



4th Rural and Remote Health Scientific Symposium

Topic: Health workforce data and planning

Ms Maureen McCarty
Department of Health
Health Workforce Division
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National health workforce dataset

- Created from AHPRA registration and workforce survey information
- A vital source of information on the regulated health workforce
- It is a source for quantifying current registered health workforce
- Identifying anticipated training requirements
- Examining impacts of current and future policies
- Providing impetus for, and informing, innovation and reform
- Crucial for health workforce planning and projections



The Workforce Planning Model



What data do we use in modeling?

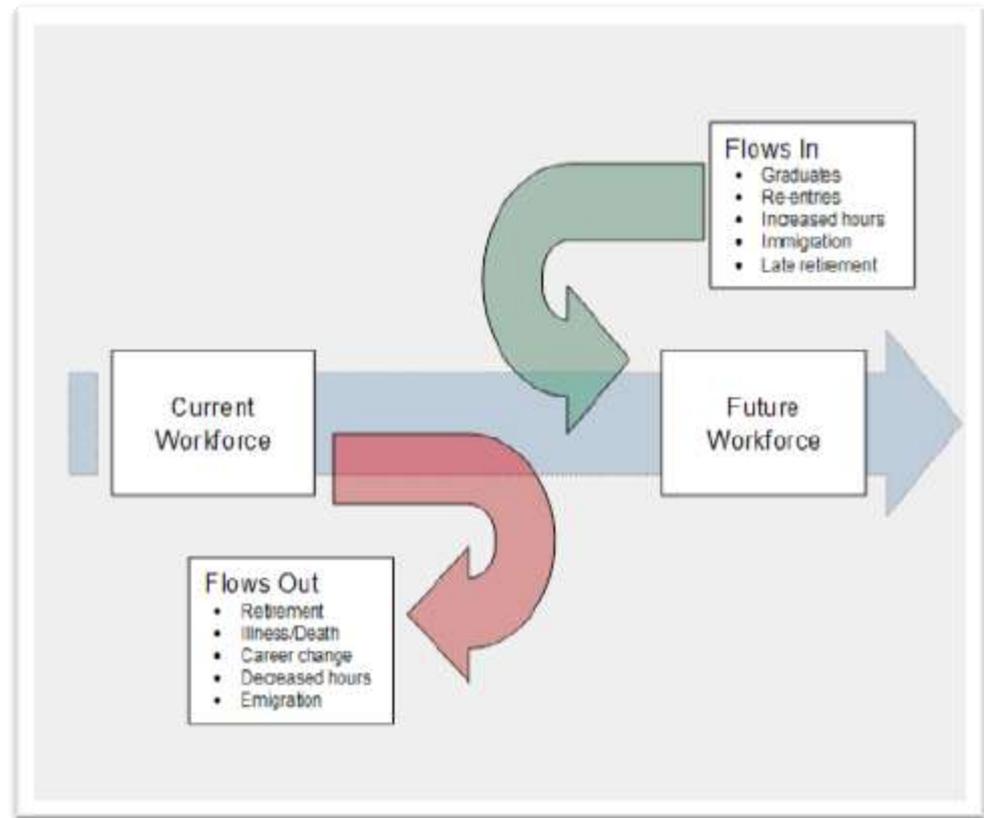
- Data sources used:
 - National Health Workforce Dataset
 - Australian Bureau of Statistics Population Census and Labour Force Survey
 - Medicare data
 - AIHW morbidity dataset
 - Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education
 - Department of Immigration and Citizenship
 - Other professional bodies and associations, where possible



Simple Workforce Planning Model

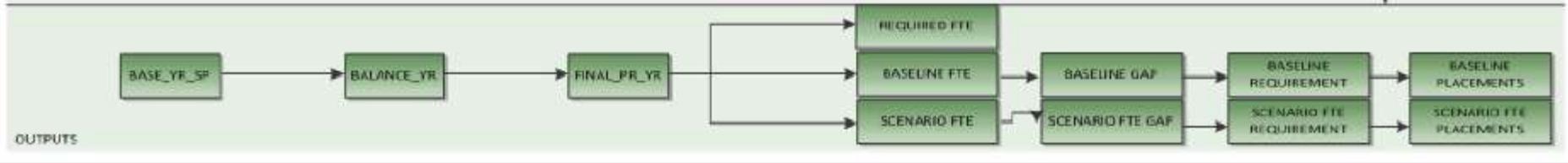
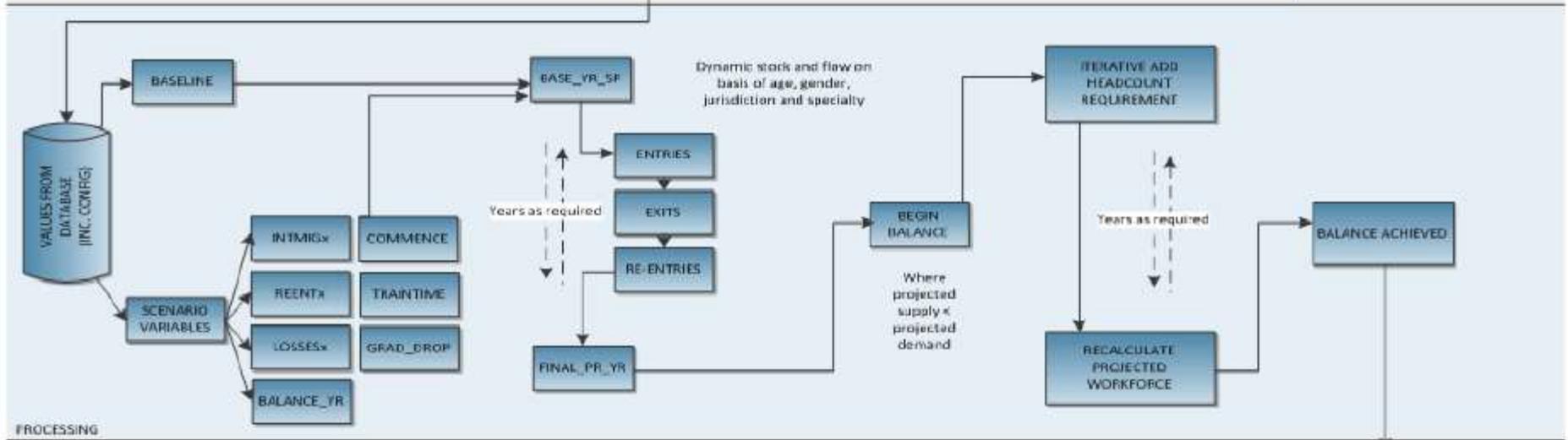
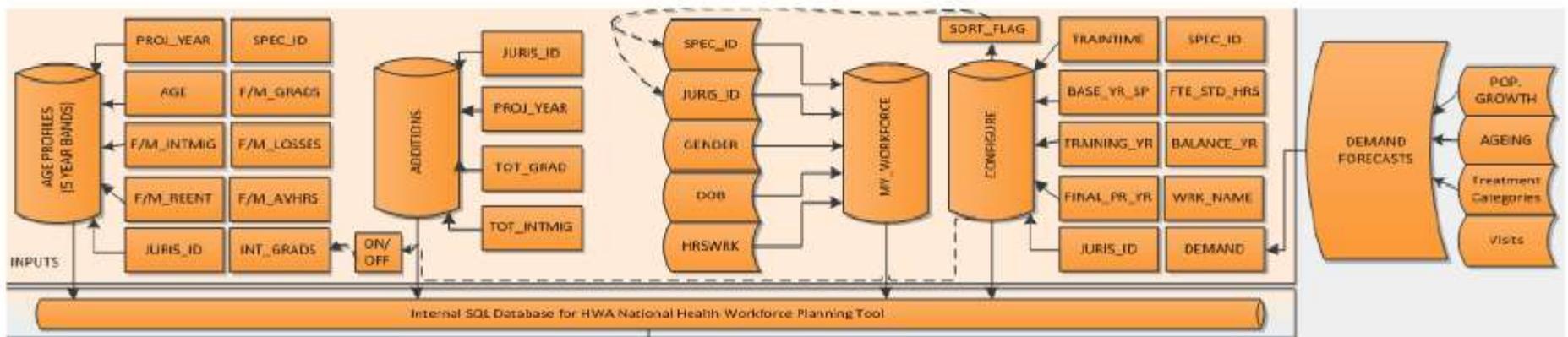
Mathematical simulation modelling

- Stock and flow model
- People entering and exiting the workforce (flows) periodically adjust the initial number in the workforce (stock)





Detailed Workforce Planning Model



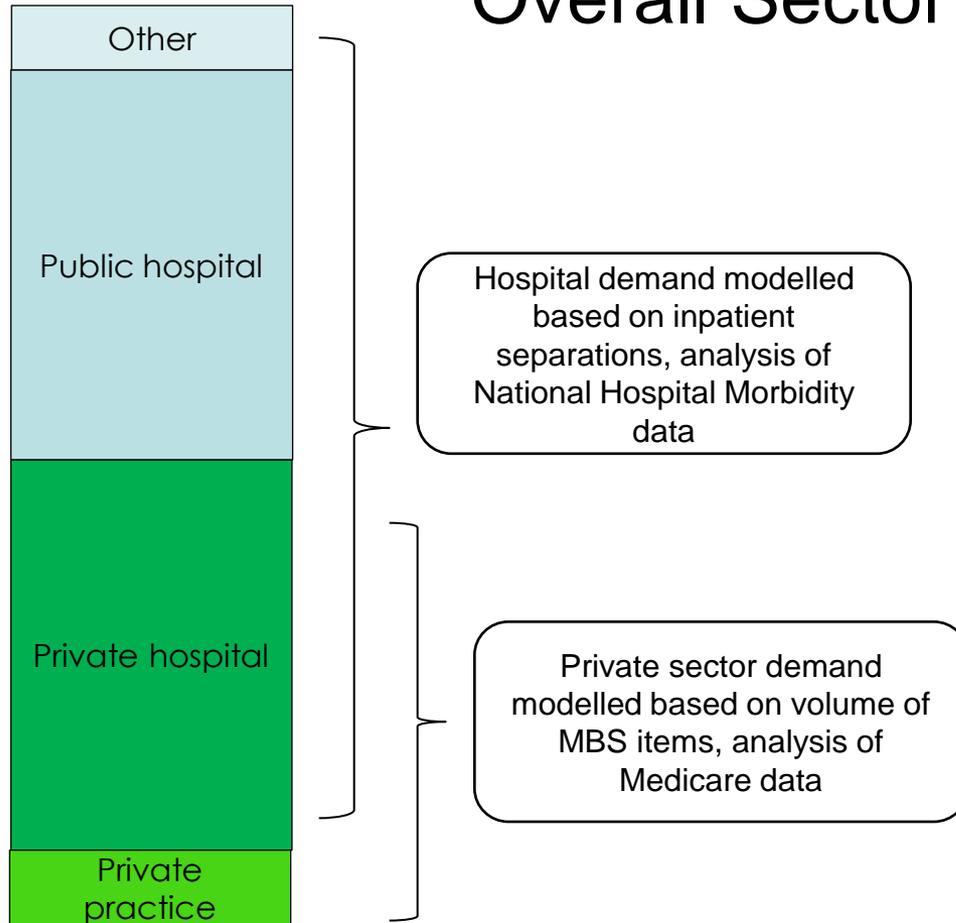


Workforce Planning Model

- Age and gender of the workforce
 - Workforce was split into 5 year age and gender cohorts
 - The working hours of each cohort is determined and changed as the workforce ages to capture the different working hours of the different age and gender groups
 - New entrants to the workforce take on the characteristics of the existing workforce at the age they enter
- Exit rates from the workforce are calculated from the “exits” from each age cohort seen on progressive surveys. Intention to retire is NOT used.



Overall Sector Utilisation Rate



Overall utilisation rates :

Where hospital separations data and Medicare occasions of service data are available they are used to calculate an overall utilisation rate based on a weighting factor derived from NHWD labour force survey data public/private average hours



Demand Methodology

- Demand for health services can be approached in a number of ways including:

Expenditure

- Changes in expenditure over time

Utilisation

- Changes in service utilisation over time

Population

- Changes in size and age/sex profile of the population

- For the demand modeling, service utilisation rates for each population age and sex cohort are used.
- These rates are then applied to the projected population for each of the population age and sex cohorts, to derive the rate of change in demand over the projection period



Forecasting method

- National public and private hospital data by DRG's for 2009 – 2013
- DRG's are mapped to ESRG to SRG's (402) DRG to (134) ESRG to (48) SRG's
- Forecasts are generated for each
 - age-group (0-14, 15-44, 45-69, 70-84 & 85+),
 - sex ,
 - esrg - diagnosis
 - and stay type (same-day, multi-day non-tert & multi-day tert)
- For the modelling LOS is truncated at 90 days to decrease the effect of outliers on average length of stay calculations
- Forecasts are for the years 2018/19, 2025/26 and 2030/31



Workforce Projections scenarios

- **Comparison (No Change)**
 - It is subjective and is used to demonstrate the differences between what things look like today and the scenarios modelled
 - Enables a comparison of the relative effects of the other scenarios
 - Demonstrates what would happen if conditions in starting inputs to supply and demand were carried into the future
- **Activity Demand**
 - Federal Treasury's projections for the future show a lower long-run economic growth rate in the decades ahead (2.7% p.a.) versus the long-run historical growth rate (3.3% p.a.) - a 22% decline.
 - This projected deceleration is used to calculate the activity demand reduction relative to the comparison activity demand level