Shape of the medical workforce – starting the debate

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CfWI produces quality intelligence to inform better workforce planning, that improves people’s lives
> Context – OECD
> UK – Financial Times
> Shape of the medical workforce – CfWI
> Options and scenarios
> Modelling
> Informing decisions
> Affordability
Health: Growth in health spending grinds to a halt

28/06/2012 - Growth in health spending slowed or fell in real terms in 2010 in almost all OECD countries, reversing a long-term trend of rapid increases, according to OECD Health Data 2012.

UK Health spend c.0.5% growth p.a. for 2012 – 2015
HEALTH AND CARE SYSTEM:
April 2013

Following 2012 Health & Social Care Act
Glut of doctors looms in NHS

• Thousands of junior doctors and medical students could have to take jobs overseas as the cash-strapped NHS faces an oversupply of 20,000 doctors.

• The stark message about a looming glut has been set out in an official workforce assessment for the Department of Health. It warns that the number of medical students and junior doctors who could potentially end up qualifying as top-level hospital consultants is set to swell from about 40,000 today to more than 60,000 by the end of the decade.

http://www.ft.com/cms/s/0/7aba53de-7a72-11e1-9c77-00144feab49a.html#axzz24gC4pglZ

March 30, 2012 9:44 pm
By Sally Gainsbury and Sarah Neville – Financial Times
CfWI Report
Shape of the medical workforce: Starting the debate on the future consultant workforce

• The implications of the report by the Centre for Workforce Intelligence are being debated by NHS managers, medical colleges and the British Medical Association.
• According to the report, NHS England’s pay bill would rise £2.2bn before inflation if students and junior doctors were to secure consultant posts at the current pace – a prospect described as “not tenable” by Peter Sharp, CWI chief executive. “The people are already in the system,” Mr Sharp told the Financial Times this week. “These numbers for 2020 are not notional; they are real people.”

Increase in new consultants affects NHS job market

28 August, 2012 | By Shaun Lintern

An annual survey of newly-qualified medical consultants has revealed the first indications of a workforce bulge, with new medics experiencing a “hostile” jobs market.

More than 440 doctors with a CCT, or certificate of completion of training, responded to the survey by the Royal College of Physicians which covers all 28 medical specialities.

It revealed newly qualified consultants are finding it harder to get a consultant post with an increase in doctors taking on lower paid sub-consultant roles.

7 Scenarios described in CfWI report

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Overview</th>
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<tbody>
<tr>
<td>Scenario 1 – Business as usual</td>
<td>No changes are made to current patterns of recruitment and deployment of trainees and doctors. Trends continue as at present.</td>
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<td>Scenario 2 – Shift to General Practice</td>
<td>There is a shift from hospital speciality training posts to General Practice to achieve a target 50:50 ratio.</td>
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<td>Scenario 3 – Change in retirement age</td>
<td>Retirement is fixed at 60 years of age.</td>
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<td>Scenario 4 – Set level of demand</td>
<td>The size of the consultant workforce is set using the Royal Colleges demand criteria.</td>
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<td>Scenario 5 – Training consolidation period</td>
<td>A consolidation period is introduced during Certificate of Completion of Training (CCT).</td>
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<td>Scenario 6 – Consultant-present service</td>
<td>Employers move to a service where a consultant is in the vicinity at all times (or able to return to the hospital within a short timescale) with accountability and responsibility for patient outcomes.</td>
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<td>Scenario 7 – Graded career structure</td>
<td>A multi-level career structure is introduced which recognises different levels of expertise, competence and intensity of work.</td>
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The UK continues to sit mid-table when comparing total OECD countries’ health expenditure for 2008 as a percentage of gross domestic product (GDP).

The linear trend from OECD data suggests that by 2020 the UK will have an estimated 3.5 physicians per 1,000 population. However, the trend for other OECD countries shows an increase and therefore the current planned expansion would continue to leave the UK around the mid-point for the range of ratios.
The workforce planner’s dilemma...

- Workforce systems are complex
- Future is uncertain
- People are involved
- Resources are not unlimited
- Making mistakes can be costly
- Decisions have to be taken and justified
CfWI horizon scanning: Improving the quality of workforce intelligence

**HORIZON SCANNING**
Explore the potential challenges, opportunities and likely future developments that could influence workforce planning.

**WORKFORCE INTELLIGENCE**
Analyse future uncertainties and the impact of policy options. Produce information that supports immediate action, medium-term operational decisions, or long-term strategic decisions.

**SCENARIO GENERATION**
Explore how the future might evolve, by looking at a range of plausible futures. Describe how likely future developments identified in horizon scanning may combine to create plausible scenarios.

**WORKFORCE MODELLING**
Develop models to inform policy, strategy and planning around the workforce. Provide supply and demand projections.
Robust workforce planning
responsive to the uncertainty of the future

The Centre for Workforce Intelligence (CFWI) has developed a robust workforce planning framework to assess the impact of potential workforce changes and to ensure that workforce planning remains responsive to the uncertainty of the future. This framework integrates various factors such as demand forecasting, supply chain management, and workforce alignment to create a comprehensive approach to workforce planning.

The framework is designed to:
- Assess current and future workforce needs
- Identify gaps and opportunities
- Develop strategies to address workforce imbalances
- Ensure workforce planning is aligned with organizational goals

By using this integrated framework, organizations can better predict workforce needs and respond to changes, thereby increasing efficiency and reducing costs related to workforce management.

Website: cfwi.org.uk
We have used the horizon scanning methodology on:
- Nursing
- Maternity
- Medical
- Dental
- Social care
WORKFORCE PLANNING FRAMEWORK

SCENARIO GENERATION METHODOLOGY

1. Stakeholder workshop:
   - Identifying driving forces, clustering and determining outcomes
   - Determining impact, predictability and framing the scenarios
   - Defining the scenarios

2. Writing the scenarios:
   - Current state scenario
   - Best case future scenario
   - Challenging scenario

3. Conducting the Delphi
   - Identify participants
   - Determining parameters and values
   - Design the survey and deliver the survey (x2)

4. Analyse the results by scenario

We have used the horizon scenario generation methodology on:
- Medical
- Dental
Process steps

- Horizon scanning
- Scenario workshops
- Parameters defining plausible futures
- Workforce model
- Forecast supply and demand
- Policy interventions
- Delphi
- Workforce data and assumptions
- Sensitivity analysis to identify critical parameters
CfWI Modelling—integration of demand and supply models (conceptual architecture)

**Front-end and demand model (Excel)**
- Select scenario and policy
- Run model
- High-level analysis

**Demand module**
- Population
- Health needs
- Level of service
- Productivity, e.g., skill mix
- Data, Scenarios, Policies

**System dynamics supply model (Vensim)**
- Detailed supply analysis
- Training module
- Workforce supply module
CfWI horizon scanning team: Our capabilities

- Identify and analyse shapers of change
- Conduct interviews and hold workshops
- Produce reports
- Work with expert partners
System dynamics modelling

- Staff
  - Hiring Rate
  - Attrition Rate
- Work To Do
  - Scope Creep
  - Rate Work Completed
- Work Done
  - Staff Productivity
  - Overtime

- Fatigue / Burnout
- Average Time To Hire Staff
- Desired Staff
- Staff Shortfall
- Progress Shortfall
- Progress
- Desired Progress
Forecasting medical supply

Long training delays
Attrition out of system and between states
Inflows from outside of England
Not everyone moves to next stage
Medical supply and demand forecasts
Medical scenarios – CfWI have modelled

**Scenario 1**
- Compression of morbidity
- High resource environment: increasing investment in research, tuition fees static or reducing
- UK attracting best students and practitioners from around the world
- New treatments lead to excess demand from increasing ageing population
- Government receipts not increasing fast enough to cope with increasing demand
- Good societal attitudes towards public health

**Scenario 2**
- Compression of morbidity
- Low resource environment: declining investment, increasing fees, reduction in pensions, retirement age increasing
- UK not attracting best students and practitioners: medical schools close or merge; students go abroad; brain drain
- Companies follow the skills; large pharmaceuticals relocate outside the UK
- Good societal attitudes towards public health

**Scenario 3**
- Expansion of morbidity
- High resource environment: increasing investment in research, tuition fees static or reducing
- UK attracting the best students and practitioners
- Poor societal attitudes towards public health
- Unhealthy lifestyles cancel out healthcare innovations and improving outcomes

**Scenario 4**
- Expansion of morbidity
- Low resource environment: declining research investment, increasing fees, reduction in pensions, no compulsory retirement
- UK is not attracting best students and practitioners: medical schools close or merge; students go abroad; brain drain
- Companies follow the skills; large pharmaceuticals relocate outside the UK
- Good societal attitudes towards public health, shift towards health tourism and self-care
Forecasting medical demand

- Demography – population forecasts (data)
- Level of need – epidemiology and risk factors for future illness (data + scenario)
- Service provided – to meet levels of need (data + policy)
- Productivity – including impact of skills mix and technology (data + scenario)
- By age, gender & population health groups
Conditions we have now modelled

1. **Seven-day working** – Here we calculate the number of trained hospital doctors that would be required to deliver a THD-present service at a future date. For some specialties the number of trained hospital doctors is increased to allow for 24/7 or 18/7 working or a seven-day-per-week service assuming 8 – 10 hour days. The calculated number is simply used as a target to analyse when, or if, it can be reached. [The impact on GP could also be analysed once policy aspiration has been defined.]

2. **Skill mix** – Here we analyse the impact if changes in skill mix result in a 5% reduction in the level of service delivered by trained hospital doctors as other professions take on some tasks (not zero % as judged by our Delphi panel). If nothing else changes this shift will reduce the demand for service and hence the number of trained hospital doctors required. [The impact on GP could also be analysed]

3. **Minimum retirement age rises to 67 (GPs)** – Here we analyse the impact of a higher minimum retirement age and assume the average retirement ages rises accordingly. This is modelled by shifting the current retirement age profile up by two years.

*THIS IS WORK IN PROGRESS INTENDED FOR PUBLICATION IN NOVEMBER 2012*
Conditions we have now modelled

4. **Non-EEA international medical student intake varies (GP & for THDs)** – Here we analyse the impact of increasing to 10% or decreasing to 5% the international student intake. It is assumed that all such students leave after F2. Total intake is not changed, so this has the effect of increasing or reducing the number of students from England continuing after F2.

5. **Target of 50:50 ratio of entry-level GP to hospital posts achieved** – Here it is assumed that the total student intake is not changed and the ratio changes over a period of, say, five years.

6. **Target of 50:50 ratio of entry-level GP to hospital posts achieved** – Here it is assumed that the total student intake is not changed and the ratio changes over a period of, say, five years.

7. **GP training increases to four years** – Here it is assumed that the GP to hospital posts ratio and the current intake are not changed.

*THIS IS WORK IN PROGRESS  INTENDED FOR PUBLICATION IN NOVEMBER 2012*
Affordability is now a key issue

Next step is to apply various affordability levels to the models as ‘policy decisions’
Funding scenarios for NHS England to 2040

- The recent Institute for Fiscal Studies report for the Nuffield Trust outlined three funding scenarios for English NHS spending between 2015/16 and 2021/22:
  - spending is frozen in real terms
  - spending grows in line with national income
  - spending grows in line with its long-run average for the UK (around 4.0% per annum since 1950/51)

- We have extended these scenarios out to 2039/40 and revised them using the latest OBR long-term projections:
  - extending the real spending freeze to 2040 is unrealistic; it would mean halving health spending to just 3½% of GDP
  - we have added a fourth scenario — the mid-point of the second and third funding growth scenarios.
Though a real spending freeze is unrealistic, NHS growth may be below long-term average.

Four NHS England funding scenarios (percentage of national income)

Sources: NHS (Health) Total Departmental Expenditure Limit, Outturn data are from HM Treasury (2011), Table 1.8; Spending Review forecasts are from HM Treasury (2012); forecasts for real national income growth 2012/13 to 2016/17 are from HM Treasury (2012); for 2017/18 onwards these are from the Office for Budget Responsibility (2012). Based on Figure 2b from the Institute for Fiscal Studies (2012), revised and extended to 2039/40.
Upside of 86% to 169% in real NHS spend

NHS England funding scenarios (percentage of national income)

Sources: NHS (Health) Total Departmental Expenditure Limit, Outturn data are from HM Treasury (2011), Table 1.8; Spending Review forecasts are from HM Treasury (2012); forecasts for real national income growth 2012/13 to 2016/17 are from HM Treasury (2012); for 2017/18 onwards these are from the Office for Budget Responsibility (2012). Based on Figure 2a from the Institute for Fiscal Studies (2012), revised and extended to 2039/40.
Spending, pay and and productivity growth

Following the OECD (2006), Office for Budget Responsibility (2012) central projections assume that:

• real health spending per head grows in line with real incomes
• annual productivity growth in health care keeps pace with the whole economy rate of 2.2%

However, given the labour intensity of health care provision:

'In practice, productivity growth in the health sector may lag behind whole economy productivity growth ... while real wages in the health care sector keep pace with whole economy incomes.'

Lower NHS productivity would require additional labour input, placing upward pressures on healthcare spend.
Informing decisions

Are we making decisions driven by *short-term financial constraints*?
Are there any other options?
Informing decisions

How do we focus on workforce planning driven by patient and service user needs?

How do we encourage better use of workforce intelligence?

http://www.datadictionary.nhs.uk/contsys/
Points to ponder for OECD countries

• Spending on health for next 10 years
• Austerity for a decade?
• New ways of working?
• Role extension?
• Skill mix?
• Shift to lower levels of support?
• Self-care > Family support > Informal care > local support > community and primary care > hospital and other settings