

# Strategic Health Workforce Planning

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**Rationale.** The health sectors of many developed economies currently face significant challenges in the recruitment and retention of health and social care professionals to meet the ever-growing demand for health care from an ageing population. An integrated national response is required to ensure a fit-for-purpose health workforce with the capacity to deliver high quality patient care. Work force planning models should be part of this response.

**Methods.** The review was systematic and targeted at official repositories, reports, and journal articles from 2009-2015 across the following databases: Web of Knowledge, PubMed, CINAHL, Embase, Psycinfo, PsycArticles and TRIP. Five comparator countries were chosen: Australia, New Zealand, Scotland, Wales and the Netherlands. Structured expert interviews were conducted with key workforce planning personnel in four of the five countries to get a better understanding of the evolution of workforce planning processes and the institutional context these models now sit within.

**Results.** We find the onset of health workforce planning emerged independently in each country as a response to either financial constraints, forecasts of the changing demands on health systems from demographic pressures, or issues surrounding future supply. Work force planning does not necessarily begin with an integrated approach in mind, particularly in cases where data is limited or ambiguous and an imminent shortage of doctors is the perceived predicament. Integrated approaches have tended to be initiated from a country specific orientation, responding to the evolution of their particular health care systems and needs. All countries studied started a baseline analysis using existing data. Once a baseline was established, the models were iterated, typically using surveys and structured dialogues with representative bodies. Most of the countries started out their work force planning journey focusing on the medical profession, with nursing all other specialities and disciplines coming afterward.

**Conclusion.** Somewhat surprisingly, work force planning has evolved as much a *qualitative process* as a *quantitative* process. The models and their demand and supply forecasts are relevant only to the extent that they are informed with a qualitative understanding of the system from service-level inputs. Using the data collection and modelling process as part of a structured dialogue with health professionals is key to any workforce planning model's success. Communication and training are at least as important as the modelling methodology employed. Clear connections to policy levers—for example, aligning strategic or medium term financial planning with work force planning—is key to legitimizing and institutionalizing the workforce planning approach.

## Introduction

Health workforce planning is initiated in order to achieve a balance between demand and supply for both a short-term and a long-term outlook with regard to the different groups of healthcare workers. On a basic level, planning/forecasting through modelling is undertaken by recognising and analysing the major

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imbalances existing within health workforces. A basic workforce planning model consists of separate supply and demand forecasting, analysis of the outcomes of the forecasting, and action planning, or in simpler terms, analysis of supply, demand, gap and solutions.

The main aspects that are prudent for consideration in the WFP modelling process include *‘variables on supply and demand side, the algorithm to join them, the method to be used for the definition of the estimations, the assumptions to start from, the modalities for the presentation of the results (one or more scenarios)’*

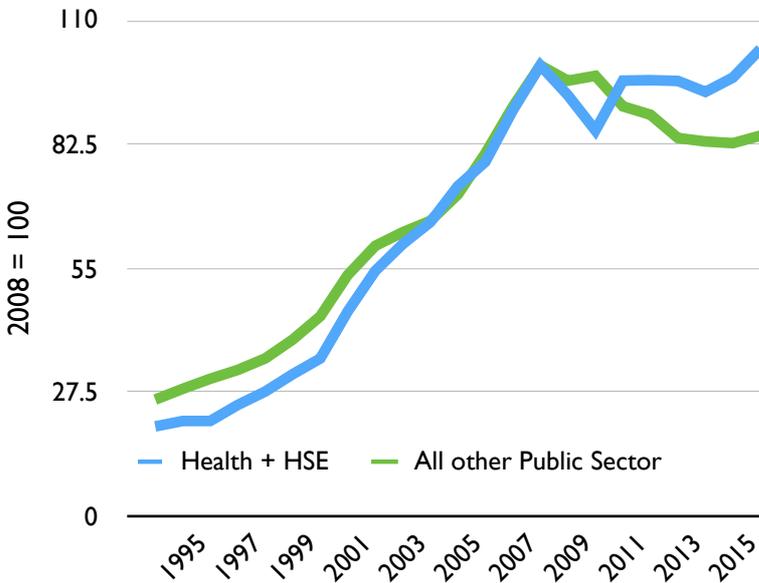
The engagement of the whole WFP process, particularly discourse around modelling itself, is influential to wider health workforce policy as it promotes a conversation that should allow the stakeholders concerned with healthcare workforce to become actively involved. This permits stakeholders to have input into broader health workforce policy. The conversation it engenders gives space to identify current and emerging trends within the sector and ideological approaches to health care.

## Irish Context

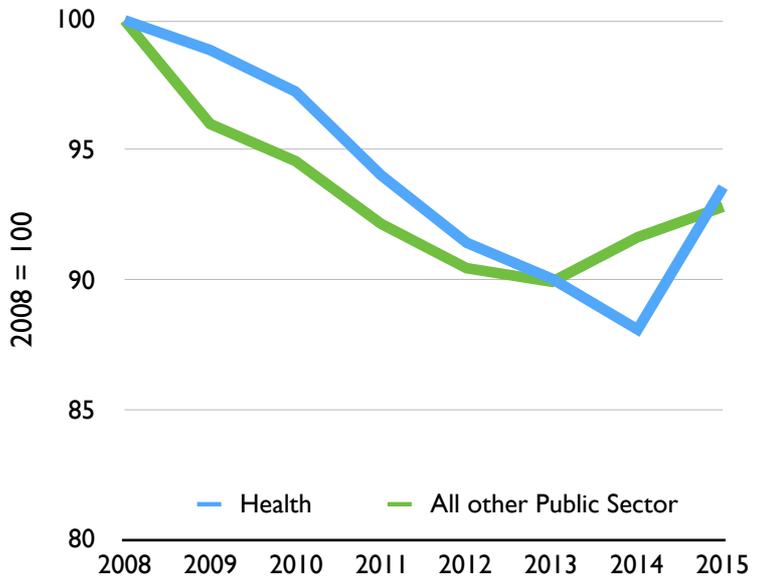
As part of the context for our review, we considered the Irish health system’s evolution to date. The figures below tell the story of the Irish health service from the mid 1990s to today. We can see a few major trends.

1. The rate of increase in the funding of health was lower relative to the rest of the public sector from 1994 to 2007, but then did not fall as much during the crisis.
2. Capital expenditure remained at a much higher level for Health than the rest of the public sector throughout the crisis. Yes, the provision of capital did fall to about 50% of its 2008 level during the crisis, but the rest of the public sector saw falls of up to 75%, and capital spending on health resumed growing in 2011, while all other capital spending heads remain at or around their 2011 levels.
3. Non-Pay expenditure on Health is currently 25% higher than it was in 2008, while across the rest of the public sector non-pay expenditure is around 94% of the 2008 total.
4. Voted expenditure on Pay decreased at around the same rate for Health as the rest of the Public Sector as one might expect. In 2016 pay in Health is about 84% of what it was in 2008, and 78% of what it was across the rest of the public sector in 2008.
5. Pensions data only begin in 2011. We can see a large downward shock to pensions data for the Health sector in 2013, but otherwise it is at a comparable level with the rest of the public sector. Interestingly, in nominal terms the Health sector has roughly 1/3 of all public sector workers in 2016, but pays out 1/4 of all the pension expenditure.
6. The number of workers in the health system fell about 12% during the crisis, and began rising again in 2014. The rest of the public sector experienced a 10% fall and began rising again in 2013.
7. In 2007 there were 111 thousand people working across the Health Service Executive, Voluntary Agencies (non-acute), and voluntary hospitals. The HSE’s annual report for 2015 shows a workforce of 103,000, with a breakdown of 9% medical/dental, 34% nursing, 14% social care, 25% Management/Admin/Support Services, and 18% Patient Support.
8. Finally, we know demand for health services will increase markedly as our population ages, in particular between now and 2030, and one measure of this is the dependency ratio.

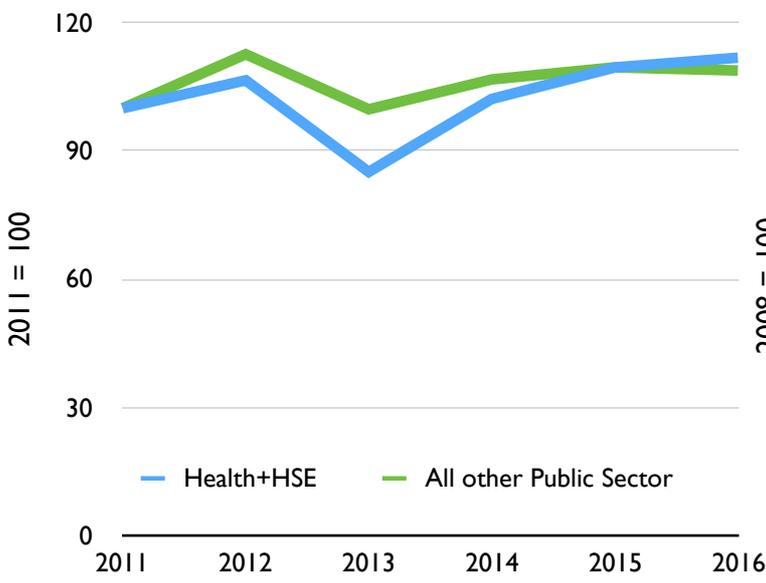
Long Run Expenditure (Pay, Non-Pay, Capital)



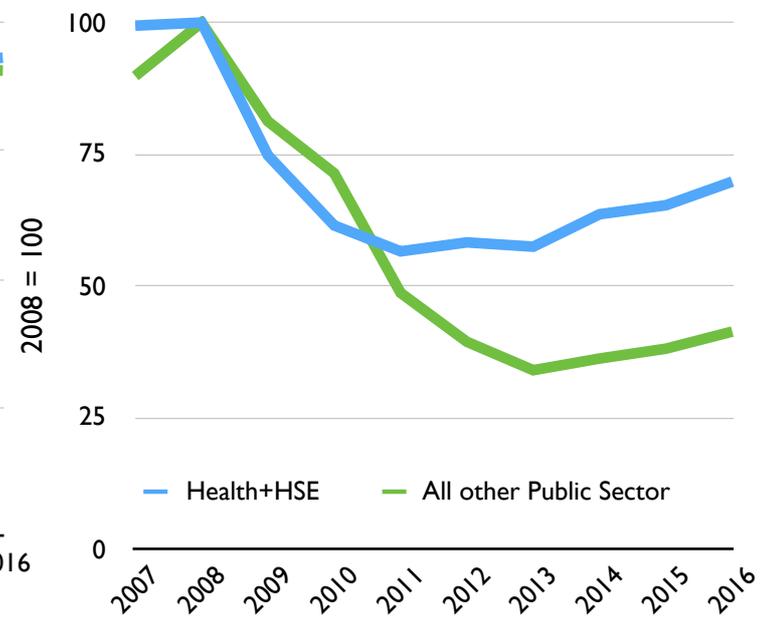
Worker Numbers



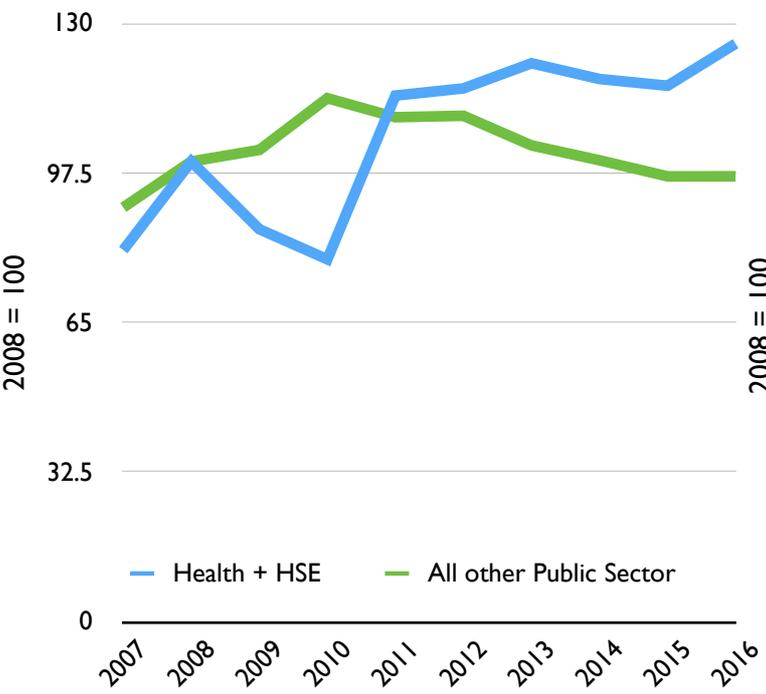
Voted Expenditure on Pensions



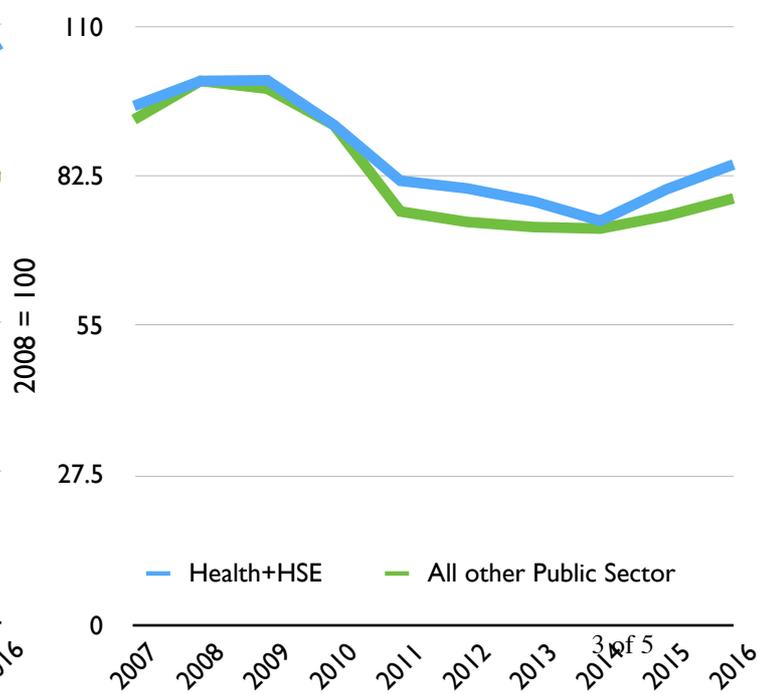
Voted Expenditure on Capital



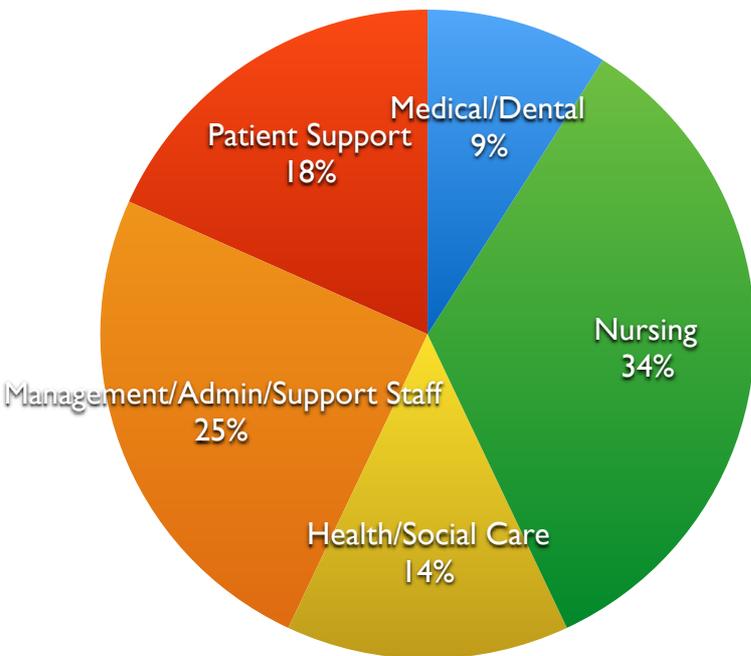
Voted Expenditure on Non-Pay



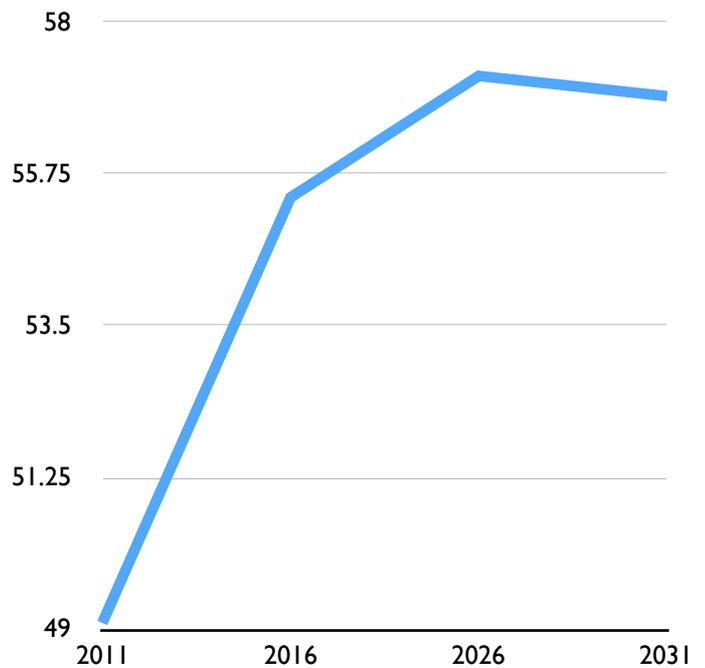
Voted Expenditure on Pay



Breakdown of 2015 Staff Levels



Dependency Ratio using M2F2 assumption set



	Strengths of Model	Limitations of Model
<b>Scotland</b>	Staff engagement with 150 site visits to service providers within one year. They have developed a strong network across the health workforce to support the WFP work. After ten years they are skilled enough to spot gaps easily. They have forged better links with the educational sector.	Medical and nursing are still treated separately rather than modelled as interrelated. An overreliance on quantitative data (numbers) allows mistakes to be repeated. Knowledge gleaned from the close work they do with stakeholders emphasises the need for qualitative data (experiences)
<b>Wales</b>	Forecasting and legislative foundation for workforce planning. The modelling process starts a vital conversation about the future workforce. Workforce planning engenders a new way of thinking by managers with regard to planning and expectations. They have developed good enough tools for capturing the data they need.	There remain some issues around five year education planning cycles, as they do not align directly with the IMTP three year planning cycle. It is difficult for frontline staff to see beyond very short term planning cycles. There are also financial pressures. There is still a need for more training in workforce planning across the health workforce.
<b>Australia</b>	Data analytics with each role recording their work hour by hour, task by task. Consultation with the different specialties supports the development of appropriate methodologies for modelling work. Other forums also exist which give voice to relevant stakeholders throughout the planning process and help to highlight issues.	Modelling is currently undertaken on a strictly speciality to speciality basis. Data collection and consultation is a sensitive process, and data quality varies. Technical issues impinge on the data and modelling work, there is a need to improve the IT systems to support current work and improve the data sharing capabilities.
<b>New Zealand</b>	MDT approach and service integration very successful. There is empowerment through engagement, collaboration and a focus on dialogue has made it a valuable and successful project to date.	Widely varying data quality has been a challenge. There is a recognised need to be more strategic and more systemic in future planning outlooks.
<b>Netherlands</b>	Objectively simplest model. An evaluation of the model for medical manpower planning focusing in particular on GP planning found that the ongoing replication and adjustment of the WFP model and the factors within allow for the model to closely follow actual developments in the health workforce sector. They found the model to be of significant policy value and also to have been successful in stabilising the labour market for physicians.	Based on universal health insurance model and works on the basis that service/care cease when funding allocation is exhausted. One of the noted weaknesses of the model as iterated in Ono et al was that it did not fully allow for substitutions between different professions to allow planning from a broader “skill mix” perspective.

# Review Findings

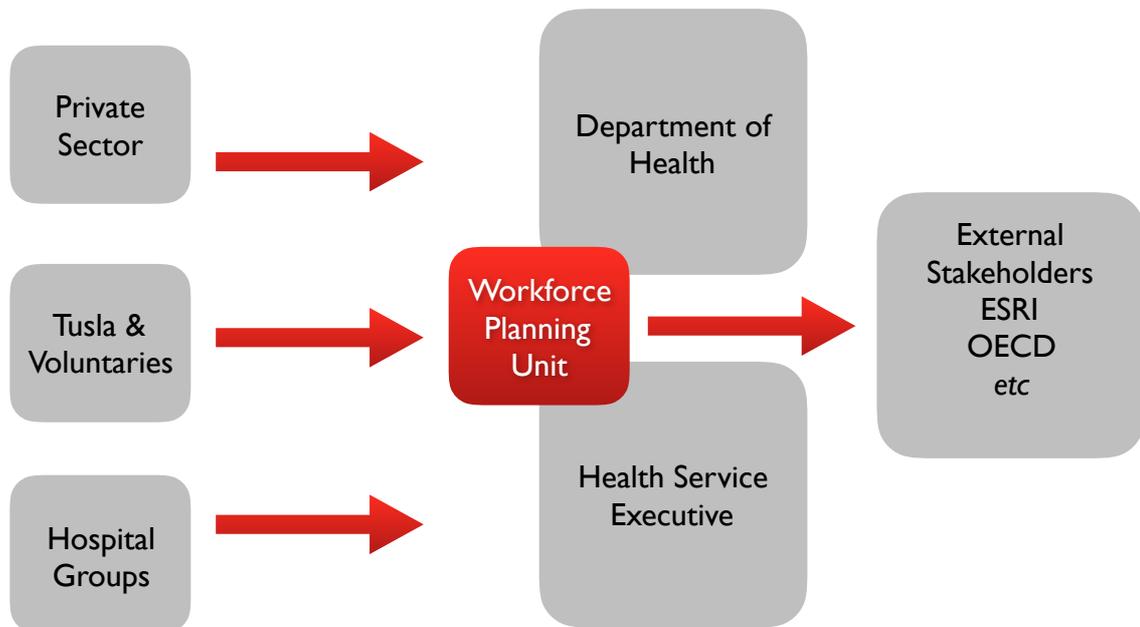
Returning to the findings of the review, using written reports and journal articles search systematically and a series of expert interviews, we found the following broad strengths and weaknesses of each model currently in use shown in the table. Given the evolution of the Irish health system from the 18th Century to today, **it is not recommended that any one system be copied**, as our institutional structures and care pathways are very different to those developed in the Netherlands, New Zealand, Australia, or those in the UK.

## Moving Forward

Three necessary conditions for successful workforce planning emerged from all of the countries we studied.

1. A *well resourced* unit dedicated to information collection and analysis at the Department of Health level/ Strategic is required. Legislative backing for the data collection and modelling is typical in countries where workforce planning is most advanced.
2. A commitment to the generation of a *minimum data set*, and data quality indicators, is paramount for the quantitative measurement of supply, demand, geographical flow of patients, skills mix, newly qualified medical professionals, etc.
3. The qualitative side of the work force planning process can not be neglected, and fora for the dissemination of information should be set up before any formal modeling takes place.

Given Ireland’s institutional structures, I suggest we discuss the following governance structure for a data-gathering process.



Given the above, a framework, and following from that framework, a workforce model, can be built for Ireland to serve the needs of our growing, and ageing, economy.

Thank you for your time today.