# 14th International Health Workforce Collaborative

# Technical Skills Workshop 6 May 2013

### Overview of Workshop – Mr Ian Crettenden, Health Workforce Australia

Ian welcomed participants to the workshop and introduced the focus of the day to discuss the approaches and developments in different countries to health workforce modelling and its relationship to workforce planning.

### Introductory Comments - Dr Charles Goodue, Pan American Health Organisation

Charles's comments specifically discussed developments in South America.  The continent has had a period of sustained economic growth (the 'China effect'), including low unemployment, reduction in poverty, improved literacy and reduction in inequalities.  Policies of South American countries are set towards inclusion of population in healthcare.  Current policy ideas are around the leadership role of the state in health policy, unified health systems, universal health coverage and the renewal of primary health care and having an appropriate balance of health personnel.  Most countries have a clear vision of what they want to achieve and a good set of HR objectives.  The big question is how?

Charles discussed the commitments of pan American countries under Toronto 2005  - Call for Action: A decade of HRH 2005-2015 conference.  This conference identified five critical challenges –

- long term policies and plans,

- right people at right place,

- appropriate education and competencies

- working conditions and performance

- migration of health personnel.

The conference adopted 20 regional goals to 2015.  Countries are asked to identify what are the HRH priorities and programs related to the goals and to evaluate progress against goals.  Charles concluded by noting that the pan American HRH environment is dynamic and not without difficulties.  There is a general level of interest for HRH planning by these countries as part of their health agenda and they are keen to support capacity building.

## International and European experiences

### OECD  - Mr Gaetan Lafortune, Organisation for Economic Cooperation and Development (OECD)

Gaetan noted the health workforce collaboration between the OECD, the European Commission and the World Health Organisation (WHO) which was improving consistency in data.  Europe is in a totally different position to South America - recession is forecast across many European countries in 2013.  The focus in Europe is currently on preservation of social protection and health coverage which has been developed over the last 30 years.

The aim of HRH is to balance supply and demand.  Projection models are tools to achieve this and help decision making (eg responding to "what if" questions).

OECD has reviewed 26 models in 18 countries looking for similarities and differences.   The common modelling approach is supply and demand.  Supply factors include inflows, working hours, outflows.   Demand factors include demography, morbidity, healthcare utilisation, delivery models, GDP and health expenditure growth.

Some common struggles include

- defining productivity of a health worker (should this be based on outputs or outcomes), and the two sources of productivity growth - work harder (longer working hours) or work smarter (eg work organisation).

- convert headcounts to FTEs.

- Definition of shortages - what are they?  perceived or real?  hard to fill job vacancies?  Models have struggled to move beyond convenient assumptions (eg it is currently in equilibrium).

Recent developments in some models regarding supply side has included a better handling of immigration patterns, retention rates and retirement patterns.  While the standard age of retirement is rising in many counties there is growing evidence that retirement patterns of doctors are gradual, changing and occurring generally later than the assumptions used in many models.

Demand developments in models have focussed on trying to move beyond workers to population ratios and current health care utilisation patterns, to assessing current and future population health needs, and the possible impact of health service delivery reforms and projected growth in GDP and health spending.  Different countries are using different demand side factors.

The links between GDP, health expenditure growth and health workforce demand are complex and subject to high level of uncertainties, but some attempts have been made in Norway and England (CfWI) to include these important factors in health workforce projection models.

Gaetan concluded with the following recommendations to improve health workforce projection models:

1. Need for regular updating (workforce planning is not an exact science).

2. Need to know where you are before where you are going (need to improve the baseline data).

3. Health workforce projection models should help avoid "yo yo" approach to numerus clausus by keeping an eye on the long term.

4. Supply side improvements need to focus on retention and retirement patterns.

5. Demand side remains the  most difficult and complex part – models should focus more on assessing possible impact of health service delivery reforms.

6. Need to gradually move from uni professional to multi professional workforce planning.

7. Need to strengthen links between health workforce projections and health expenditure projections.


## Dr Graham Willis, Centre for Workforce Intelligence (CfWI)

Graham discussed reforms for the 1.4 million people working in the NHS.  The CfWI Robust workforce planning framework includes four stages:

1. Long term view (horizon scanning) informing scenario generation

2. Generation of qualitative scenarios, then using a Delphi consensus approach to quantify critical uncertainties

3. Workforce modelling of scenarios and policy levers e.g. student intakes

4. Policy analysis – testing which policies work best across the range of scenarios

The approach is about moving from a complex and uncertain future to structured and simpler set of scenarios.  System dynamics is the key because allows us to model the dynamic behaviour of the system over time, provides a rich-picture of causality and feedback, and

supports high stakeholder involvement. This allows us to model policies, test them against a range of plausible but challenging futures, and avoid ones that might lead to unexpected consequences

The UK model is segmented by age and gender, and includes country of qualification, attrition, delays, exits and returns, migration, and full / part time working. Works is ongoing on modelling workforce skills and competences,

The UK has found that demand is very difficult to quantify because of the uncertainties involved and political decisions which are made. One example is the one off reduction of 2 percent in medical school intakes for one year. Work is being done to assess the impacts of different scenarios and policies for costs and outcomes. UK is also working on making models that are modular and reusable, and to broaden their planning to include the social care workforce, and the whole health and social care system.

## The Netherlands – Mr Victor Slenter –Capaciteits orgaan.

The Netherlands has a population of approximately 16.7 M. The health workforce includes physicians (about 66k) and nurses (about 130k). About 3000 medical students entering each year. Government controls both student intake and vocational training. Victor chairs an independent advisory committee that provides advice to government regarding intakes and education.

Victor presented an excel spreadsheet used to model demand supply and working process. The process includes three columns - Available supply by year (X), changes to available supply until year (X+t) and available supply in a future year. All data is supplied from other bureaus to maintain independence. Main sources of data are health insurance companies, education and health services.

The Netherlands is also modelling on unmet demand (eg waiting times for appointment). Future demand modelling has also been done for specialist, dentists and allied health, with modelling being expanded to other professions and to geographic regions.

## Discussion panel – Summary of Q&A

Q - How can unmet demand and vertical substitution be included in modelling?

A – This is very difficult as part of the variables that have to be included. UK is looking into this but there are no obvious answers

Q -Much of the modelling is based on disease based management models. What about PHC modelling?

A – Again, this is very difficult. Holland do include other models but this is very difficult.

Q - Unmet demand is difficult to model - how to account for affordability?

A- UK does do some modelling of costs to employers + pension age changes which is significant.

Q - How do we define and model need?

A – Most countries don't – they stick to demand.

Q - How to manage productivity in modelling?

A - back at the level of being concerned. Decisions are being made by fund holders to keep growth down. For example, Netherlands policy is to keep growth in costs to 2.5%.

Q - Is there anything being done on behaviours and service provision of doctors in training?

A - Netherlands do not count any time of doctors in training towards service provision.

## Experiences in North America and Australia

### Canada  -Steve Slade / Adrian McKenzie

Canada is on a different track than earlier presentations which utilised centralised data collection and management.  Canada has 10 provinces and 3 territories with a population of 35 M.  Population is sparse with 46% in 5 city areas.  This requires a need for decentralised planning approaches.  The Canada Health Act sets parameters by which provinces and territories receive funding for health.

Have had a range of Commissions on health care and Statistics Canada has done work on health workforce.  Can access much of this information on line.

Largest workforce is registered nurses, then licenced nurses, then physicians. Significant growth has been experienced in dental hygienists, administrators, parts of allied health and midwives. 5000 LPNs or RNs are currently unemployed or working in other areas but distribution is a major issue.   Much of the planning is occurring at professional level and provincial level, and is mostly based on supply demand based modelling of doctors and nurses.  http://www.hhrtoolkit.ca is useful summary of toolkits.

There are a range of Canadian forums for engagement on HRH including the Committee on Health Workforce and the Canadian HHR network .  Canada is currently working on the integration of planning, evaluation of planning and delivery guidelines, support mechanisms for stronger partnerships between government, professions and regulators.

Current challenges include fiscal constraints, increasing training capacity and changes because of increased IMGs (1 in 4 doctors in Canada are IMGs) .  It is pleasing that Canada has reached agreement on more consistent standards in registration.

### USA – Edward Salsberg  and Timothy Dall (technology of workforce projections)

The passing of the Affordable Healthcare  Act means that coverage of public health care is extending to an extra  30M Americans.  This change is also driving changes in the design of service delivery.  The new act provides for a national centre for workforce planning, but the federal effort does not control these resources.  Improving data has been challenge as there is not a single source of comprehensive data for numbers of doctors and nurses.  A project is underway to develop a national minimum data set.   There is a developing conclusion that increasing supply in response to workforce shortage to meet demand is not a solution. Finding team based solutions is much more effective.

There are clinical workforce supply and demand models for 42 clinical areas.   Growth numbers are impressive in non-medical workforce areas including 150k NPs and 85k PAs. Other workforces in  allied health are also being added.  In summary the national numbers in US don't look bad, but that does not mean that nothing needs to be done, because distribution of workforce is poor.

Workforce studies in US have various sponsors (eg government, professions etc).  There is growing consensus on model design criteria, to focus on addressing key policy or research questions, provide accurate projections, build solid theoretical underpinnings, build dynamic model, take into consideration current and future availability of data, be user friendly, easy to maintain and provide platform for continued improvement.   Have settled on micro simulation model for workforce modelling - simulating career choices for clinicians.  This is modelling at clinician and patient level.   The HRSA Health Workforce Simulation Model includes 50 health professions and simulates likely choices of individual clinicians.  It looks at the agents as well as the services available.  Prediction equations have been developed to support it.

The US has just done national survey on NPs, report is in draft mode.  This will assist in the clinical speciality projections.  NCCPA keep a minimum data set which yields high quality

information.   There is a growing alignment between graduate numbers of NPs and PAs with physicians.  Sharing of data, privacy and consent issues is a consideration.


## Australia - Ian Crettenden, Health Workforce Australia

HWA's business is driven towards innovation and reform, which is different to many of the other presenting today organisations.   Our work has been commissioned by government to report back to them, covering five areas - sufficiency, training, productivity, barriers and reform.  This enables clear linkages to policy responses.  We do nationally based modelling and develop projections and infrastructure for data housing.  We have made web based products available for national data and tools.  Data is provided primarily from the new national system for registration of health professionals and includes hours of work, principal place of work, developing longitudinal pictures, national modelling, state modelling and geographic modelling.  HWA also focuses on policy levers that are available such as training and immigration, with links to innovation and reform.  HWA would like to be able to assess innovations and simulate rather than have to test in the real world.

Modelling completed for HW2025 shows a stable but maldistributed picture for doctors with high demands for postgraduate training.  High levels of medical immigration are creating a risk to having doctors access vocational training.  There is a significant shortfall for nursing that is driven by changes to retirement patterns, particularly for mental health and aged care.  The model itself is stock and flow on supply side, relies on national workforce data.  A major supply side difference to other models is that we use actual retirement rates rather than standard retirement age figures.  We develop activity patterns for various specialities based on Medicare data.  We have also looked at service and workforce reform scenarios, particularly changes to skill mix patterns.  Examples include a doctor in training work value scenario, reducing immigration scenario and a capped working hours scenario for doctors.

HWA's future work includes multi profession modelling, starting with oral health.  Similarly to the UK we are also looking at small area analysis.


## Discussant panel summary:

Top research challenges were identified and discussed:

Australia - being able to build analysis tools to evaluate impacts of innovation and reform scenarios, costing analysis, and multi professional analysis

USA - modelling of uncertain future in service delivery, where to get data for non medical professions, and putting outcomes into thinking.  Managing propriety data from insurance companies.

Canada - demonstrating that modelling efforts can produce better outcomes.  Working with government in a sustainable way, building corporate knowledge. Issue of countries working with or against each other eg the number of Canadians studying medicine abroad.

UK - Impacts of technology eg telemedicine.

Final comments and questions

- How can we realistically account for new models of care?  This is difficult because of the pieces missing from current data sources.  One possibility is to collect outcome data.

- Stakeholders - very little discussion on consumer.  Consumer experience of care is very important.  We need to engage them in the design process.  How we do it is still problematic.  Trial and error is required.

- Unpaid workforce is also a factor but they are invisible.

- When can we move to approaches beyond professions and move to planning and modelling based on skills?  CANMEDS is currently being reviewed which may prepare for better acceptance to competence based skills, even if it is within professions first.

Session closed at 4.45PM