Medical Workforce Plan Draft v2
June 2017

Introduction

Pathology is an integral part of medicine, 70% of clinical diagnoses rely on pathology and 100% of final cancer diagnoses are made by pathologists.

New Zealand has fewer pathologists per 100,000 population than many countries with comparable health care systems and is listed as an at risk specialty by Health Workforce New Zealand. In June 2016 the population of New Zealand is estimated at 4,696,755 [1]. According to figures supplied by the Medical Council of New Zealand the number of vocationally registered pathologists holding an APC in 2016 is 288, this gives a total of 1 pathologist per 16,308 people at the time of writing. This is an improvement on previous numbers (1 pathologist per 19,888 head of population in 2009 and 1 pathologist per 19,966 head of population in 2012) but remains less than Australia where there is estimated 1 pathologist per 12,372 head of population.

Despite predictions of increased need for pathology services due to the aging population and introduction of new screening tests – such as colorectal screening – the number of trainees entering anatomic pathology remains relatively stable. Compounding this increase in need is the demographic structure of the workforce at present with survey results from the RCPA in 2015 suggesting that 16% of the workforce definitely plan on retiring within the next 5 years and 14% are considering retirement.

An informal survey of RMOs performed prior to collation of this data and presented in a separate paper found that just 13 out of 330 respondents (4%) of current House Officers and Trainee Interns were considering a career in pathology, though a greater number had considered it. Reasons cited for not continuing to pursue pathology included primarily a perceived lack of patient contact, however, other factors that RMOs defined as a deterrent to pursuing a career in pathology included; poor exposure to the specialty in medical school and house surgeon years, lack of information as to what the career entails and how to access the training programme.

Using data provided by Medical Council of New Zealand (MCNZ) and a Medical Specialty Forecast Model created by the Ministry of Health (MoH) in this paper we present insight in to the current pathology workforce and a projection of the future workforce in 10 years' time for both pathologist head count and FTE (taking in to consideration those that work greater than 1 FTE). There were 3 separate forecasts provided by the MoH for this work;

Version 1 - Workforce entry & exit rates from Annual Practicing Certificate (APC) data from the last 6 years (the baseline model),

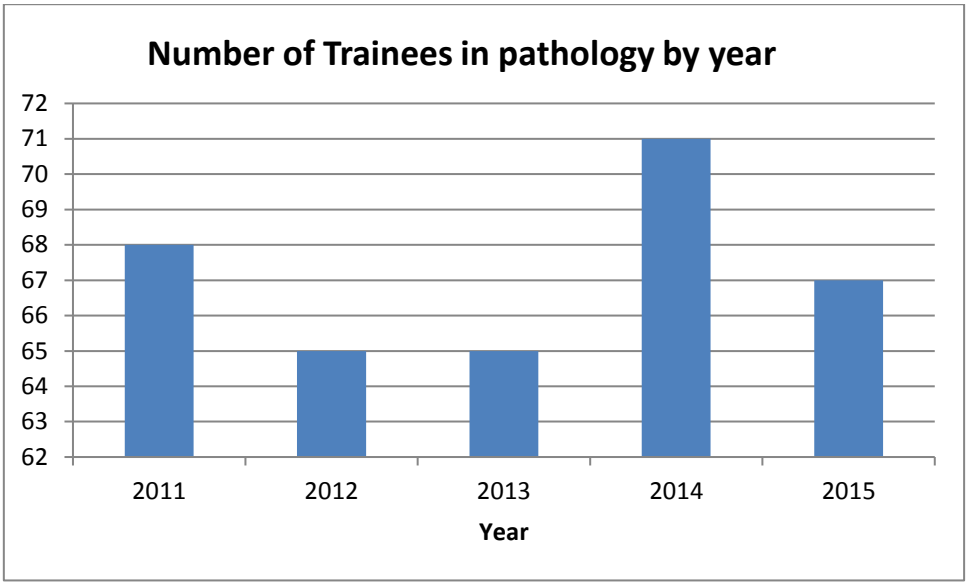
Version 2 - Workforce entry & exit rates from APC data the last 10 years, and

Version 3 - 2015 pathology workforce who are RCPA Fellows (vs total workforce that includes overseas-trained pathologists) + workforce entry and exit rates from 6 years of APC data.

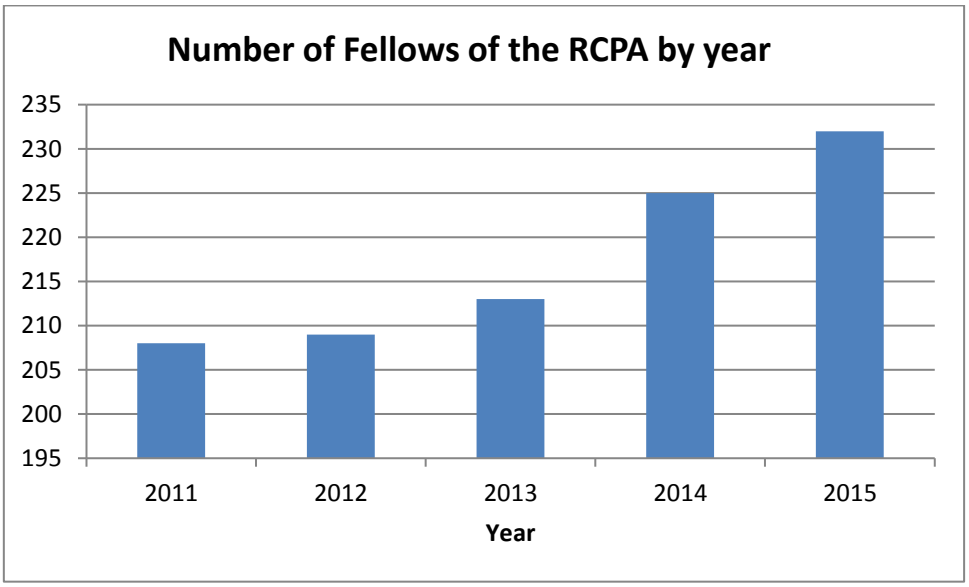
The data produced using these different models is presented separately for discussion in this paper.

Current State

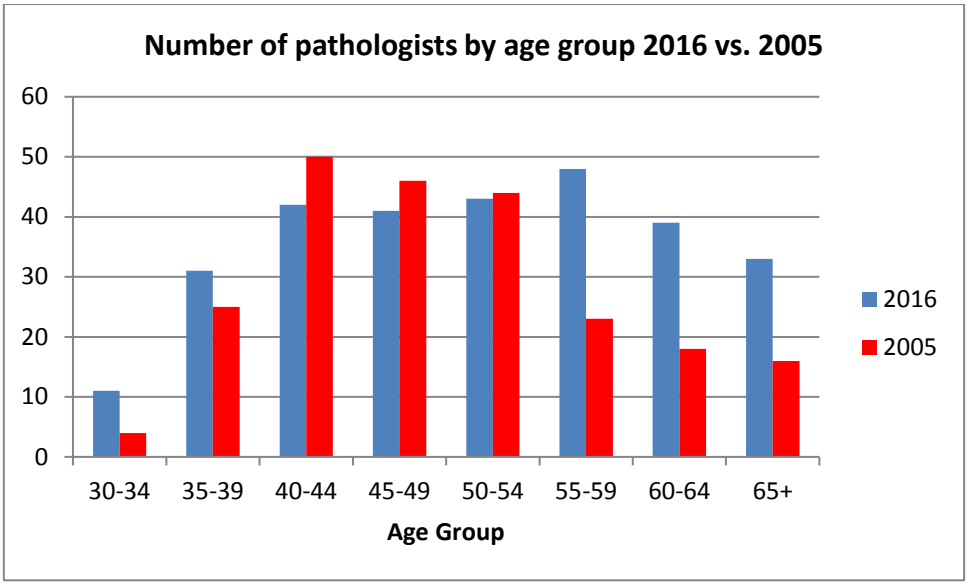
The number of RMOs in training to become a pathologist was provided by the RCPA, the numbers peaked at 71 trainees in 2014 but fell back to 67 in 2015 which is more in line with trainee numbers in previous years.



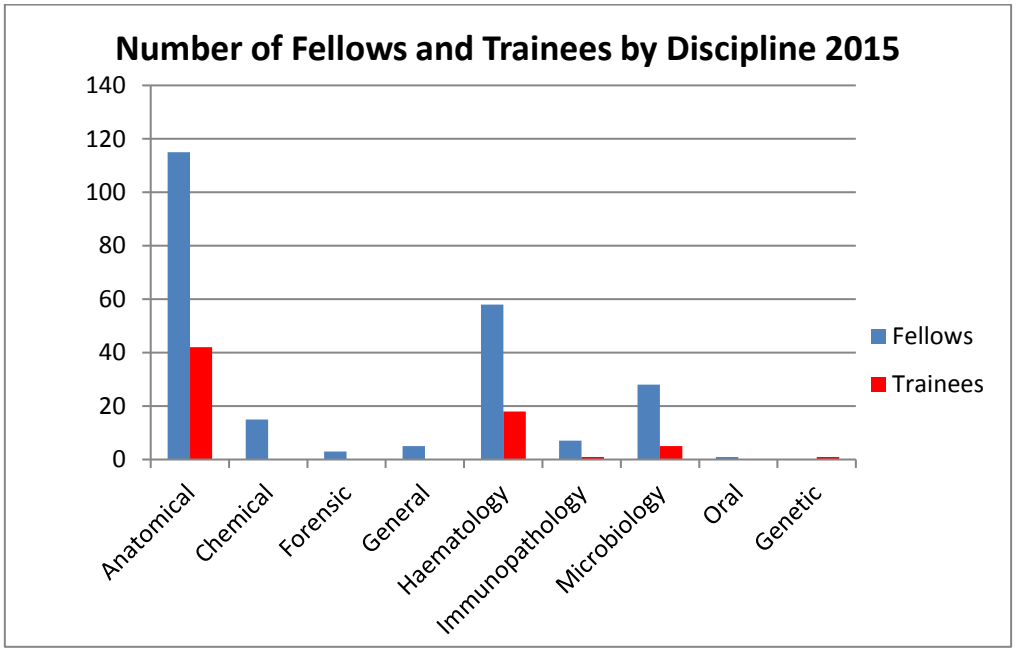
The number of pathologists who are Fellows of the RCPA grew from 208 in 2011 to 232 in 2015. This is continuing previously noted trends.



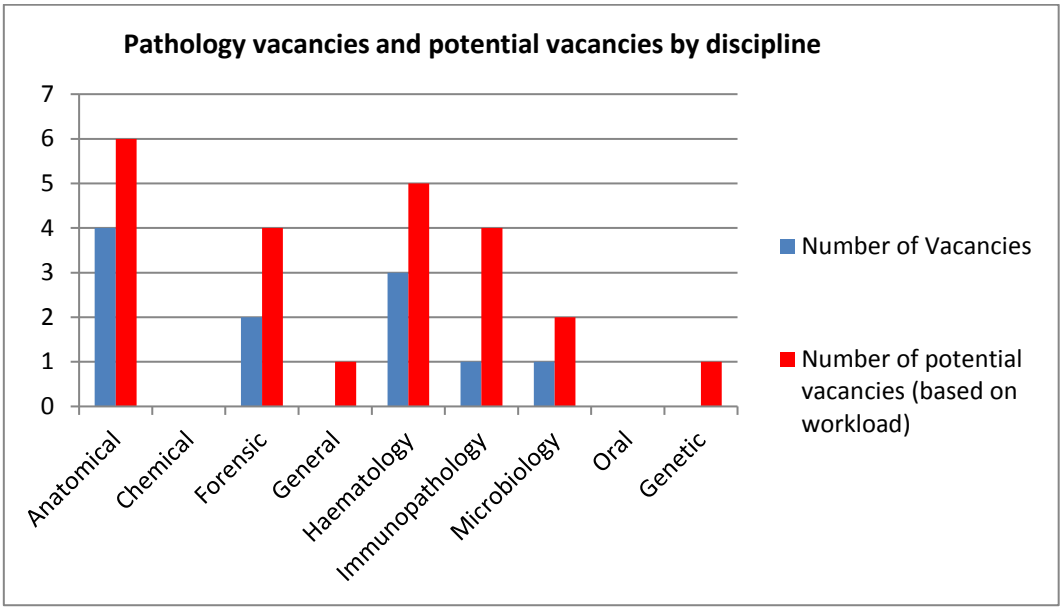
In 2005 the greatest number of pathologists were aged between 40 – 44 years with 45 – 49 year olds comprising the second highest number. In the 2016 the demographics have moved, with the greatest number of pathologists now aged 55 – 59, and the second highest number aged 50 – 54 years. In 2015 57% of pathologists were over 50 years of age in contrast to 45% in 2005. The number of pathologists aged 30 – 39 remained similar in 2016 making up 15% of the workforce compared to 13% in and 2005



Using further data provided by RCPA we were able to graph the number of fellows in each area of pathology alongside the number of trainees in each discipline. This shows that in 2015 there were no trainees in Chemical, Forensic, General or oral pathology. There were no fellows in Genetic pathology.

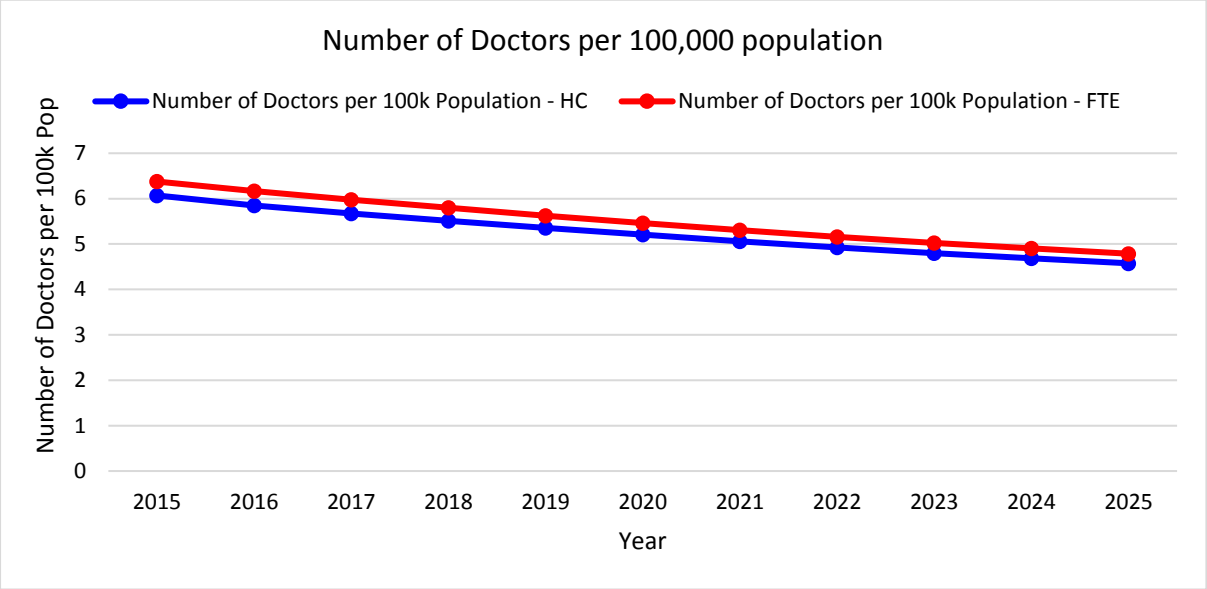


The number of vacancies at current funding levels for each discipline was plotted alongside the number of potential vacancies based on the current workload. Whilst there are vacancies in several of the specialties, suggesting current workforce shortages, the projected vacancies even if these positions were filled and the likelihood that the amount of work will increase in the future hints at the potential for the workforce to become very understaffed.

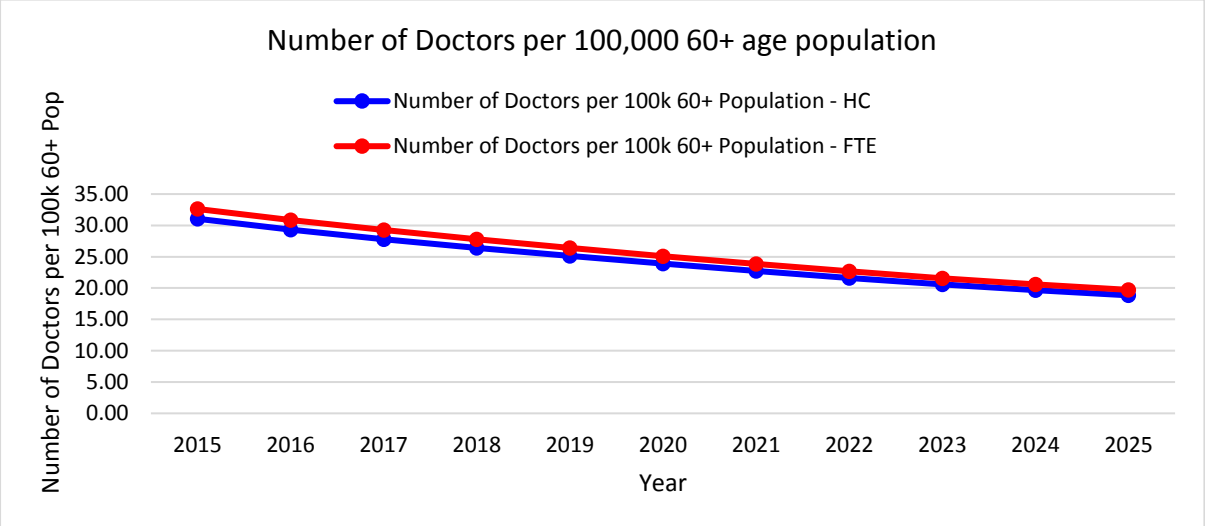


Future State

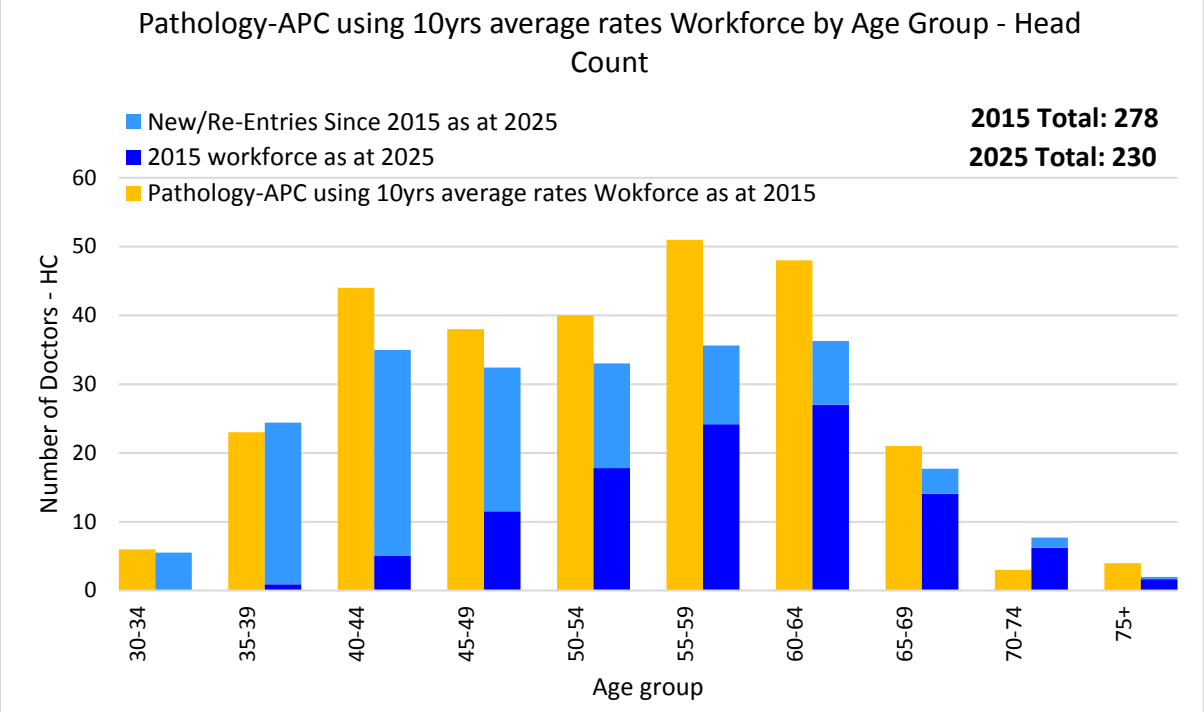
Using Version 2 of the model based on APC data over the past 10 years rather than the past 6 years this model predicts that in 2015 there were 6.1 pathologists per 100,000 head of population and 6.4 FTE per 100,000 head of population. In contrast to Version 1 and Version 3 of the model where this number stays relatively static or slightly increases, in this model the number of pathologists per 100,000 head of population drops to 4.6 by the year 2025, along with the FTE which falls to 4.8 per 100,000 head of population.



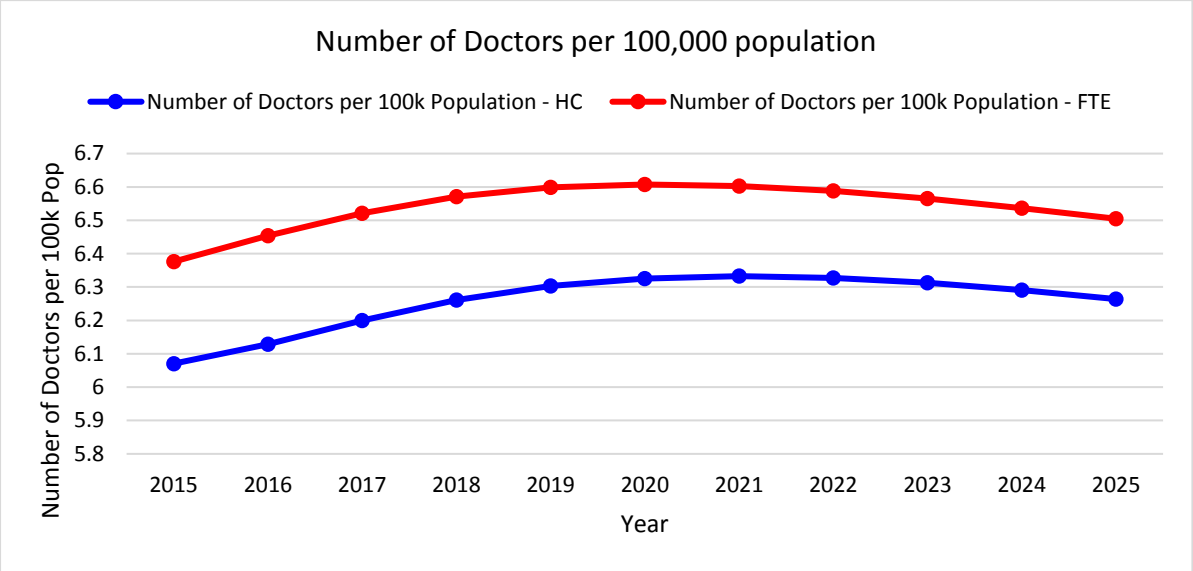
There is a drop in the number of pathologists and FTE available in 2025 using this forecast model, this is much more pronounced than seen in Version 1 and Version 3 of the model. In 2015 the estimated number of pathologists per 100,000 head of population aged 60+ is 31, and the FTE is 33. This is predicted to fall away in 2025 to just 18 pathologists per 100,000 head of population aged 60+ and 20 FTE per 100,000 head of population aged 60+.



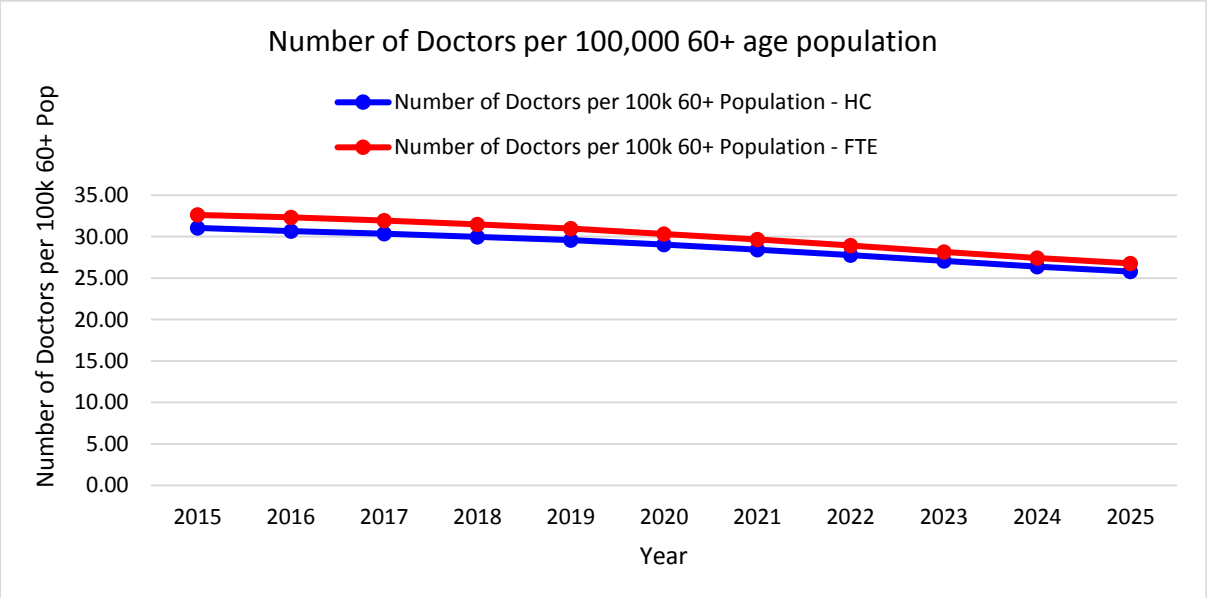
Using this version of the forecasting model the number of pathologists in 2015 was estimated to be 278, in 2025 it is estimated that this number will fall to 230. This is a decrease of 48 pathologists in the workforce (17%). The number of pathologists is decreased or similar in all the age groups when compared to the average Workforce at 2015. The spread of pathologists over the age groups remained relatively constant between the 2015 estimate and the 2025 prediction but with a higher number in the 70-74 age group.



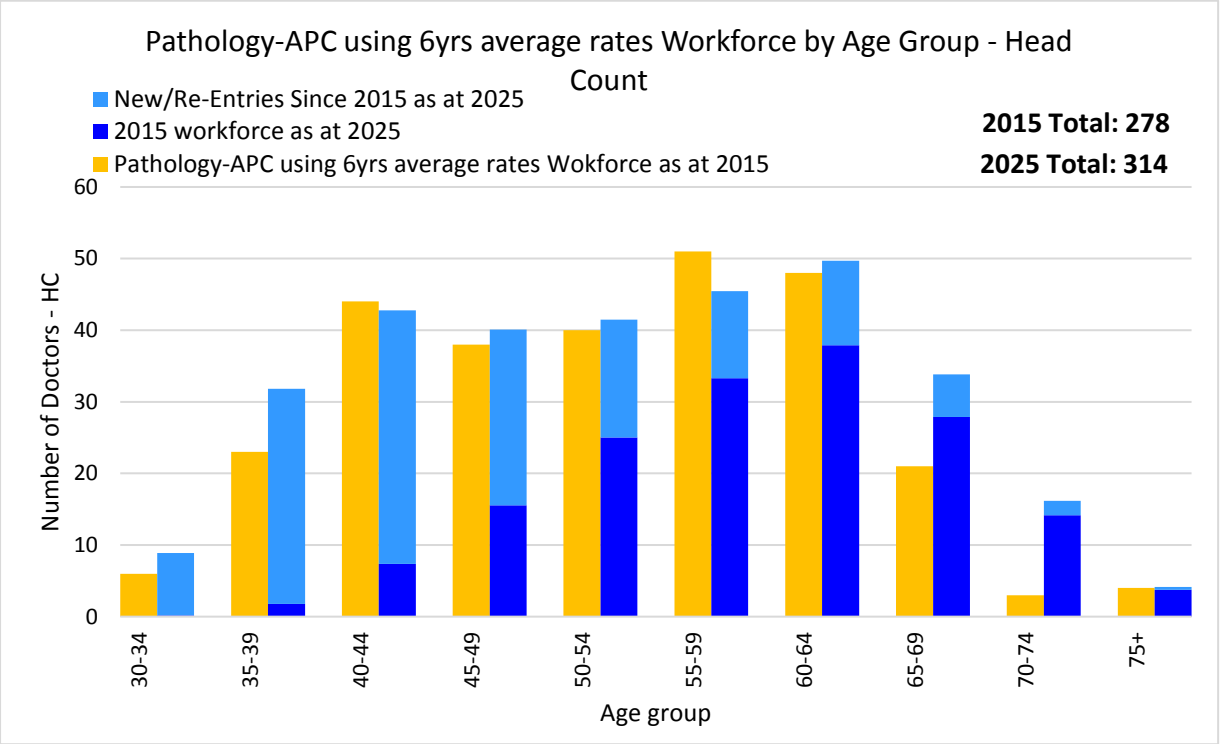
Using Version 1 of the forecasting model the number of pathologists per 100,000 head of population in New Zealand in 2015 was 6.07, it estimates that by the year 2025 this will be 6.25 pathologists per 100,000 head of population. The number of pathologists per 100,000 people in this model would peak in the year 2021 at 6.3 pathologists and then begin to fall off. In 2015 the number of FTE per 100,000 population based on this model is 6.4, it estimates that by 2025 this will have increased to 6.5 per 100,000. The FTE follows the curve for number of pathologists and has a peak at 2020 of 6.6 FTE per 100,000 head of population before falling off.



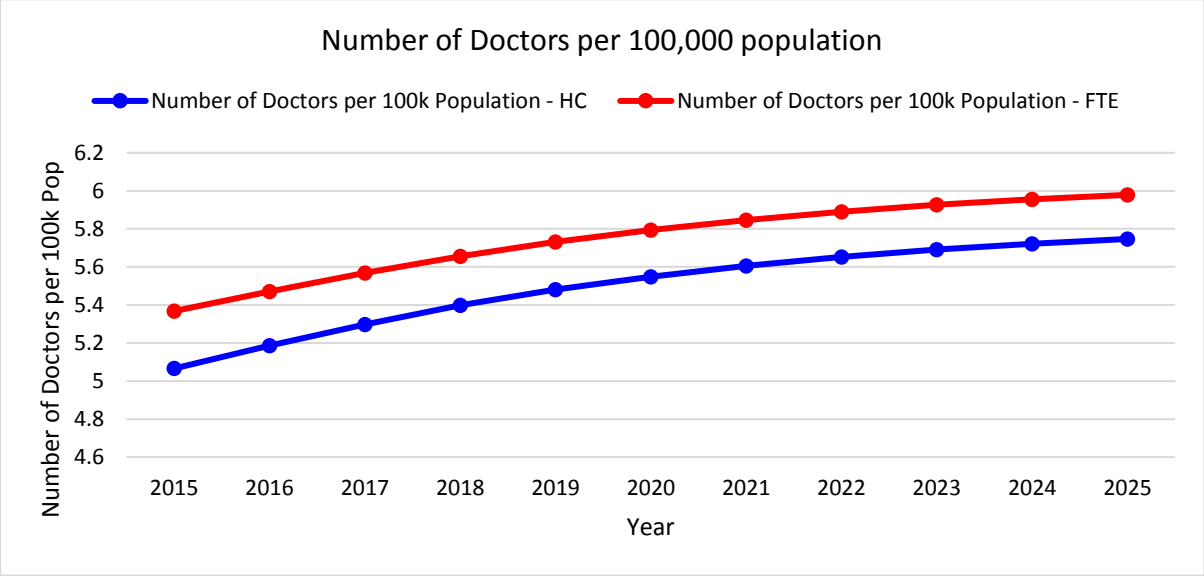
When looking at this forecast in relation to only the members of the population over the age of 60 the model gives us 31 pathologists per 100,000 head of population and an FTE of 32 per 100,000 head of population. Looking ahead to 2025 it predicts that the number of pathologists will be 26 per 100,000 population and the corresponding FTE will be 27 per 100,000 population over 60.



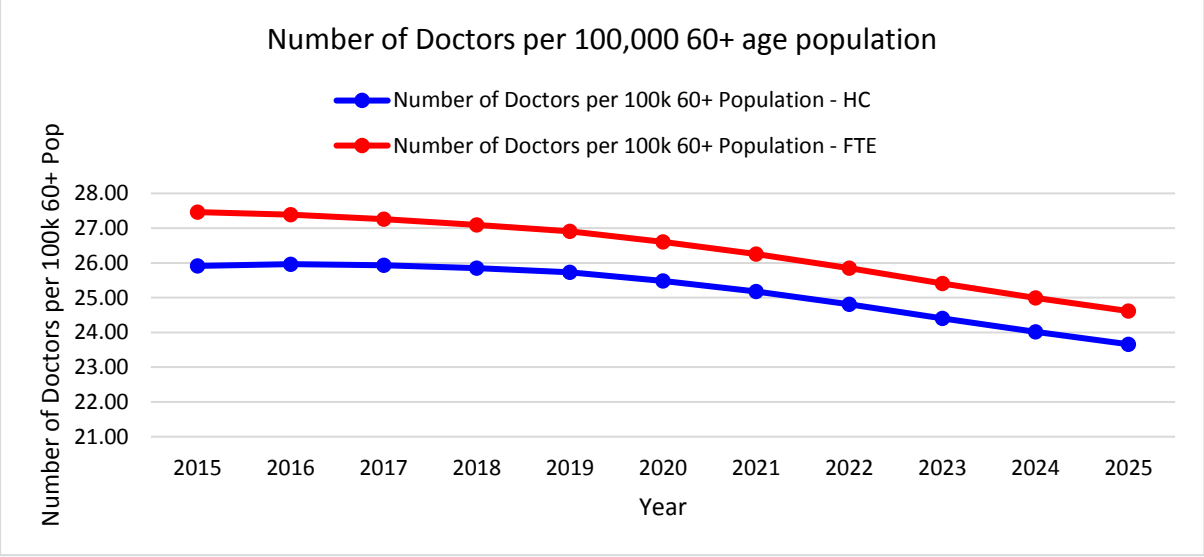
This version of the forecasting model estimates that in 2015 there were 278 pathologists in New Zealand it predicts that the workforce in 2025 will have a total of 314 pathologists, an increase of 36 pathologists over the preceding 10 years, this represents a 13% increase in the total number of pathologists. Numbers in the workforce remain relatively stable using this model, however, overall there are more employees in the 65+ age group with an estimate 17% in 2025 vs. 10 % in 2015.



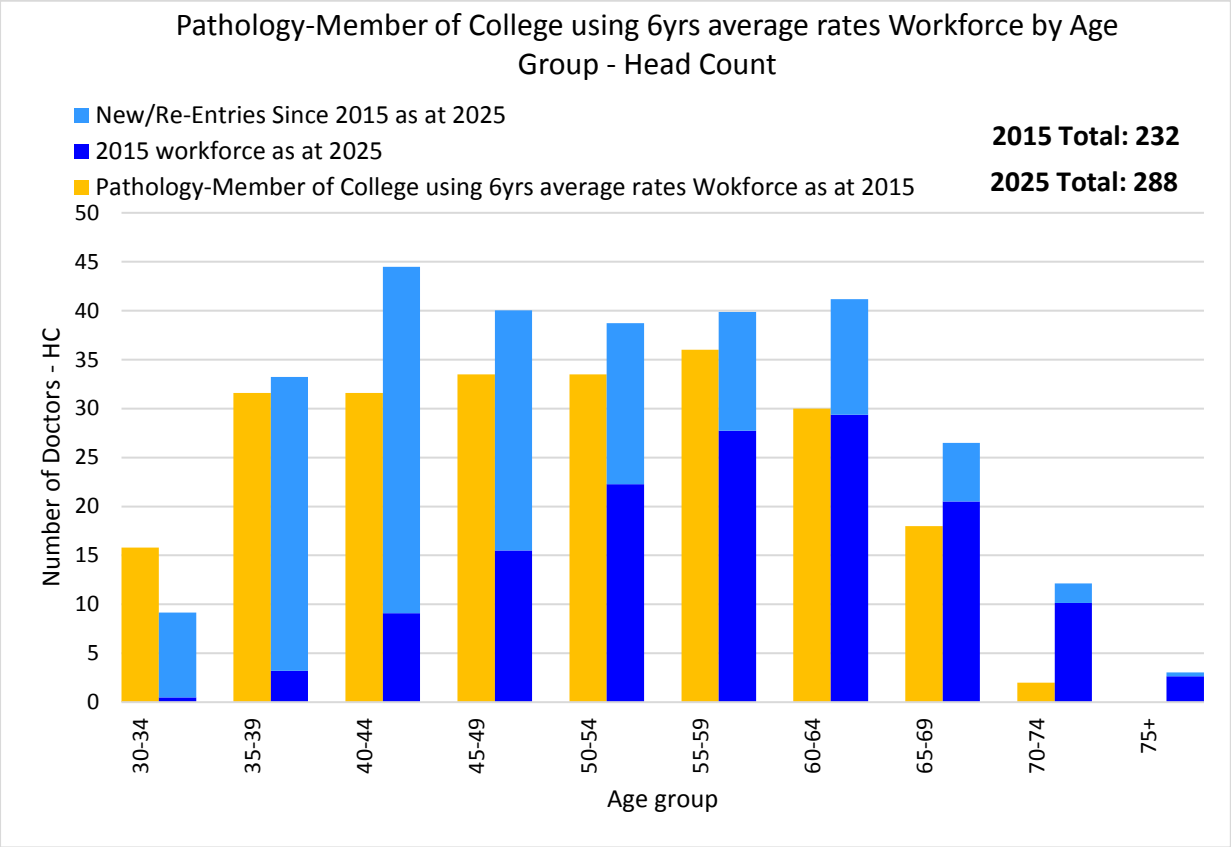
Using Version 3 of the forecasting model in 2015 there were 5.1 pathologists per 100,000 head of population and 5.4 FTE per 100,000 head of population. It predicts that in 2025 there will be 5.7 pathologists per 100,000 and 6 FTE per 100,000 population.



Looking at data for the over 60 age group this model showed that in 2015 there were 26 pathologists per 100,000 population and an FTE of 27 per 100,000 population. In 2025 this model predicts that the number of pathologists will fall to 24 per 100,000 population and FTE will fall to 25 per 100,000 population.



Looking at this forecasting model the estimated number of pathologists in 2015 was 232, the predicted total number of pathologists in 2025 is 288, an increase of 56 pathologists over the preceding 10 years, this represents an increase in the number of pathologists by 24%. In this model the number of pathologists is increased in every age group other than the 30-34 year olds and 14% are in age groups older than 65 compared to 7% of pathologists in the 2015 prediction.



Summary

Though the number of Fellows of the RCPA have increased year on year since 2012 the number of trainees enrolling in the programme has remained stable with the exception of 2014. With the current aging demographic in the specialty and large numbers of forecast retirements along with increased demand for pathologists, shortages may begin to develop as seen in Version 2 of the Workforce forecast. This version of the Workforce model is based on the last 10 years of APC data and so has the largest amount of data on which to make predictions, and shows no change or a decrease in the number of pathologists in all age groups except the 70-74 year group. It also predicts a drop in the number of pathologists per 100,000 head of population and per 100,000 head of population aged over 60, the FTE mirrors this. This is alarming for New Zealand's health sector as we already have fewer pathologists per 100,000 head of population than other countries with comparable health systems, shortages in some disciplines and a projected increase in demand for pathologists.

Version 1 of the model shows a relatively stable workforce with slight increase in the number of pathologists per 100,000 head of population, per 100,000 head of population over 60 years and correspondingly in FTE, there is a large increase in the predicted number of pathologists over the age of 65 in the workforce which may lead to shortages once these members start to retire. Version 3 is similar to Version 1, the number of predicted pathologists is greater in all age groups but with fewer total pathologists in comparison to Version1 in the year 2025.

In order to grow the pathology workforce and provide adequate services to the growing, aging population with more complex health care requirements there needs to be a focus on increasing the number of RMOs entering pathology training. This will require an increase in funding to expand the number of training positions available. In order to increase the number of RMOs wishing to pursue pathology as a career there will also need to be improvement in the exposure that RMOs receive to pathology and pathologists whilst in the early stages of their career and medical school and improved information on what the training and future work entails.