Workforce Supply and Demand Modelling

....or why its never exactly right
We aim to hit a moving target
The goal of workforce planning is to minimise the ‘gap’ between workforce demand and supply.

We aim to get our supply to match demand.

‘Demand’ is outside of our control.
The quick version…
What we feed into the modelling tool…
Scenario modelling allows us to play out a spectrum of assumptions;
• Will non-retirement leavers reduce?
• Will demand increase by 1% or decrease by 5%?
Allowing us to come up with an answer (number of education commissions) that best fits the most likely scenario(s).
• To illustrate: If employers make a 1% reduction in the general nursing workforce in 2010/11 (Current level 13,890 wtes) it would be equivalent to a decrease in demand of 137wtes across NHS SC.

• If NESC reduce general nursing education commissions by 5% it is equivalent to a reduction in supply of 27 wtes and this will not impact for a further three years.
The technical wizardry…
Modelling the different demand scenarios

### Scenario 1
- **Starting FTE (Forecast):** 6558.6
- **Non-Retiring Leave % of Starting Base:** 2.5%
- **Net Supply:** 6558.6
- **Long Term Vacancy Rate:** 0.6%
- **Total Demand (S+P + L/T Vacancies):** 6781.8
- **Change in Funded Demand:** 0.0%
- **Total Productivity Gains:** 0.0%
- **Net Demand:** 6781.8

### Scenario 2
- **Starting FTE (Forecast):** 6558.6
- **Non-Retiring Leave % of Starting Base:** 3.0%
- **Net Supply:** 6558.6
- **Long Term Vacancy Rate:** 0.0%
- **Total Demand (S+P + L/T Vacancies):** 6878.8
- **Change in Funded Demand:** 0.0%
- **Total Productivity Gains:** 0.0%
- **Net Demand:** 6878.8

### Scenario 3
- **Starting FTE (Forecast):** 6558.6
- **Non-Retiring Leave % of Starting Base:** 3.0%
- **Net Supply:** 6558.6
- **Long Term Vacancy Rate:** 0.0%
- **Total Demand (S+P + L/T Vacancies):** 6558.6
- **Change in Funded Demand:** 0.0%
- **Total Productivity Gains:** 0.0%
- **Net Demand:** 6558.6

### Scenario 4
- **Starting FTE (Forecast):** 6558.6
- **Non-Retiring Leave % of Starting Base:** 3.0%
- **Net Supply:** 6558.6
- **Long Term Vacancy Rate:** 0.0%
- **Total Demand (S+P + L/T Vacancies):** 6558.6
- **Change in Funded Demand:** 0.0%
- **Total Productivity Gains:** 0.0%
- **Net Demand:** 6558.6

*Data shown in Chart:*
- **Scenario 1**
- **Scenario 2**
- **Scenario 3**
- **Scenario 4**

**General Adult (South) - Scenario 4:**
- **FTE:**
  - **Net Demand:**
    - 2009: 6781.8
    - 2010: 6781.8
    - 2011: 6781.8
    - 2012: 6781.8
    - 2013: 6781.8
    - 2014: 6781.8
    - 2015: 6781.8
    - 2016: 6781.8

- **Net Supply:**
  - 2009: 6558.6
  - 2010: 6558.6
  - 2011: 6558.6
  - 2012: 6558.6
  - 2013: 6558.6
  - 2014: 6558.6
  - 2015: 6558.6
  - 2016: 6558.6
Putting it all together:
Adjusting commissioning numbers with the chosen scenario
Challenges

• Robust medium term demand forecasts
• Improved medium term supply assumptions
• Anticipating and then tackling over and under supply
• Changing the existing workforce
“The closest to perfection a person ever comes is when he fills out a job application form.”

S. J. Randall
Oversupply…

• The demand assumptions we based education commissions on x years ago have not played out.

• Financial crisis

• Operating plans
• Its too late to turn-off the supply (i.e. new graduates emerging over the summer/autumn 2010).
• If we ‘lose’ the entire cohort, it creates a supply problem later on (especially if demand picks up again).
• How do we keep the new graduates in health care?
• How do we enable preceptorship programmes?