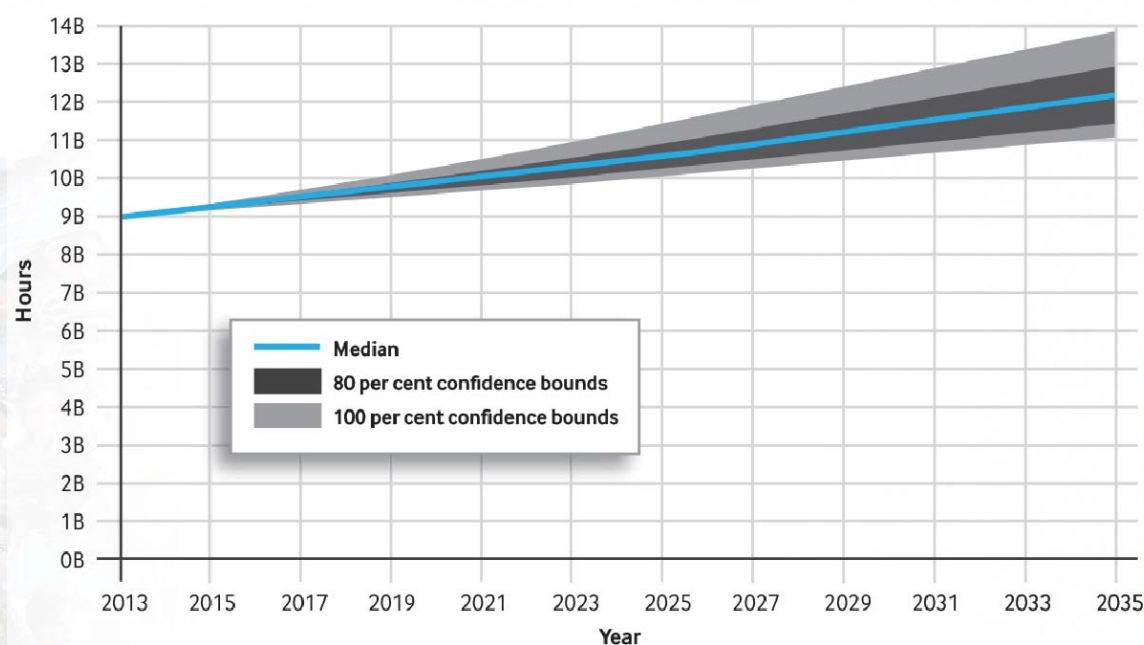
Source: Horizon 2035, Centre for Workforce Intelligence, UK

Significance of long-term conditions and noncommunicable disease (NCDs). This analysis revealed that over 80% of additional demand is driven by increasing needs for health care and support associated with long-term conditions and NCDs (Fig. 5). This is due to both an ageing population and a projected increase in disease prevalence for all age groups.

Figure 5. Total hours by demand source, reference future conditions, change in hours, percentage change and total uncertainty 2013–2035 (median projection)
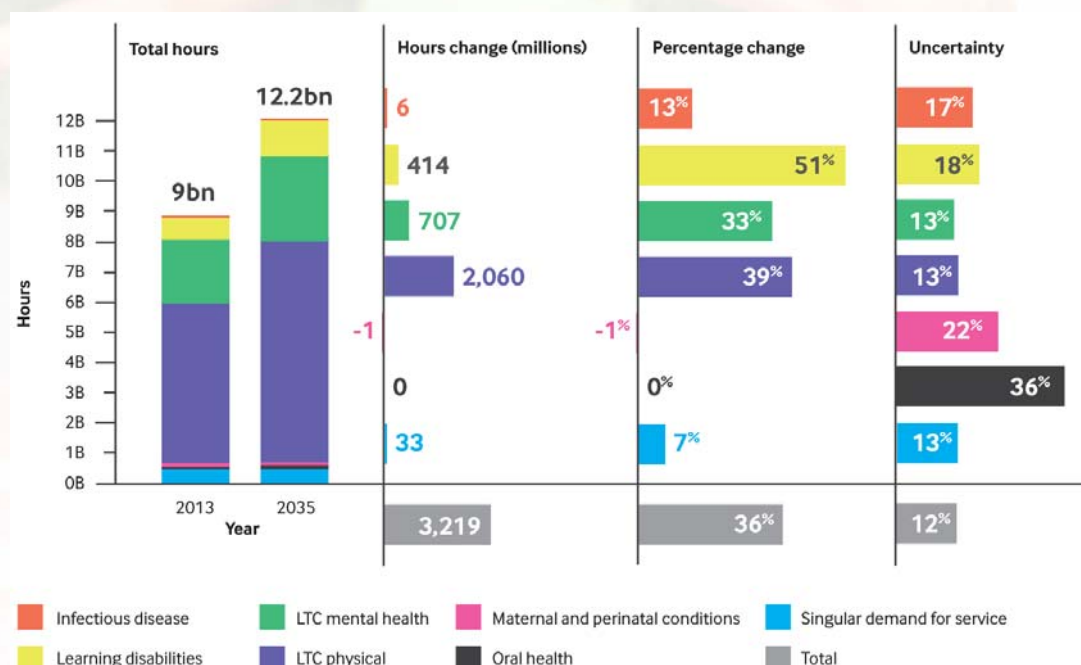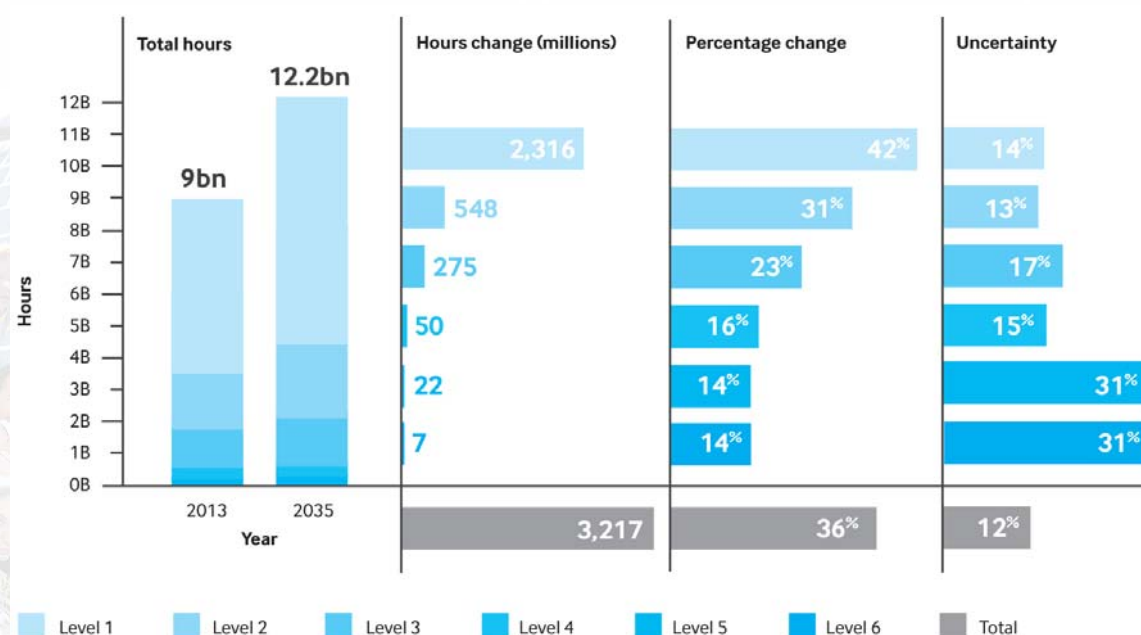

bn, billion; LTC, long-term condition
Source: Horizon 2035, Centre for Workforce Intelligence, UK

A different skill profile in 2035. The future profile of demand may be very different from that of today. For example, growth in demand for lower levels of skill, such as those for unpaid care, support carers and National Health Service (NHS) staff working in lower skilled occupational grades ("bands 1–4"), are projected to substantially outstrip growth in demand for the higher skill levels of medical and dental professionals (Fig. 6).

Figure 6. Total hours by skill level, reference future conditions, change in hours, percentage change and total uncertainty 2013–2035 (median projection)

bn, billion
Source: Horizon 2035, Centre for Workforce Intelligence, UK

Impact

This study has highlighted the future skills implications for England's health and care system. It has helped shift and orient thinking about how long-term conditions and NCDs may affect future demand for workforce time. Within England, there is ongoing work to identify long-range and nearer risks for workforce supply and demand. Recent examples of significant developments in human resources for health and announcements within England and further afield include the following.

England: £1.3 billion to transform mental health services and to expand the mental health workforce with 21 000 new posts by 2020–2021. The announcement included a pledge to treat an additional 1 million patients by 2020–2021, provide services 7 days a week, 24 hours a day, and to integrate mental and physical health services for the first time. The NHS will dramatically increase the numbers of trained nurses, therapists, psychiatrists, peer support workers and other mental health professionals to deliver on this commitment (Department of Health, 2017a).

England: Creation of new roles, such as nursing associates and physician associates. These new roles are intended to ensure high-quality care and outcomes for patients by providing improved capacity and capability (Department of Health, 2015). There were 2000 nursing associates and 650 new physician associates in training and 500 clinical pharmacists as of early 2017.

England: Expansion of nurse, midwife and allied health professional training places. In 2016, the Government announced reforms of student financing to support higher education institutions in creating up to 10 000 more degree places by 2020 (Department of Health, 2016). Previously, because of limits on the number of commissioned places, two of three applicants were unable to secure a training place. The reforms will allow higher education institutions to provide more places on courses for nursing, midwifery and allied health professions to meet the demand from potential students. This should improve the supply of qualified health care graduates in the future.

England: Expanding medical education to train up to 1500 extra doctors each year. This 25% increase in the number of undergraduate training places will increase the "home-grown" medical workforce to meet growing demand for care (Department of Health, 2017b). This is the largest single increase in physician training places in the history of the NHS. It will ensure that the NHS is able to meet future challenges by increasing domestic supply significantly to tackle pressures in key specialities such as general practice and reduce reliance on agency workers, locums and foreign-trained professionals.

Europe: Future skills of the health workforce in Europe. As part of the European Union Joint Action on Health Workforce Planning and Forecasting, part of the approach used in the Horizon 2035 programme was adapted to perform skills research in Europe (Fellows & Edwards, 2016). The findings included identification of high-level drivers of change for the future (including NCDs and multi-morbidity).

Americas: Developing multiple workforce futures with the Pan American Health Organization and WHO on the human resources for health agenda. Elements of robust workforce planning have been used to consider long-term workforce futures for the Americas and as part of the global human resources for health agenda (Pan American Health Organization, 2017).

Lessons learned

1. **Investigation of skills mix and future demand for the whole system have revealed new ways of thinking and planning.** Conceptualizing demand for human resources for health, including unpaid workers, is an essential aspect of determining how the health and care system might provide support or respond to changes. Consideration only of certain health professional groups is a partial approach, which may miss current and emerging supply and demand risks.

2. **Understand the context of the system to be investigated, ensuring that the appropriate scope, level of enquiry and methods are selected.** For example, in determining whether a whole system, a specific grouping or a particular disease or condition is to be examined, how the workforce supply and demand as well as possible interventions will be considered and quantified.

3. **Experiment with a range of techniques and approaches.** Each health system is different, and data and evidence can be variable. Therefore, learning from other fields and contexts can bring new insights. For example, much was learnt from the European Union Joint Action and other fora on planning human resources for health and workforces.

4. **Ensure that stakeholders are involved at every stage of the workforce review, including modelling and validation of variables.** This will enhance the quality, depth and recognition of the work and results. For example, scenarios generated by stakeholders, model assumption reviews and elicitation of highly uncertain variables for the future should be based on expert judgement and the best available evidence.

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