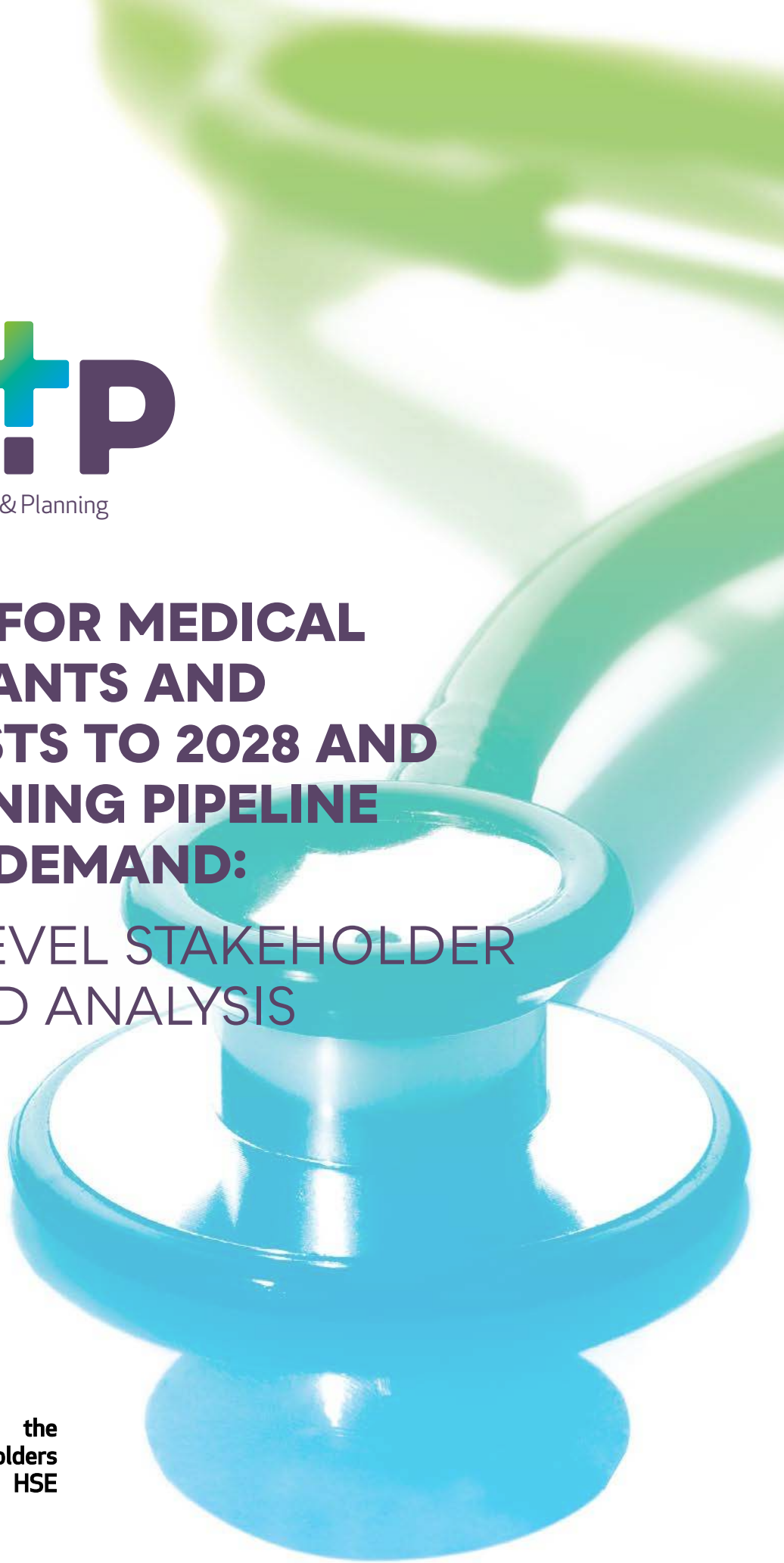
National Doctors Training & Planning

DEMAND FOR MEDICAL CONSULTANTS AND SPECIALISTS TO 2028 AND THE TRAINING PIPELINE TO MEET DEMAND:

A HIGH LEVEL STAKEHOLDER INFORMED ANALYSIS



This report represents the views of NDTP stakeholders rather than the HSE or HSE NDTP itself

"Investing in the career development of doctors"

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FOREWORD

Recruitment and retention of a sustainable medical workforce is a major challenge for healthcare systems internationally, and Ireland is no exception.

The Irish medical workforce currently faces recruitment challenges, particularly at consultant level and in mental health services and the smaller and less metropolitan model 2 and 3 hospitals. This has resulted in doctors who are not on the Specialist Division of the register occupying consultant posts. Many consultant posts have failed to attract any suitable applicants and remain unfilled.

There are also on-going and impending difficulties in the recruitment of General Practitioners.

The workforce in Ireland's hospitals at NCHD level comprises approximately 50% training (excluding interns) and 50% non-training scheme doctors. The proportion of trainees relative to non-training scheme doctors should be much higher. Other countries do not have such a high dependence on non-training scheme doctors to deliver clinical service. Non-training scheme doctors do not have adequate training and career pathway opportunities and Irelands over-reliance on this cohort of doctors has led to difficulties in adhering to the WHO Global Code of practice related to ethical recruitment in health care and doctor migration.

NDTP believe that Ireland must develop a new vision of the medical workforce and to think again about how doctors are best employed to provide high quality, sustainable patient-centred care.

Many initiatives to address these medical workforce challenges in the past have stalled for a variety of complex reasons. With the energy brought to the transformation process by Sláintecare, there is now an opportunity to work towards a more integrated, planned and sustainable medical workforce.

The analysis of the supply of, and demand for medical consultants, GPs and trainees across specialties in Ireland, both public and private, as outlined in this report, represents a crucial stage in the process of optimising the Irish medical workforce. The careful analysis of the data sources, engagement with stakeholders, specialised knowledge and ability on behalf of Dr Roisin Morris, Medical Workforce Planning Lead, NDTP and her team, marks an important step forward.

The consultant and trainee demand estimates outlined in this report will allow for better planning of the future consultant, specialist and GP workforce to meet population healthcare needs and to align with proposed new models of health service delivery. In parallel, they will allow for better alignment of postgraduate medical training opportunities with the future predicted demand for medical practitioners.

I would like to express my sincere thanks and appreciation to all those who took the time to carefully consider the future demand for specialists in Ireland across their field of medicine. The input of stakeholders, in particular Postgraduate Training Bodies, Clinical Programmes and specialist professional bodies as well as medical representative bodies, informed this report greatly. Estimates of future demand for specialists and trainees to meet the future demand for patient care in Ireland, as outlined herein, are fully informed by these stakeholders.

I hope that the outputs of this report are used as a baseline to inform future changes to our health service and to inform the development of a more fit-for-purpose medical workforce with a reduced ratio of non-training NCHDs to both trainees and consultants.

Finally, I would like to thank Dr Roisin Morris and Maeve Smith along with all those who supported the development of this report. Just like the medical workforce and Ireland's health service, this is a dynamic piece of work which will be updated as appropriate.

Yours Sincerely,

Professor Frank Murray MD
Director, National Doctors Training & Planning

INTRODUCTION

Evidence informed, medical workforce planning underpins senior strategic decision making within the HSE to ensure a medical workforce that is fit for purpose to meet the population health needs of Ireland in the medium to longer term.

With this in mind, National Doctors Training and Planning (NDTP) works to develop appropriate, evidence informed estimates to determine the annual numbers of medical trainees entering specialty training each year. Estimates are based on longer term medical workforce projections derived from expert stakeholder consultation and statistical modelling of medical workforce supply and demand data.

The drivers of change to the health service of the future have a major influence on medical workforce planning. These include national health policies such as SláinteCare, Healthy Ireland, the development of Regional Integrated Care Organisations, National Clinical Programmes and new models of care and service delivery; demographic changes; evolving health service structures and recruitment and retention of doctors. These drivers of change are considered in the medical workforce planning process.

The medical workforce in Ireland has faced many challenges over the years, not least in the area of recruitment and retention of doctors. Ireland has one of the lowest levels of medical specialists in the OECD despite having one of the highest levels of medical graduates (OECD, 2019) however it should be noted that these data are not directly comparable as countries count and categorise doctors differently. In turn, Ireland faces great challenges in fulfilling the WHO Global Code of Practice on ethical recruitment in healthcare.

This report was developed with a view to providing evidence around the current and future demand for consultant/specialist doctors across medical specialties in Ireland, in order to inform postgraduate medical training and consultant appointment requirements for the country to 2028. It also presents useful evidence to inform strategic actions to address recruitment and retention issues across the consultant and NCHD workforce. It will also be of use to doctors planning their careers and wishing to anticipate future opportunities.

All consultant workforce demand estimates presented have been informed by expert representatives of the various medical specialties in Ireland. These include representatives and groups of representatives from Clinical Programmes, Postgraduate Medical Training Bodies, HSE Primary Care, HSE Mental Health, specialty representative organisations and others. These demand estimates do not necessarily represent the views of NDTP or the HSE, as they are gathered from a wide range of stakeholder groups. Nonetheless, they are useful in establishing a picture of where the major gaps in future medical workforce requirements are.

Many of these expert informed medical workforce demand estimates are derived from models of care developed to map the strategic direction of certain medical specialties, for example Anaesthesiology, Paediatrics and Neonatology, Palliative Medicine, Emergency Medicine and others. In General Practice, demand estimates are derived through consideration of extending free GP care to larger cohorts of the Irish population, as well as to the population as a whole. Other specialties use international workforce benchmarks to inform demand for consultants and specialists within their field of medicine. Almost all demand estimates make an attempt at forecasting the demand for specialists to address understaffing which has, for many, led to long waiting lists, an overreliance on NCHDs, particularly non-training scheme doctors, to deliver care as well as onerous rostering arrangements.

In 2003, the report of the National Task Force on Medical Staffing, 'the Hanly Report' (Department of Health, 2003) outlined the demand for medical consultants in order to improve delivery of care to patients, comply with the European Working Time Directive (EWTD) and to develop a consultant-provided model of care delivery, as opposed to a consultant-led service. Within this report, consideration is given to how the current consultant workforce compares with the recommended consultant ratios per head of population for 2013 as outlined in the Hanly Report. That report recommended a doubling of

Consultant numbers, a Consultant to NCHD ratio of approximately 1:2, and emphasised the need to assign Consultants to a smaller number of hospitals open for acute admissions on a 24/7 basis. It is noted that the current consultant workforce numbers in the main, still fall short of reaching Hanly recommendations, almost 17 years after publication. Furthermore, the healthcare systems reliance on non-training scheme doctors has increased substantially, due in part to the requirement to provide medical staff for and progress EWTD compliance in units which do not have the workload or capacity to support assignment of large numbers of Consultants and trainees. In addition, a number of doctors delivering consultant services within hospitals are not on the specialist division of the Medical Councils Register. Moving towards a consultant-provided service with increased trainee numbers and a parallel decrease in the number of non-training scheme doctors, as recommended in Hanly (2003) is discussed in the context of improving healthcare and working conditions for medics.

In recent years a number of important related reports have been published, outlining the future demand for health services in Ireland. Among these are the 'Sláintecare' report (Houses of the Oireachtas 2017), the ESRI 'Projections of Demand for Healthcare in Ireland, 2015-2030' report (Wren et al. 2017) and the Health Service Capacity Review, 2018 report (Department of Health 2018). The report 'Securing the Future of Smaller Hospitals: A framework for Development' is also relevant to medical workforce planning (Department of Health and Health Service Executive, 2013). HSE NDTP has also published a number of medical workforce planning reports which outline demand for specialists to meet future population health care needs. See www.hse.ie/doctors.

The ESRI report outlines projected increases in the demand for acute hospital and GP surgery based care activity, based on factors related to population change and ageing. The impact of reconfiguration of services is not considered. Within the Health Service Capacity Review, demand for healthcare is considered across both baseline and reform scenarios. The baseline scenario projects a sharp rise in the capacity needed across all sectors of the healthcare system by 2031. Conversely, full implementation of 'reforms' would result in decreased bed capacity requirements with a higher increase in demand for primary care workers. While the findings of these reports are not directly comparable with the projections outlined herein, they do offer context as well as valuable insights into how to approach future planning research in terms of both utilisation of services and workforce requirements, in order to better prepare for the introduction of Sláintecare. One recommendation of this report is to further evaluate the impact of moving more care to the community with the demand for acute medical specialists, factoring in the current onerous working conditions which stakeholders in the medical workforce planning process repeatedly pointed to as an impediment to the delivery of efficient and effective patient care. The results of these reports and how they align with medical workforce planning findings outlined herein are discussed in Section 9 below.

Furthermore, the report 'Securing the Future of Smaller Hospitals' outlines how smaller hospitals should be developed within the overarching structures of Hospital Groups to deliver appropriate, safe and effective care at the lowest levels of complexity and closest to the patients' home. In this way it outlines how less complex care activity, chronic disease management for example, can be delivered within the context of the smaller, local hospital infrastructure while more complex care is delivered in Model 3 and 4 hospitals.

Much needs to be done to increase consultant staffing levels across Ireland and indeed to ensure that hospital and community work environments are attractive enough to make doctors choose to take up posts when advertised. Within this report, expert informed recommended consultant/specialist numbers to staff both the public and private healthcare sectors are presented to support decision making around aligning training numbers with the future demand for medical consultants and specialists. However, it is appropriate to consider the fact that international competition for medical staffing is intense and that it is not sufficient to focus solely on meeting future patient care needs through training and appointing more consultant and specialist doctors. Going forward, more consideration should be given to thinking outside the box in terms of ways of meeting the demand for medical staffing in our health services and indeed better aligning the consultant workforce with the recommendations of Sláintecare. Among other things, this should involve a focus on attracting medical staff to take up posts in services that have struggled to recruit consultants and trainees and ensuring that all doctors are working to the top of their license thereby ensuring efficient use of medical resources.

1. OVERVIEW OF MEDICAL WORKFORCE PLANNING WITHIN NDTP

In 2014 NDTP fully incorporated Medical Workforce Planning (MWP) into its remit, with a view to bringing the number of doctors in postgraduate medical training programmes in line with expert informed estimates of the future demand for specialists in the health service, and, to inform the consultant appointments process. MWP within NDTP considers the needs of service delivery across both the public and privately funded healthcare systems. Data on medical workforce supply and demand are collected and analysed to inform postgraduate medical education and training decision making i.e. around trainee intake numbers and allocation of funding, over a defined projection period.

Over the past 5 years NDTP have published a number of medical workforce reports, as well as a user guide to medical and health workforce planning. These reports have informed decisions made at senior management level in relation to numbers of required trainees per specialty to meet the future estimated demand for specialist doctors across Ireland. For more information see www.hse.ie/doctors.

This report presents a multi-specialty analysis of medical workforce supply, demand and future training requirements. It takes a high level analytical approach whereby specialty stakeholders have been consulted on an ongoing basis to ensure their expert views on the future of each medical specialty are incorporated into the report findings.

Medical Workforce Planning (MWP) within NDTP is broadly based on the following principles as per existing Government policies:

- In line with Sláintecare, more patient care should take place in the community and this should be reflected in models of care for medical specialties. Work is ongoing across services to move more care into the community, however much remains to be done
- The Irish health service should be self-sufficient in the production of medical graduates, with reduced dependence on International Medical Graduates (IMGs)
- More patient care should be consultant-delivered and there should be a reversal in the ratio of Non-Consultant Hospital Doctors (NCHDs) to consultants/ specialists
- MWP recommendations should be consistent with the WHO Global Code on the International Recruitment of Healthcare Personnel (World Health Organisation 2010, 2011)
- MWP recommendations should encompass medical workforce requirements for the entire population to include both the public and private healthcare systems
- MWP recommendations should incorporate future health needs of the population
- MWP recommendations should include the incorporation of projections relating to, for example, demographic changes; alterations in disease incidence and prevalence; new models of clinical care; medical and therapeutic innovations; policy initiatives and technological advances
- MWP recommendations should incorporate the implications of existing, and where known, future healthcare policy (for example the Small Hospitals Framework; the National Cancer Control Programme; Sláintecare)
- Trainee numbers for each specialty should be based on MWP projections for that specialty
- Training capacity should match the recommended training numbers. Where recommendations are made to increase the intake of trainees into a particular specialty, additional training posts may be required
- Where appropriate, innovative models of care should be explored, for example new team structures, new medical roles, skills transfer and task sharing

This report does not consider planning for non-training, non-consultant doctors. Work is ongoing within NDTP to examine how this cohort of doctors can be better managed to improve the efficiency and effectiveness of the medical workforce.

2 APPROACH TO DETERMINING DEMAND

The workforce model presented is broadly based on NDTPs MWP methodological framework 'NDTP Health Workforce Planning, Ireland: A Simple Stepwise Approach' (HSE, National Doctors Training and Planning, 2016). Typically, this methodology is applied to one medical specialty to determine the future medical workforce needs of the country's health system. In this case, the framework is used to guide the development of workforce and trainee demand estimates to 2028 across all medical specialties. Due to the complexity of this task, the methodological framework is used as a roadmap to determine high level need, rather than an in-depth review of workforce and trainee demand over the next decade.

In following the stepwise approach to MWP, this chapter is broken down as follows:

2.1 CONTEXT

For the purpose of this report, a review of the configuration of the current workforce delivering all specialties of medicine in Ireland, across both the public and private sectors of the health service, is included to infer the baseline medical workforce as at 2017/2018 (see data explainer in Section 4).

2.2 DRIVERS OF CHANGE FOR MEDICAL WORKFORCE PLANNING

Consideration is given to the major drivers of change to the consultant and specialist workforce over a 10-year projection period i.e. to 2028. See Figure 2.2.

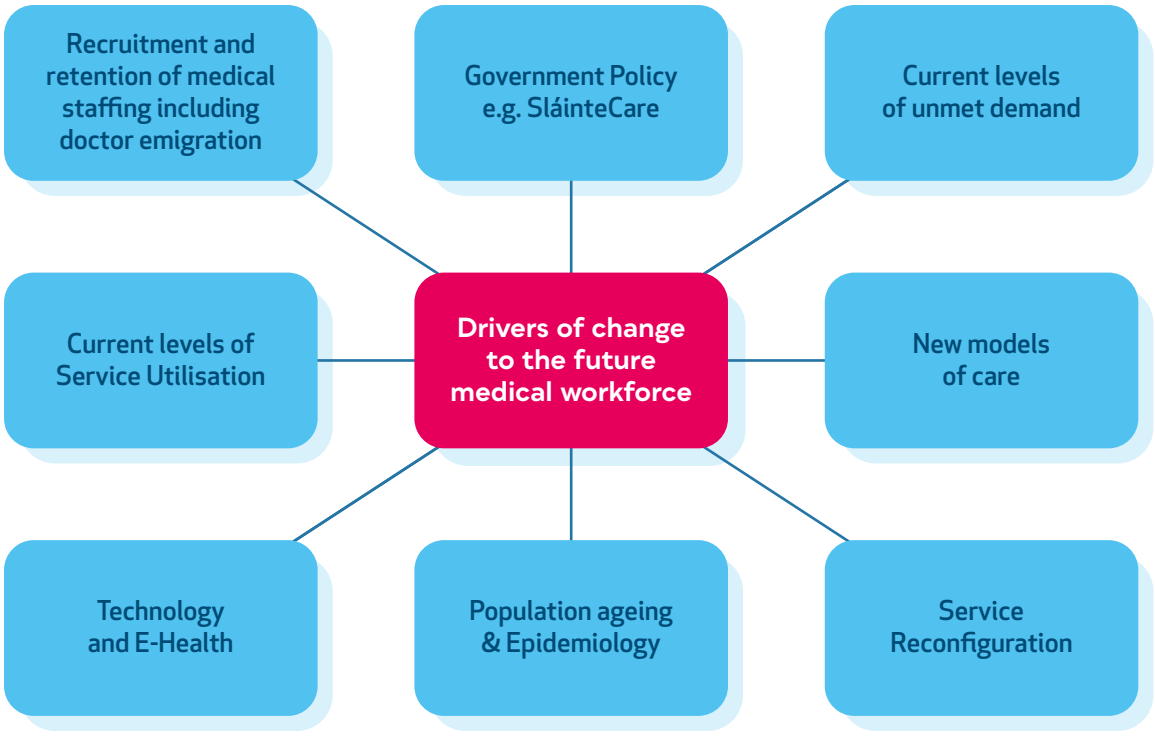


Figure 2.2 Drivers Of Change For Medical Workforce Planning

2.3 FUTURE FORECASTING:

In order to determine future demand for medical consultants and specialists, NDTP engaged with major stakeholders representing all specialties of medicine including for example, National Clinical Programmes (NCPs), Postgraduate Medical Training Bodies, Specialty Representative Bodies, the Department of Health (DoH), HSE and others. Stakeholders were asked to indicate to NDTP what the future demand for consultants/ specialists in their area of medicine was and the rationale underpinning the demand estimates. See Appendix A for a list of stakeholders.

International healthcare systems staffing levels were also reviewed. Consideration was given to the Report of the National Taskforce on Medical Staffing (Department of Health, 2003). While this report may seem dated, recommendations were due to be in place by 2013 and, as can be seen in section, many of the recommendations of the report are yet to be met. It should be noted that projections made in the Hanly report were to meet service delivery as envisioned in 2013 and can therefore only be used as a baseline rather than a robust ratio for evaluating service demand in 2028.

2.4 SUPPLY AND DEMAND GAP ANALYSIS

This part of the workforce planning process involved consideration of all data gathered on the current supply and future demand for the workforce. A workforce stock and flow gap analysis was run to determine the future gap between the demand for and the supply of workers over the 10-year projection period. This analysis was run for stakeholder informed demand estimates on a specialty by specialty basis and was useful in informing the future training pipeline required over the next decade.

It is important to note that analysis was kept at a high level for this particular report albeit that the statistical model can be altered to determine the impact of different external drivers to include emigration of newly qualified professionals, feminisation of the workforce, a reduction in education places and re-entrants into the workforce, among other things. An overview of the statistical modelling methodology used can be found in the report, 'A quantitative Tool for Workforce Planning in Healthcare' (Behan et al. 2009).

3 WORKING WITH STAKEHOLDERS

Over time, NDTP has engaged with multiple medical workforce planning stakeholders, representing all medical specialties, with a view to appropriately representing stakeholder views on the future demand for consultants and specialists in Ireland. Stakeholders engaged in this process include relevant National Clinical Programme Leads, Postgraduate Medical Training Bodies, relevant senior administrators in the HSE, the Department of Health (DoH), relevant specialty representative groups and the Medical Council of Ireland. Key stakeholders in medical workforce planning in general are represented in Figure 3.1.

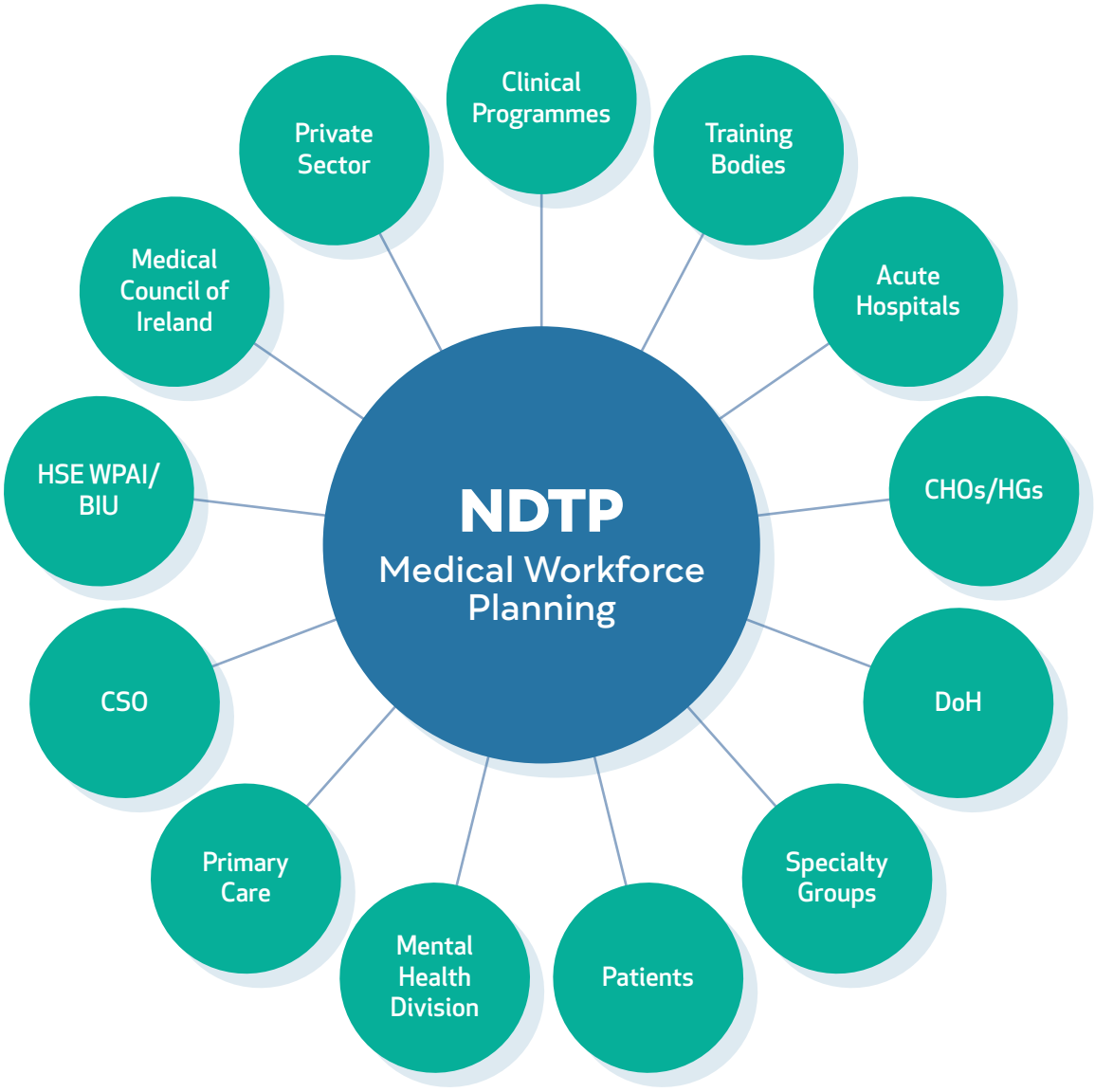


Figure 3.1 Stakeholders Involved in Medical Workforce Planning in NDTP

4 DATA USE AND LIMITATIONS

It is important to outline a number of caveats attached to the analysis of consultant and specialist workforce and trainee requirements outlined herein. These include the following:

4.1 DATA SOURCES

The data utilised in the analysis of the medical workforce in each specialty for these reviews are drawn from multiple sources, all of which have richness as well as limitations, as follows;

- HSE NDTP Doctors Integrated Management E-System (DIME), which receives data from the Postgraduate Medical Training Bodies, the Medical Council of Ireland and each clinical site that employs doctors in the int system in Ireland;
- HSE Workforce Planning, Analysis and Informatics Unit (WPAI);
- The Postgraduate Medical Training Bodies;
- The Medical Council of Ireland – Medical Council Workforce Intelligence Report;
- The National Clinical Programme (NCPs) linked to each specialty;
- International medical workforce datasets;
- International health research groups (i.e. Health Workforce Australia and equivalents in the NHS, New Zealand and Canada)

Variations between datasets (e.g. DIME and the Medical Council of Ireland) are not unexpected and therefore the results from the different sources are not identical. These limitations of the datasets are due to variations in the time-point of data collection, differences in the variables collected (e.g. whole-time equivalents (WTE) versus headcount), differences in the definitions of some variables (e.g. less than full-time versus part-time), absence of variable values (i.e. missing data) in datasets, and varying quality of data between sources, among other things. DIME gathers data on those working in a clinical capacity only and includes permanent, non-permanent and agency doctors.

In general, information in this report that has been sourced from DIME. At the time of data analysis, the consultant data set was approximately 90% complete and was checked for accuracy. Some variables have a lower completion rate than others (e.g. hours worked per week) and the quality of information varies between clinical sites. NDTP aims to further develop this information and analysis on consultant posts, workforce demographics and working arrangements (and how these variables interact with each other), so that recruitment, retention and replacement challenges in healthcare settings, and medical specialties, can be better identified.

4.2 DEMAND ESTIMATES

A large volume of research and work related to estimating the future demand for consultants and specialists across medical specialties in Ireland has been carried out by our stakeholders in recent years. Approaches taken to determining demand range from consideration of multiple factors driving demand for consultants and specialists including population and epidemiological changes, new models of care, changing technologies etc. to simple international comparisons. While NDTP has considered all information submitted to it in determining the future gap between supply and demand for consultants and specialists, it is recommended that a more integrated and consensus driven approach to medical workforce planning is applied in the future. This would likely involve consideration of multiple drivers of change, using a multidisciplinary panel of experts to come to an objective consensus agreement around how many consultants, specialists and postgraduate trainees are required to meet future demand. Demand and supply estimates may be analysed over a number of different scenarios.

4.3 PRIVATE SECTOR

Data on the private sector medical workforce has been sourced from the Medical Council of Ireland. Some stakeholders have identified issues with the accuracy of the data on the private sector and as such, these figures should be interpreted with care. Data on the private sector workforce represents consultants and specialists working exclusively in private health services. The data is self-reported by clinicians and specialists, and completion of the information on work in the private sector is optional.

5 PROFILE OF THE CURRENT MEDICAL CONSULTANT AND SPECIALIST WORKFORCE

In order to get a profile of the number and type of medical consultants and specialists working in the Irish health care system currently, data were analysed from the following sources:

- The Doctors Integrated Medical E-System (DIME)
- The Medical Council of Ireland
- HSE Workforce Planning, Analysis and Informatics – Workforce Census Data

This analysis informed the baseline, current day understanding of the number and type of these medical doctors working across both the public and private health care systems. As already mentioned in Section 1, the remit of NDTP is to develop medical workforce plans to service the population health needs of the Irish population as a whole, accepting that data limitations outlined in Section 4 apply to the modelling.

Currently in Ireland there are approximately:

- 3,100 consultants working in the public sector with an estimated additional 500 consultants/specialists working exclusively in the private sector
- In addition, there are 3,989 GPs, 88 Public Health Medicine specialists, 91 Ophthalmologists and 79 Occupational Medicine specialists working across the country both public and privately
- There are approximately 4,000 trainees working in the Irish healthcare system and an additional 2,400 non-training NCHDS working in publicly funded services

This means that there are estimated to be in the region of 7,850 medical consultants, GPs and other medical specialist doctors as well as 6,400 NCHDs working in Ireland, across both public and private settings.

The following Table 5.1 provides the estimated consultant/ specialist medical workforce summary by medical discipline while Tables 5.2, 5.3 and 5.4 demonstrate the current consultant/ specialist workforce composition, across Medical, Surgical and other specialties.

These tables give a breakdown of the workforce by the following variables:

- Approved posts i.e. posts approved by the HSE Consultants Appointments Advisory Committee (CAAC)
- Publicly funded consultant/specialist workforce (in both headcount, HC, and whole time equivalent, WTE, terms)
- Privately funded consultant/specialist workforce (in both headcount, HC, and whole time equivalent, WTE, terms)
- The estimated overall whole time equivalent working rate (WTE rate)
- Gender
- Full time working patterns
- Tenure
- Proportion of the workforce over 55 years and therefore likely to retire in the next 10 years

Table 5.5 provides an overview of the number of higher specialist trainees across each specialty as provided by each Training body.

It is important to note the following in relation to Tables 5.1-5.5

- Approved public sector post numbers are from the DIME database of consultants held in NDTP as per post approvals at CAAC (DIME, 2018)
- HC employed is the number of consultants working in publicly funded services (DIME, 2018). Please note that HC also includes those that are employed but may have had their contractual hours reduced to 0 for a period of time, for example maternity leave or secondment to another post
- WTE employed is the total number of consultants working in whole time equivalent terms (DIME, 2018)
- Private sector data (those exclusively working in the private sector) is accessed through the Medical Council of Ireland and supplemented with the public sector WTE rate to infer the total number whole time equivalent consultants working in the private sector numbers (Medical Council, 2017)
- The totals are the total for the private and public sector consultant numbers, for both HC and WTE
- The data on gender, full time working and tenure are sourced from DIME, (2018) and the Medical Council of Ireland (2017)
- Data on age is accessed via DIME, (2018) and the Medical Council of Ireland (2017) and is used to infer coming retirements over the next 10 years. Also included in modelling is an expected proportion of consultants leaving the workforce for reasons other than retirement
- The total HST number, is that for all trainees in the higher specialist training programme for the specialty (Training Bodies, 2018)

Table 5.1 Estimated Consultant and Specialist Workforce in Ireland 2017/2018

Specialty	Approved Posts	Public HC	Public WTE	Private Only HC	Total Public And Private HC	Inferred WTE Rate	Total Estimated Public and Private WTE	% Female	% Full Time	% Permanent	% > 55 years
Anaesthesiology	398	382	342	59	441	0.9	396.9	33%	90%	88%	29%
Intensive Care Medicine*	28	**24**	22	3	27	1.00	27	54%	100%	88%	**17%**
Total Anaesthesiology & Intensive Care	426	406	364	62	468	0.9	423.9	33%	90%	88%	29%
Paediatrics & Neonatology	201	199	176	56	255	0.88	225	50%	84%	87%	24%
Psychiatry*	482	526	473	55	581	0.90	523	58%	81%	78%	33%
Obstetrics and Gynaecology	158	160	148	23	183	0.93	170	45%	84%	90%	40%
Diagnostic/Clinical Radiology	242	248	239	21	269	0.96	258	35%	89%	90%	28%
Radiation Oncology	23	25	22	4	29	0.88	26	52%	95%	91%	30%
Emergency Medicine	108	100	86	7	107	0.86	92	21%	84%	73%	25%
Pathology	275	242	227	22	262	0.94	246	55%	89%	95%	25%
Total Medicine	698	749	668	118	867	0.88	763	35%	87%	87%	29%
Total Surgery	568	551	493	127	678	0.93	631	14%	87%	90%	30%

HC *Head Count*
WTE *Whole Time Equilivant*
HST *Higher Specialist Training*

*Please note the figures for Intensive Care Medicine and Psychiatry have been updated to reflect work done for these specialties in 2020

Table 5. 2 Estimated Breakdown of the Consultant and Specialist Workforce in Ireland 2017/2018 - Medical Specialties

Medical Specialty	Approved Posts	Public HC	Public WTE	Private Only HC	Total Public And Private HC	Inferred WTE Rate	Total Estimated Public and Private WTE	% Female	% Full Time	% Permanent	% > 55 years
Cardiology	45	49	45	20	69	0.92	64	6%	88%	92%	31%
Cardiology (General) *	21	21	21	-	21	0.99	21	10%	96%	91%	48%
Total Cardiology	66	70	66	20	90	0.95	85	8%	92%	92%	40%
Clinical Genetics	5	4	4	0	4	1	4	50%	100%	100%	75%
Clinical Pharmacology	4	6	4	-	6	0.67	4	17%	73%	67%	50%
Clinical Pharmacology *	1	1	1	0	1	1	1	0%	100%	100%	0%
Total Clinical Pharmacology	5	7	5	0	7	0.714	5	17%	77%	86%	43%
Dermatology(including Paediatrics)	38	40	37	15	55	0.93	51	70%	95%	98%	20%
General Medicine *	54	75	64	20	95	0.85	81	35%	94%	75%	30%
Endocrinology *	52	56	50	6	62	0.9	58	32%	92%	80%	23%
Gastroenterology *	65	69	63	16	85	0.91	78	30%	86%	88%	21%
Rheumatology*	39	42	35.34	16	58	0.84	48.62	30%	69%	81%	41%
Respiratory Medicine *	61	67	58	10	77	0.86	67	21%	86%	85%	19%
Nephrology *	35	35	35	-	35	1	35	31%	91%	91%	22%
Genito Urinary Medicine	5	5	2	-	5	0.43	2	75%	38%	75%	23%
Geriatric Medicine	110	112	106	3	115	0.94	108	39%	88%	82%	50%
Infectious Diseases *	17	17	15	-	17	0.9	15	53%	87%	88%	17%
Medical Oncology	41	43	37	4	47	0.86	40	40%	92%	93%	18%
Metabolic Diseases	1	1	1	-	1	1	1	0%	100%	100%	16%
Neurology	45	46	39	6	52	0.84	44	30%	71%	87%	19%
Neurophysiology	10	10	10	-	10	0.98	10	30%	90%	100%	15%
Palliative Medicine	37	38	32	1	39	0.85	33	67%	78%	90%	10%
Rehabilitation Medicine	12	12	9	1	13	0.75	10	50%	67%	92%	23%
Acute Medicine – dual posts in the main **		166									0%

** Denotes a specialty within which a consultantusually has a commitment to the General Medicine rota as well as to their own specialty*
*** Note on Acute Medicine*

- For the nine Model 4 (tertiary) hospitals - Recommendation: 6 - 8 WTE acute physicians who work 50% or more in Acute Medical Units (AMU) and Medical Short Stay Units (MSSU)
- For the fourteen Model 3 (general) hospitals - Recommendation: 8 – 12 hospital physicians, all with specialist interests and also all providing an acute medicine service on a combined 1:8 to 1:12 rota in the AMAU
- For the ten Model 2 (local) hospitals - Recommendation: 6physicians all with specialist interests and also all providing cover to the Medical Assessment Unit

Table 5.3 Estimated Breakdown of the Consultant and Specialist Workforce in Ireland 2017/2018 - Surgical Specialties

Medical Specialty/ Sub-specialty	Approved Posts	Public HC	Public WTE	Private Only HC	Total Public and Private HC	Inferred WTE rate	Total Estimated Public and Private WTE	% Female	% Full Time	% Permanent	>55 yrs
Cardiothoracic surgery	19	19	18.9	3	22	0.99	21.78	17%	95%	95%	26%
General Surgery	200	187	165.3	21	208	0.88	183.04	12%	88%	84%	35%
Neurosurgery	15	13	12.9	4	17	0.99	16.83	8%	84%	100%	54%
Ophthalmic Surgery	44	49	39.5	18	67	0.79	52.93	31%	77%	83%	27%
Oral & Maxillo-Facial Surgery	12	8	8	3	11	0.94	10.34	0%	78%	78%	22%
Otolaryngology	58	56	47.7	9	65	0.87	56.55	20%	83%	88%	38%
Paediatric Surgery	6	8	8	1	9	1	9	13%	88%	100%	25%
Plastic Surgery	28	29	26.8	15	44	0.93	40.92	21%	90%	93%	21%
Trauma and Orthopedic Surgery	107	107	96.5	44	151	0.84	126.84	10%	84%	89%	28%
Urology	46	42	40.9	9	51	0.98	49.98	10%	93%	90%	26%
Vascular Surgery	33	33	28.4	N/A	33	0.95	31.35	12%	94%	91%	25%

Table 5. 4 Estimated Breakdown of the Consultant and Specialist Workforce in Ireland 2017/2018 - Other Specialties

Specialty	Total HC	Total WTE Rate (inferred)	Total WTE	% Female	% Full Time	% Permanent	% > 55 years
Occupational Medicine*	79	0.82	65	54%	70%	-	38%
General Practice**	3989	0.83	3311	50%	70%	-	37%
Medical Ophthalmology	91	0.83	76	57%	67%	-	41%
Public Health Medicine***	88	0.84	74	78%	72%	100%	47%

* Awaiting update on Occupational Medicine from RCPI

** A Note on General Practice For the purpose of this report and in line with the report 'Medical Workforce Planning, Future Demand for General Practitioners 2015-2025' (HSE, 2015), we refer to all doctors providing GP services (whether onthe specialist division of the Medical Council of Ireland's register or not) as GPs. It should be noted that itis an aspiration of the Department of Health and the HSE that all doctors working inGeneral Practice should be on the specialist division of the register. At the time that specialist registration was introduced by the Medical Council of Ireland in 2007, not all eligible GPs availed of the opportunity to register; these GPs are on the general division of the register. At the time of publication of the 2015 report, approximately 35% of doctors who worked as GPs were not specialist trained or had not grandfathered on to the specialist division of the register when eligible.

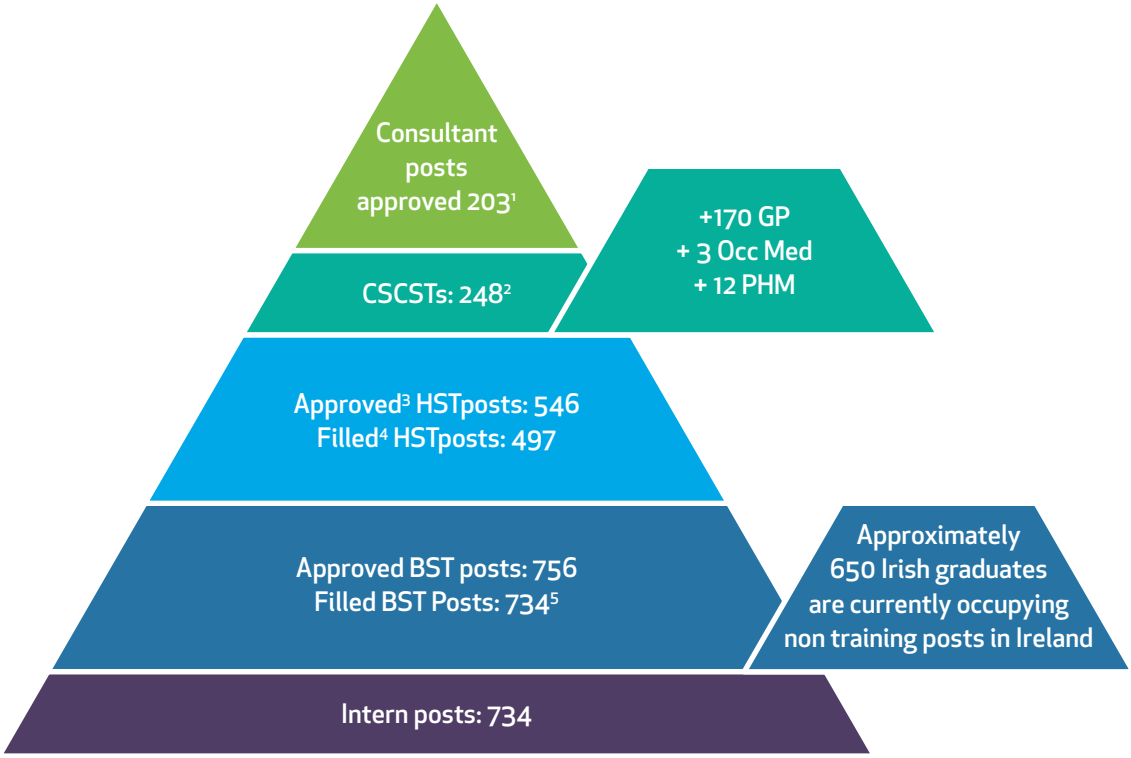
*** This is the total Public Health medical workforce, not just those working for the HSE but also those in the Department of Health, the academic sector and organisations such as SafeFood

Table 5.5 Total Number of HST Trainees per Specialty 2018

		Total Number
Medicine	HST Cardiology	46
	HST Clinical Genetics	3
	HST Clinical Pharmacology	2
	HST Dermatology	22
	HST Endocrinology & DM	25
	HST Gastroenterology	45
	HST Genito-Urinary Medicine	2
	HST Geriatric Medicine	48
	HST Infectious Diseases	22
	HST Medical Oncology	22
	HST Nephrology	32
	HST Neurology	32
	HST Palliative Medicine	15
	HST Pharmaceutical Medicine	1
	HST Rehabilitation Medicine	4
	HST Respiratory Medicine	49
	HST Rheumatology	24
	Total Medicine	**394**
Anaesthesiology	Anaesthesiology	147
Surgery	HST Trauma and Orthopaedic Surgery	57
	HST Plastic Surgery	27
	HST Cardiothoracic Surgery	7
	HST Otolaryngology	20
	HST Urology	21
	HST Paediatric Surgery	3
	HST General Surgery	61
	HST Ophthalmic Surgery	19
	HST Neurosurgery	8
	HST Oral and Maxillo Facial Surgery	2
	HST Vascular Surgery	7
	Total Surgery	**232**
Emergency Medicine	HST Emergency Medicine	46
Occupational Medicine	HST Occupational Medicine	12
Paediatrics	HST General Paediatrics	130
	HST Neonatology	6
	HST Paediatric Cardiology	3
	Total Paediatrics	**139**
Pathology	HST Chemical Pathology	3
	HST Clinical Microbiology	18
	HST Haematology	27
	HST Histopathology	42
	HST Immunology	4
	Total Pathology	**94**
Radiology	HST Radiation Oncology	17
	HST Diagnostic Radiation	99
	Total Radiology	**116**
Obstetrics & Gynaecology	HST Obstetrics and Gynaecology	83
General Practice	HST General Practice	341

Psychiatry	HST Adult Psychiatry	86
	HST Child and Adolescent Psychiatry	29
	Total Psychiatry	**115**
Public Health Medicine	HST Public Health	33
	Overall Total	**1752**

Figure 5.1 outlines, for the year 2018 to 2019, the trajectory of posts created for medical doctors in training through to gaining a consultant post opportunity within the publicly funded health care system. Consultant posts approved below are averaged as there has been variation in approvals over the years. In 2018/2019 approximately 248 doctors received their CSCST and were eligible to take up a consultant post within the publicly funded health system. A total average of 203 consultant posts were approved by the CAAC annually inferring that there were no consultant post opportunities available to almost 20% of newly qualified specialists.The research suggests that a significant proportion of doctors who do not secure a consultant post will emigrate rather than wait for new consultant post opportunities to arise(Humphries et al. 2017). Figure 5.1 Indicates that many doctors who commence training, exit the system along the way. Of the 2,400 estimated non-training scheme doctors working in the health service, we know that approximately 22% are Irish medical school graduates who may have gone on to train at BST and/or HST level. These doctors are therefore potentially eligible to complete training and go on to take up a consultant post in their chosen specialty. On average, over the past 5 years, 203 consultant posts have been approved at the CAAC while data from DIME for indicates that 127 in 2018 and 157 in 2019 new or replacement permanent/ CID posts were filled. See Figure 5.1 below.



1 Consultant approved posts denotes new and replacement posts averaged over the past 5 years

2 This figure refers to those who have completed higher specialist training and are eligible to apply for consultant posts

3 Refers to the total number of training posts approved as deemed necessary by the HSE based on WFP projections

4 The difference between the approved and filled posts are predominantly due to a lack of capacity to increase training numbers within training schemes. A lack of suitable candidates or insufficient applications received account for a small proportion of the difference

5 This figure includes a small number of trainees repeating year 1 of training

Figure 5.1 Training Pathway Through To Consultant Posts

6 INTERNATIONAL COMPARISONS

In determining the appropriate demand for medical consultants and specialists in Ireland, it is informative to look at how Ireland compares across international jurisdictions with similar models of health service delivery and postgraduate training. The weaknesses of benchmarking domestic data against international data are known and include

a. A lack of contextual consideration;
b. Assumptions that the international standard is best practice; and,
c. Potential complacency should the domestic value equal that of the international value.

In the developing this, NDTP has reviewed the workforce composition in a number of key comparable countries, England, Scotland, Australia and New Zealand. The results of this review are outlined in tables 6.1, 6.2 and 6.3. Please note that the populations used for these calculations were based on the year of the data available.

Table 6.1 Comparison of Ireland with international jurisdictions Total ratio per 100,000 of the Population

Specialty	Ireland	England	Scotland	Australia	New Zealand	Canada
Population used for calculations	4.8 m	55.9 m	5.4 m	23.9 m	4.7 m	37 m
Emergency Medicine	2.2	3.7	4.5	5.7	5.1	
Anaesthesiology	9.5	12.4	14.4	16.8	16.4	
Intensive Care Medicine	0.48	1.15	0.34	2.4	1.82	
Total Anaesthesiology and ICM	9.98	13.55	14.74	19.2	18.22	
General Practice	71	76	82.4	114	73.6	
Obstetrics & Gynaecology	3.8	4.6	4.7	6.6	6.2	
Paediatrics	5.4	7.1	5.8	6.4	7.9	
Psychiatry	9.8	9.6*	10.9	12.3	12	
Pathology	5.3	5.2	6.2	5	6.1	
Radiology	6	6.2	6.4	7.4	9.7	
Radiation Oncology**	0.6	-	-	1.3	-	1.5
Occupational Medicine	1.5	-	-	0.8	1.2	
Public Health Medicine	1.8	Not Comparable	2	1.5	3.7	
Ophthalmology – Medical	1.9	-	-	3.6	2.9	

* Figure for Psychiatry in England comes from the Royal college of Psychiatrists 2019 workforce census available at https://www.rcpsych.ac.uk/docs/default-source/improving-care/workforce/workforce-census-report-2019.pdf

** Radiation Oncology is comparable with Australia and Canada but not the other countries, this is because of differences in the service delivery models

*** Public Health is not comparable with England because of differences in how specialists are employed

Table 6.2 Comparison of Ireland with international jurisdictions (Medical Specialties) Total ratio per 100,000 of the Population

Specialty	Ireland	England	Scotland	Australia	New Zealand
General Medicine	2	1.6	2.3	2.8	-
Cardiology	1.4	2.6	2.3	4.4	-
Cardiology (General)	0.4	-	-	-	-
Total Cardiology	1.9	2.6	2.3	4,4	-
Clinical Genetics	0.08	0.3	0.4	0.2	-
Clinical Pharmacology	0.1	-	-	-	-
Dermatology	1.2	1.3	1.5	1.9	1.4
Genito Urinary Medicine	0.1	0.5	0.5	-	-
Geriatric Medicine	2.4	2.7	3.7	2.2	-
Endocrinology	1.4	1.4	1.6	2	-
Gastroenterology	1.8	2.5	2.1	2.8	-
Infectious Diseases	0.4	0.3	0.6	1	-
Medical Oncology	1	0.9	0.5	1.9	-
Metabolic Diseases	0.02	-	-	-	-
Neurology *	0.9	1.6	1.3	1.9	0.8
Neurophysiology	0.2	0.2	0.2	-	-
Palliative Medicine	0.8	0.7	0.8	0.8	1.1
Rehabilitation Medicine	0.3	0.3	0.4	1.6	0.5
Rheumatology	1.2	1.2	1.2	1.1	-
Respiratory Medicine	1.6	2.1	2.4	2	-
Nephrology	0.7	1.1	1.2	1.5	-

* Discrepancies may exist between international jurisdictions where Neurologists cover vascular neurology (Stroke) and those that do not

Table 6.3 Comparison of Ireland with international jurisdictions (Surgical Specialties) Total ratio per 100,000 of the Population

Specialty	Ireland	England	Scotland	Australia	New Zealand
Cardiothoracic Surgery	0.5	0.7	0.6	0.6	0.6
General Surgery	4.3	4.5	5.2	5.5	5.7
General + Vascular	4.9	-	-	-	-
Neurosurgery	0.4	0.6	0.6	0.9	0.5
Ophthalmic Surgery	1.4	2.6	2.4	-	2.9
Oral & Maxillofacial Surgery	0.3	0.7	0.6	0.4	0.5

Sources of International Data:

- **NHS England (2019)- NHS Workforce Statistics September 2019 available from:** https://files.digital.nhs.uk/5B/6FCE1C/NHS%20Workforce%20Statistics%2C%20September%202019%20Doctors%20by%20Grade%20and%20Specialty.xlsx and https://digital.nhs.uk/data-and-information/publications/statistical/general-and-personal-medical-services
- **NHS Scotland (2019);** https://www.isdscotland.org/Health-Topics/Workforce/Publications/data-tables2017.asp?id=2484#2484 and https://www.isdscotland.org/Health-Topics/General-Practice/Publications/2018-03-06/2018-03-06-PCWS2017-Report.pdf (GP-data)
- **Australia - Health Workforce Australia Medical practitioners overview 2015 data tables available from:** https://www.aihw.gov.au/reports-data/health-welfare-services/workforce/data
- **NZ– New Zealand Medical Workforce 2016 database available from:** https://www.health.govt.nz/

7 DEMAND FOR CONSULTANTS AND SPECIALISTS IN IRELAND

Having established the current baseline of the medical workforce, the next step is to give a high level overview of the gap between the current supply of consultants and specialists in the health service across Ireland both now and in the future, in line with stakeholder informed demand to meet future patient need.

The process of assessing future demand for doctors has led to the identification of a number of drivers of change to the future of the medical workforce across all areas of medicine. These are high level environmental factors determined by stakeholders to have a strong and driving influence on changes in future health service demand, thereby impacting the demand for consultant and specialist services over the coming decade and thereafter.

The most commonly referred to drivers of change to the demand for consultant and specialists are outlined in Figure 2.2 i.e. population, epidemiology, service reconfiguration, policy and legislation, eHealth and technology advances, new models of care and new ways of working, levels of current service utilisation and levels of current unmet demand for services. Sláintecare represents current Government policy that will drive change across the medical workforce as a whole and has been integrated into estimated demand for GPs in particular. Ongoing work in the area of service reconfiguration for Public Health will also align with the requirements of Sláintecare. These estimates are not yet fully developed and will be included in this report when complete.

Table 7.1 provides a more granular breakdown of the views shared by stakeholders since 2014 in relation to the major drivers of change impacting the future of health care and medical workforce demand.

Table 7.1 Drivers of Change to the Future Health and Medical Workforce

Chronic disease prevalence and management
New models of care delivery to include more care in the community, hub and spoke models of care delivery
Population and epidemiological change
Hospital Groups, Community Healthcare Organisations
Integrated services developments
Unmet demand for health services to include recruitment and retention of staff
Impact of service redesign and population changes on future workload
New staffing models e.g. specialty cross-over & nursing task allocation
Innovations in drugs, diagnostics, interventions and other health technologies
Consultant-delivered service vs. consultant led service
Patient safety
European Working Time Directive compliance
Economic factors e.g. access to funding, economic boom/bust scenarios
Flexible working arrangements
Access to services for patients
Migration
Government Legislation

In determining the future demand for consultants and other medical specialists in Ireland to 2028, stakeholders were tasked with assessing future workforce demand having considered the impact of these drivers on for example, population health, patient presentations, and service delivery systems.

7.1 ESTIMATED DEMAND FOR MEDICAL CONSULTANTS AND SPECIALISTS IN IRELAND

Table 7.1.1 details the estimated demand for consultants and specialists in Ireland over the next 10 years. These estimates are derived from a number of different sources including, National Clinical Programmes (NCPs), Postgraduate Medical Training Bodies, HSE Primary Care Division, HSE Mental Health Division and other specialty representative bodies. The projections outlined in a number of Government policy documents were reviewed including the Report of the National Task Force on Medical Staffing (Department of Health, 2003), and the Vision for Change (Department of Health, 2006), as well as the updated policy for publicly funded mental health services. While some of these reports are not current, the recommendations within the reports have been partially implemented over the last 5 years and are therefore deemed relevant to informing medical workforce planning today. Data to align the GP workforce with universal free GP care is used herein to indicate how the workforce may need to be resourced to align with some elements of Sláintecare.

The models of care adopted by the NCPs are of particular relevance in informing medical workforce demand estimates and future workforce projections. NDTP has worked with a number of NCPs to determine the projected demand for the medical workforce based on the predicted new models of care, to support new planned service developments. Examples include the new model of care for Paediatrics and Neonatology and the new draft model of care for Anaesthesia.

Table 7.1.1 outlines the current consultant and specialist workforce estimates, in comparison with predicted demand to 2028. These demand estimates are based on information from major workforce planning stakeholders **(Appendix A provides a breakdown of sources per specialty) and are presented in line with the following:**

- The estimates account for demand across both public and private sectors i.e. for the population of Ireland as a whole and not just for those using HSE funded services
- Projections to 2028 use the latest CSO population projectionswhich infer an increase in the population to 5.1 million (Central Statistics Office, 2018). These wereaccessed online at www.cso.ie, under the M2F2 scenario, as advised by the CSO
- Figures are presented as headcount, as opposed to the WTE rates in earlier tables
- Where WTE recommendations were given to NDTP in relation to the future demand for specialists, these were converted to HC estimates using WTE information from the DIME database or using assumptions.

For more information on the ratio of consultants/ specialists per head of population, recommended by the Hanly Report (Department of Health, 2003) and the estimated demand for specialists and consultants,as outlined by NDTPs stakeholders, see table 7.1.1.

Table 7.1.1 Future Consultant/ Specialist Demand Estimates to 2028

Specialty	Total HC Current	Hanly to 2028 based on ratio per head of population	Total Demand to 2028 HC Range based on stakeholder perspectives and the Hanly Report recommendations, 2003
Anaesthesiology	441	-	566
Intensive Care Medicine[ŧ]	27	-	58-81[ŧŧ]
Total Anaesthesiology & ICM	468	612	624 - 647
Paediatrics & Neonatology	255	270	454
Psychiatry	581	765	825.5*
Obstetrics and Gynaecology	183	250	275
Diagnostic / Clinical Radiology	269	372	423
Radiation Oncology	29	31	50
Occupational Medicine	79	-	160-233**
General Practice	3989	-	4794-5649***
Ophthalmology	91	-	128
Public Health Medicine	88	-	Awaiting^
Emergency Medicine	107	127	178
Pathology	262	357	392.5
Medical Specialties			
Cardiology^^	90	117	110
Clinical Genetics	4	10	15
Clinical Pharmacology	7	20	29
Dermatology	55	59	64
General Medicine	95	88	88
Endocrinology	65	88	105
Gastroenterology	85	88	152
Rheumatology	42	88	91
Respiratory Medicine	77	88	171
Nephrology	35	79	40
Genito Urinary Medicine	5	5	5
Geriatric Medicine	115	102	144
Infectious Diseases	17	58	63-64
Medical Oncology	47	58	99
Metabolic Diseases	1	-	5
Neurology	52	44	65-89
Neurophysiology	10	13	24
Palliative Medicine	39	58	109
Rehabilitation Medicine	13	28	42-46
Acute Medicine	166	-	216-290
Surgical Specialties			
Cardiothoracic surgery	22	29	33
Vascular surgery	33	-	74
General and Vascular^^	241	239	258
Neurosurgery	17	21	31
Ophthalmic Surgery	67	86	88
Oral and maxillofacial surgery	11	34	35
Otorhinolaryngology	65	71	72
Paediatric Surgery	9	16	17
Plastic Surgery	44	50	52
Trauma and Orthopaedic Surgery	151	204	231
Urology	51	64	74

ŧ Excludes Paediatric Intensive Care, demand figures are based on an in-depth workforce planning report for adult Intensive Care, undertaken in 2020. NDTP intend to look specifically at the demand for Paediatric Intensive Care Specialists and this report will be updated once that process is complete

ŧŧ Range based on consultant requirements to implement 5 day and 7 day working work rotas

* Demand estimates for Psychiatry are based on an in-depth workforce planning report undertaken in 2020

** Range from RCPI and Irish Society of Occupational Medicine

*** Range from expert group and accounts for the roll out of free GP care to different age cohorts of the population

^ Awaiting numbers from HSE as per new model of service delivery for Public Health Medicine

^^ A workforce planning exercise is being undertaken in Cardiology; therefore this demand estimate is likely to change and will be updated once this exercise is complete

^^ Demand estimates from stakeholder included General and Vascular as the submission pre-dated full implementation of specialty recognition for Vascular surgery and the associated training programme. More research is required to accurately reflect demand for these specialties in their own right

Table 7.1.2 Future Consultant/ Specialist Demand Estimates to 2028 % Increase

Acute Medical Specialties	Current HC	Proposed Future HC	Gap HC	% Increase
Anaesthesiology	441	566	125	28%
Intensive Care Medicine	27	69.5	42.5	157%
Total Anaesthesiology and ICM	468	635.5	167.5	36%
Paediatrics & Neonatology	255	454	199	78%
Psychiatry	581	825.5	244.5	42%
Obstetrics and Gynaecology	183	275	92	50%
Diagnostic / Clinical Radiology	269	423	154	57%
Radiation Oncology	29	50	21	72%
Emergency Medicine	107	178	71	66%
Pathology	262	393	131	50%
Medical Specialties				
Cardiology	90	110	20	22%
Clinical Genetics	4	15	11	275%
Clinical Pharmacology	7	29	22	314%
Dermatology	55	64	9	16%
General Medicine	95	88	-7	-7%
Endocrinology	65	105	40	62%
Gastroenterology	85	152	67	79%
Rheumatology	42	80	38	90%
Respiratory Medicine	77	171	94	122%
Nephrology	35	40	5	14%
Genito Urinary Medicine	5	5	0	0%
Geriatric Medicine	115	144	29	25%
Infectious Diseases	17	64	47	276%
Medical Oncology	47	99	52	111%
Metabolic Diseases	1	5	4	400%
Neurology	52	89	37	71%
Neurophysiology	10	24	14	140%
Palliative Medicine	39	109	70	179%
Rehabilitation Medicine	13	44	31	238%
Total Medical	**854**	**1437**	**583**	**68%**
Surgical Specialties				
Cardiothoracic surgery	22	33	11	50%
General (inclusive of Vascular) Surgery	241	258	17	7%
Neurosurgery	17	31	14	82%
Ophthalmic Surgery	67	88	21	31%
Oral and maxillofacial surgery	11	35	24	218%

Otorhinolaryngology	65	72	7	11%
Paediatric Surgery	9	17	8	89%
Plastic Surgery	44	52	8	18%
Trauma and Orthopaedic Surgery	151	231	80	53%
Urology	51	74	23	45%
Total Surgical	**678**	**891**	**212**	**31%**
Overall Total - acute hospital based specialties	**3686**	**5562**	**1876**	**51%**
Overall Total - all medical specialties (excludes Public Health)	**7845**	**11135**	**3290**	**42%**
Acute Medicine - mid point of range**	**166**	**253**	**87**	**52%**
Overall Total GP - mid-point of range	**3989**	**5249**	**1260**	**32%**
Overall Total GP - universal free GP Care	**3989**	**5649**	**1660**	**42%**

* Psychiatry and Public health have been excluded from the overall totals to avoid skewing the results as demand estimates are not yet available for these specialties yet

** Those contributing to Acute Medicine have a commitment to another specialty, this has been accounted for in the figures displayed for specialties with a commitment to GIM and displayed separately to infer the increase required for Acute Medicine as informed by The National Acute Medicine Programme (NAMP)

Across specialties, stakeholders raised concerns around estimating the workforce demand and the implications of reconfiguration of services, or lack thereof, as well as the capacity within the health service to accommodate the numbers of postgraduate medical trainees deemed to be required to meet future demand. A major concern highlighted was the urgent need to create new consultant posts and to stem emigration among newly qualified specialists.The National Acute Medicine Programme (NAMP) also referenced a need for more generalists and less emphasis on specialism.

Acute Medicine is unique in that it is comprised of consultants working across different medical specialties, whereby consultants have a contractual commitment to the Acute Medicine rota in specific hospitals. The commitment of consultants to Acute Medicine are captured within the demand estimates presented for each relevant specialty. It is; however, acknowledged that more work needs to be done to ensure that requirements of consultants with a commitment to the Acute Medicine roster are being met appropriately. More information on the breakdown of demand for consultants working in Acute Medicine, see Appendix B.

The demand estimates for General Practice are based on analysis of demand outlined in the report Medical Workforce Planning: Future Demand for General Practitioners 2015-2025 (HSE National Doctors Training and Planning, 2015). The demand for GPs is based on rolling out free GP care to the under 18's and over 70's as well as universal free GP care. Estimates were derived through updating of the results of the 2015 report, using the latest CSO population projections to 2028, which infer an increase in the population to 5.1 million, and recommended ratios of GPs per head of population across different scenarios (Central Statistics Office, 2018). See www.hse/doctors for more information. In this way GP demand estimates are aligned with Sláintecare. In order to allow for comparisons with other Government publications regarding the demand for medical specialists an analysis of the percentage increase required per specialty is outlined in Table 7.1.2. Demand estimates used in this table are from specialty stakeholders, mainly NCPs and Postgraduate Medical Training Bodies. For specialities with a demand range, the mid-point is used. As can be seen from this table an overall and estimated 42% increase in consultant/ specialist numbers is required to 2028 to meet stakeholder demand estimates. It is important to note again that demand estimates are not derived using a standardised methodology. For a limited number of specialties e.g. Emergency Medicine, Paediatrics, Palliative Medicine, Anaesthesia and Critical care and others, estimates are based a new model of service delivery. Some specialties use international benchmarks while others consider population change, service utilisation change and staffing required to meet unmet demand as per waiting lists, vacancies, onerous rostering among other things.

7.2 ANALYSIS OF THE GAP BETWEEN THE CURRENT AND FUTURE SUPPLY AND DEMAND FOR CONSULTANTS AND SPECIALISTS IN IRELAND

Given the large volume of data associated with a multi-specialty review of workforce demand and supply, a simple gap analysis only permitted a high level estimate of the future demand and supply of consultants and specialists. In order to project the supply and demand for consultants and specialists over the next 10 years, a simplified version of the statistical forecasting model developed by the Expert Group on Future Skills Needs and Solas was used (Behan et al. 2009). Going forward, NDTP will however continue to carry out more detailed reviews of individual specialties as per previous research reports and medical workforce reviews published on www.hse.ie/doctors.

It is important to highlight that variables used to estimate the supply of doctors include adjustment for part-time and full-time working patterns, as well as the gender breakdown of doctors. In addition, the model takes into account the expected numbers of doctors retiring and the assumed proportion of those exiting the workforce for reasons other than retirement, alongside health service data on the number of doctors entering the workforce post completion of specialist training.

Within the statistical forecasting model, the inflow of overseas doctors was set to zero in order to isolate the domestic supply and assess the extent to which the national education and training system can meet estimated future demand. In this way, entrants into the workforce are based on the number of doctors who complete postgraduate specialist training and are eligible to enter on to specialist division of the Medical Council of Ireland's register. Exits, on the other hand, are based on all those doctors leaving the health system for retirement and other reasons. This is in line with the prudent approach taken by FAS/ Solas and the Expert Group on Future Skills Need (Behan et al. 2009).

A number of further assumptions underpin the workforce planning methodology as follows:

- In order to estimate thedemand for consultants and specialists over the next 10 years, stakeholder-informed recommendations are used. As already stated, these estimates represent the views of stakeholders rather than those of NDTP
- Variables used to estimate the supply of consultants and specialists include the number of doctors currently delivering services (headcount and WTE); the part-time and full-time working adjustment rates, projected retirements and gender breakdown of doctors
- Supply and demand projections are typically converted to a ratio of consultants/ specialists to the population. CSO population projections are used to determine demand. These projections are based on data from the Census of the population using the M2F2 scenario. This scenario infers a reduction in the Total Fertility Rate (TFR) and moderate migration per annum. Data accessed from the CSO in 2018 inferred a growth in the population to approximately 5.1 million people up to 2028 (Central Statistics Office, 2018)
- Demand estimates have been received from the NCPs and where available from Postgraduate Training Bodies. This can lead to more than one demand estimate. If deemed appropriate, the recommendations from the Hanly report (Department of Health, 2003) are used to imply demand. Table 7.1.1 provides a detailed overview of demand estimates used per specialty
- Within the statistical forecasting model, the inflow of overseas specialists is set to zero to isolate the domestic supply of consultants/ specialists and assess the extent to which the national education and training system can meet estimated future demand
- Entrants into the consultant/specialist workforce are based on the number of doctors who complete postgraduate training and enter on to the specialist division of the Medical Councils of Ireland's register
- The number of consultant/ specialists retiring and the assumed proportion of those exiting the workforce for reasons other than retirement are also estimated

- In general, emigration among consultants/ specialists is not accounted for in the scenarios outlined, although the model can be manipulated to assess the impact of different rates of emigration. See an example for Paediatrics and Neonatology in tables 7.3.1 and 7.3.2.
- Attrition from training is based on data, where available, from Postgraduate Medical Training Bodies
- All graduates of specialist training enter the workforce, with a WTE ratio estimated for the consultant/ specialist workforce as of 2018
- WTE rates are kept static over the projection period and can be manipulated to infer the impact of changes in working patterns

7.3 RESULTS

The workforce planning projections outlined in the following tables can be interpreted as follows:

- Employment represents the number of consultant/ specialists required to bring the workforce in line with the demand for specialists, as per stakeholder perspectives, by 2028
- Expansion demand represents the number of additional specialists required year on year to bring the workforce to the stakeholder recommended number of consultant/ specialists in the workforce by 2028 e.g. employment requirements 2019 minus employment 2018 = expansion demand
- Replacement demand represents the number of consultants/ specialists exiting the workforce and is based on projected retirements and 'other' leavers as per the workforce configuration
- Recruitment requirement represents the total number of consultants/ specialists required as per a summation of expansion demand and replacement demand
- Graduate supply represents those expected to complete higher specialist training and enter the workforce
- Gap to supply represents the difference between the recruitment requirement and the newly registered (graduate) supply
- A minus sign indicates an oversupply of specialists as per the gap between supply and demand over the 10-year period

In order to illustrate how the model works, an example for the specialty of Paediatrics and Neonatology is outlined in Tables 7.3.1 and 7.3.2.

7.3.1 Worked Examples For Paediatrics And Neonatology

Table 7.3.1a Scenario A Headcount Demand for Consultants in Paediatrics and Neonatology – Stakeholder Informed

Consultants Headcount	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Totals
Required employment	255	275	295	315	335	355	375	395	415	434	454	
Expansion demand	20	20	20	20	20	20	20	20	19	20	0	199
Replacement demand	11	11	11	11	12	12	12	12	12	12	0	116
Recruitment requirement	31	31	31	31	32	32	32	32	31	32	0	315
Graduate supply	21	33	24	29	32	32	32	32	32	32	0	299
Gap to graduate supply	10	-2	7	2	0	0	0	0	-1	0	0	16

Table 7.3.1b WTE Demand for Consultants in Paediatrics and Neonatology – Stakeholder Informed

Consultants - WTE	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Totals
Required employment	224	242	260	277	295	312	330	348	365	382	400	
Expansion demand	18	18	18	18	18	18	18	18	17	18	0	175
Replacement demand	10	10	10	10	10	10	10	10	10	10	0	102
Recruitment requirement	28	28	28	28	28	28	28	28	27	28	0	277
Graduate supply	18	29	21	26	28	28	28	28	28	28	0	263
Gap to graduate supply	9	-1	7	2	0	0	0	0	-1	0	0	14

- Required employment represents the increase in doctors to 2028 to meet patient demand by 2028. This demand estimate is a composite of estimates submitted to NDTP by the National Clinical Programme for Paediatrics and Neonatology, and is based on the implementation of the model of care for the specialty. This infers an increase in the total number of consultants working across the public and private sectors from 255 headcount consultants in 2018 to 454 headcount consultants in 2028
- Expansion demand required employmentrepresents the number of additional consultants (approximately 20) required annually to bring the workforce to the demand estimate of 454 by 2028
- Replacement demand represents the number of consultants exiting the workforce due to retirement, and for other reasons i.e. approximately 11-12 per year to 2018
- Recruitment requirement represents the total number of consultants required as per expansion demand and replacement demand i.e. a total of 31-32 approximately year on year to 2028
- Graduate supply represents those specialists expected to complete specialist training and enter the workforce, i.e. from 21 to 33 annually, should the most recent intake number of trainees on the HST programme for Paediatrics be kept constant to 2028

The results of this gap analysis infers that, by 2028, a shortage of around 16 consultants may be realised should a decision be made to increase the consultant Paediatrics and Neonatology workforce from the current 255, across both the public and private systems, to approximately 454 consultants by 2028, with a parallel training intake of 32 trainees from 2019 on. In order to bridge the gap between supply and demand, the intake of trainees into Paediatric Higher Specialist Training should potentially be increased from 32 to approximately 35. It is again important to note that the proposed demand estimates represent the perspectives of the stakeholders, rather than those of NDTP.

Tables 7.3.1a and 7.3.1b represent scenario A whereby there is no emigration among newly qualified Paediatricians and Neonatologists in Ireland and all of those doctors eligible for specialist registration are available to take up consultant posts. In order to model the effect of emigration, a modelling scenario B was used. Scenario B includes an emigration rate of around 15% among newly qualified consultants/ specialists and is represented in Tables 7.3.2a and 7.3.2b. In this case, the gap between the supply and demand for consultants/ specialists increases from a no emigration scenario (tables 7.3.1a and 7.3.1b) to a scenario where there is 15% emigration amoung newly qualified specialists (tables 7.3.2a and 7.3.2b), this sees the undersupply rise from 16 (HC) to 61 (HC).

This analysis underlines the significant impact of emigration among newly qualified consultants/ specialists on the availability of doctors to take up consultant posts.

Table 7.3.2a Scenario B Headcount Demand for Consultants in Paediatrics and Neonatology – Stakeholder Informed – 15% Emigration among newly qualified specialists

Consultants Headcount	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Totals
Required employment	255	275	295	315	335	355	375	395	415	434	454	
Expansion demand	20	20	20	20	20	20	20	20	19	20	0	199
Replacement demand	11	11	11	11	12	12	12	12	12	12	0	116
Recruitment requirement	31	31	31	31	32	32	32	32	31	32	0	315
Graduate supply	18	28	20	25	27	27	27	27	27	27	0	254
Gap to graduate supply	13	3	11	7	4	4	4	5	4	5	0	61

Table 7.3.2b Scenario B WTE Demand for Consultants in Paediatrics and Neonatology – Stakeholder Informed – 15% Emigration among newly qualified specialists

Consultants - WTE	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Totals
Required employment as per S1	224	242	260	277	295	312	330	348	365	382	400	
Expansion demand	18	18	18	18	18	18	18	18	17	18	0	175
Replacement demand	10	10	10	10	10	10	10	10	10	10	0	102
Recruitment requirement	28	28	28	28	28	28	28	28	27	28	0	277
Graduate supply	16	25	18	22	24	24	24	24	24	24	0	224
Gap to graduate supply	12	3	10	6	4	4	4	4	3	4	0	53

Results of Gap Analysis All Medical Specialists and Consultants

Figures 7.1 to 7.3 outline the overall estimated number of specialists and consultants employed across both the public and private sectors in 2018, the approximate future demand for consultants and specialists in 2028 and the gap between the current and future required number of specialists and consultant. This gap analysis takes into account exits from the workforce (due to retirement and for other reasons) as well as entrants into the systems (CSCSTs) should the 2018 training intake remain constant over the coming years. Gender and working patterns are also built into these estimates. Similarly, as per Figures 7.2 and 7.3, the gap analyses indicate the need for a significant increase in both acute hospital consultants and GPs by 2028.

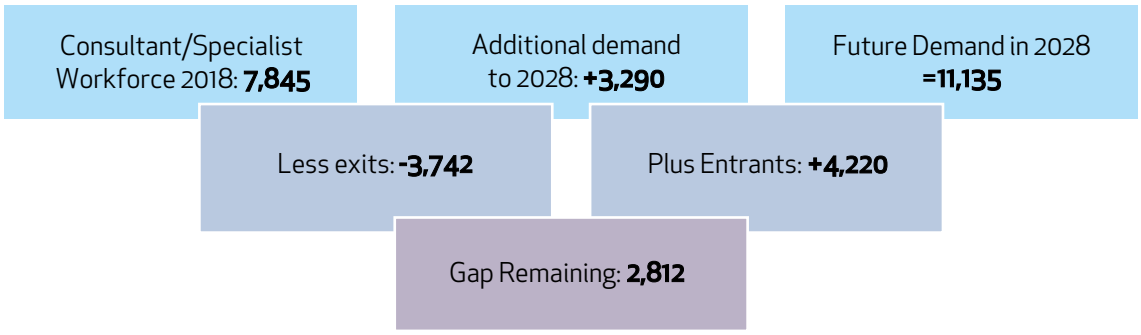


Figure 7.1 Results of Gap Analysis All Medical Specialists and Consultants (excluding Public Health)

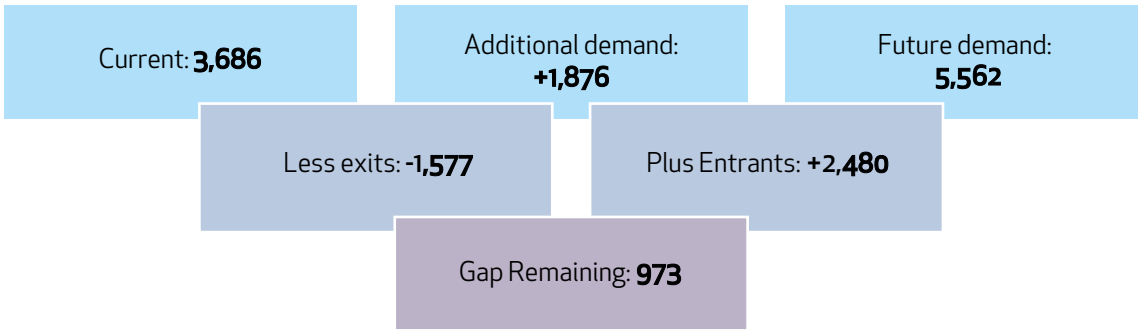


Figure 7.2 Results of Gap Analysis Acute Hospital Based Consultants (excluding Public Health)

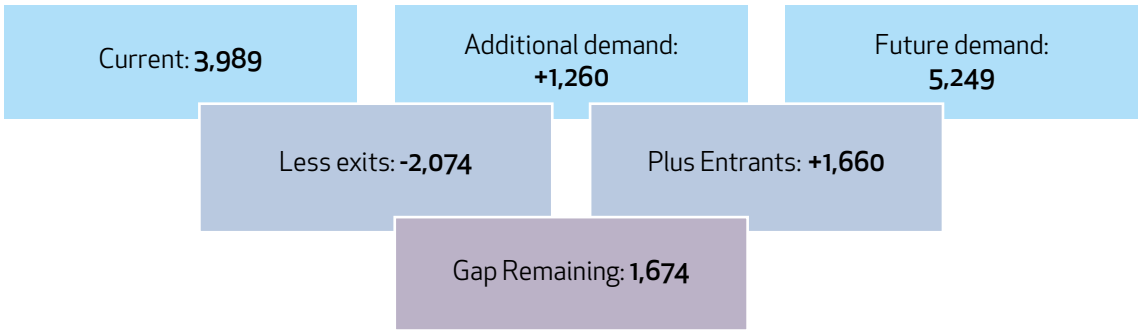


Figure 7.3 Results of Gap Analysis General Practitioners

8 TRAINING IMPLICATIONS ACROSS MEDICAL SPECIALTIES

The estimates for demand and future workforce capacity show a future workforce gap, for the majority of specialties, which is exacerbated by emigration factors. In line with the principle, that the national training pipeline should aim to provide sufficient numbers of consultants and specialists from domestic supply, it is necessary to consider the changes that would be required to meet future demand. Table 8.1 shows the training intake into higher specialist training in 2018, together with the levels that would be required over the next 4-5 years (depending on the length of the training programme) in order to meet stakeholder demand estimates.

Table 8.1 Projected Training Needs to Meet Stakeholder Demand Estimates

Specialty	Training Intake 2018 HST	Total Training needs to meet stakeholder demand estimates
Anaesthesiology and Critical Care ǂ	35	40
Paediatrics & Neonatology	32	35
Psychiatry	55*	71-72**
Obstetrics and Gynaecology	13	21 - 22
Diagnostic / Clinical Radiology	26	34
Radiation Oncology	4	3 - 4
Occupational Medicine	3	18 - 31
General Practice	193	375 - 518***
Ophthalmology	0	9 - 10
Public Health Medicine	5	TBD
Emergency Medicine	13	14
Pathology	22	30
Cardiology	7	4
Clinical Genetics	0	2
Clinical Pharmacology	0	3 - 4****
Dermatology	4	4
Endocrinology	6	8 - 9
Gastroenterology	9	10 - 11
Rheumatology	6	6 - 7
Respiratory Medicine^	11	13^^
Nephrology	6	3 - 11^^^
Genito Urinary Medicine	0	n/a
Geriatric Medicine	12	18 - 19
Infectious Diseases	3	4 - 6^^^^
Medical Oncology	5	7 - 8
Metabolic Diseases		n/a^^^^^
Neurology^	6	4 - 5
Neurophysiology		n/a^^^^^^
Palliative Medicine	4	3 - 12^^^^
Rehabilitation Medicine	2	5
Acute Medicine$		49 - 123^^^^
Cardiothoracic	1	3
General and Vascular	12	17$$
Neurosurgery	1	4 - 5
Ophthalmic Surgery	7	5

Oral and maxillofacial surgery	0	TBC
Otorhinolaryngology	5	5
Paediatric Surgery	0	1 - 2
Plastic Surgery	3	0
Trauma and Orthopaedic Surgery	8	17 - 18
Urology	3	5
Vascular Surgery	2	7 - 8

ŧ Supra-Specialty Training in Intensive Care Medicine(ICM) lasts for 2 years upon completion of base specialty HST and can be completed via two pathways:

- Pathway 1: Trainees in Anaesthesia, Emergency Medicine or General Internal Medicine can commence training to become a specialist in ICM during HST. This can be part of Special Interest training within the Anaesthesia training programme or as an out of programme year for the other specialties. A second year of training completed post-CSCST completes the specialist training in ICM
- Pathway 2: Alternatively two years of training can be completed post-CSCST for those who have completed training in Anaesthesia, Emergency Medicine or General Internal Medicine

Training in ICM is managed through the Joint Faculty of Intensive Care Medicine of Ireland (JFICMI). According to the Intensive Care Medicine Specialty Specific review, 2020, an annual intake of 5-8 trainees is required to meet a demand estimate of 58-81 Intensive Care Consultants. In addition, to meet the required number of consultants with a special Interest in ICM , an annual intake of 13-21 is required. Please see specialty specific report for more detail

* Based on exit projections from training body, not all trainees finish within 3-4 years therefore undersupply may be larger than cited here

** Figures for Psychiatry are based on a specialty specific report undertaken in 2020, please see report for more detail

*** Depending on further roll out of free GP care to under 12s and over 70s and to all – no emigration built into estimates

**** Clinical Pharmacology demand to meet mid-point in terms of demand range

^ Not quantified through gap analysis

^^ To meet ITS recommendation – update to RCPI 2014 estimate

^^^ To meet RCPI '14 rec approx. 5-6 per year but to meet Hanly 10-11 per year

^^^^ Depending on service reconfiguration / rotas

^^^^^ Metabolic Diseases is not currently a postgraduate medical training programme in Ireland. As part of Clinical Genetics training there is a 6 month adult Metabolic Diseases rotation in the current curriculum; but to be eligible an Irish or UK Clinical Genetics graduate will need to do a year of post CSCST in Adult Metabolic disease

^^^^^^ Neurophysiology is not currently a postgraduate medical training programme in Ireland. The NCP for Neurology have proposed a joint training programme with Neurology

$ There is no training programme specifically for Acute/ General medicine as a standalone specialty, training must be done in conjunction with another specialty. The breakdown in such jointly trained posts should be approx. 50:50 for Acute Medicine : Other specialty

$$ General and Vascular Surgery were originally estimated by stakeholders to be combined. However, Vascular Surgery is more recently a recognised specialty in its own right and cursery estimates of training demand are approximately 7-8 intake per year. More research is need to more accuarately reflect demand for this specialty

9 CONCLUSION

In recent years, NDTP medical workforce planning projections have ensured an evidence-based approach to planning the postgraduate medical training intake on an annual basis. This report, being a high level, multi-specialty review of demand and supply for consultants and specialists, will allow for expansion in evidence-based decision making across all medical specialties. It also has the potential to serve as a baseline to work towards a more fit-for-purpose medical workforce operating in an integrated system of healthcare delivery, as outlined in Sláintecare.

The overall findings of this report infer that, across the health system as a whole, **there is a need for a considerable increase in the numbers of medical consultants/ specialists and trainees**. Accounting for stakeholder informed consultant/specialist demand estimates and the results of modelling supply and demand for these doctors, we potentially need a 42% increase in consultant and specialist numbers by 2028. This estimated increase includes an increase of approximately **51%** of consultants working in acute hospital based specialties. Depending on the successful implementation of Sláintecare and the roll out of 'Universal free GP care', a 42% increase in GPs may be required. Should free GP be rolled out to all those under the age of 18 and over the age of 70, then a 32% increase in GPs may be required.

In order to meet this level of staffing in the system, an almost 38% increase in trainees across all specialties, excluding General Practice, over the next 5 years will be required. General Practice is unique in its requirements for a substantial growth in trainee numbers in order to move towards policy changes advocated within Sláintecare. General Practice numbers are estimated to have a growth requirement from today's number of 3,989 to a future number of 5,649, to roll out universal free GP care. This would require an increase from approximately 200 to over 500 trainees in General Practice over the next 5 years, not accounting for doctor emigration. Estimates do not factor in more nurse-led care in the community which may reduce this demand estimate somewhat. More research is needed in this area once plans for primary care and General Practice developments are more fully formed, in line with Sláintecare policy. Indeed this may apply to all specialties in time.

Estimates should (but do not always) allow for changing population health profiles, unmet demand for services, new models of service delivery, high levels of upcoming retirements in some specialties and increasing flexible and less than full time working arrangements. Increasing training numbers should correspond with a reduction in the number of non-training scheme doctors in order to improve patient care through better ratios of trainees to consultants and through a more consultant-delivered service. Currently from analysis of data from the Medical Council, it is estimated that over 600 non-training scheme NCHDs could potentially take up training posts.

9.1 HOW FINDINGS COMPARE WITH OTHER HEALTH SERVICE DEMAND RELATED REPORTS

It is useful to compare the demand estimates derived from this report with those derived from both the ESRIs report 'Projections of Demand for Healthcare in Ireland 2015 to 2030' (Wren et al. 2017) and the Health Service Capacity Review 2018 (Department of Health, 2018). Table 9.1 outlines and compares the main findings of all 3 reports. The ESRI projections are based on projected changes in the population, broken down by genderand age structure of the population along with measures of healthy ageing. Projections are not based on the introduction of new models of service delivery. Of note is the fact that GP baseline data accounts for approx. 3,000 GPs rather than the almost 4,000 GPs delivering services as per Irish Medical Council data in the Health Service Capacity Review and in the medical workforce planning projections herein. While there are in the region of 3,000 GPs on the Specialist Division of the Medical Council Register, there are almost 1,000 more doctors working as GPs on the General Division. A decision was taken in 2015 by an Expert Panel on GP workforce planning, that all of these doctors should be considered part of the GP workforce for the purpose of medical workforce planning (HSE National Doctors Training and Planning, 2015).

The Health Service Capacity Review projections are based on:

1. 'No change in service delivery model'
2. 'Change to bring about an integrated care model with a focus on a continuum of care, whereby emphasis on disease prevention, early detection and management are to the fore, with care being delivered at the lowest possible level of acuity, closest to the home'

As such, a number of projected demand estimates are proposed in the Health Service Capacity Review. Table 9.1 outlines the projected demand for health services as per the ESRI and HealthService Capacity Review reports as well as the findings of this medical workforce planning report. While these estimates are not directly comparable due to the drivers for demand considered, metrics and methodologies used, they are nevertheless interesting to consider in the context of future demand for healthcare in Ireland.

Table 9.1 Demand Estimate Comparisons

PA Consulting DoHHealth Service Capacity Review Projected Demand to 3031 – New Model of Service Delivery	**No Change in Service Delivery Model 2031**	**Change in Service Delivery Model 2031**
AMU Beds	+37%	0%
Day Cases	+47%	+14%
Inpatient Beds	+56%	+20%
ACC Beds	+79%	+79%
General Practitioners	+39%	+29%
ESRI Projected Demand Estimates to 2030 Change in Age Structure and Measures of Healthy Ageing	**Projected Increase in Service Utilisation2030 – excludes unmet demand**	**Projected Increase in Service Utilisation 2030–includes low level unmet demand**
Inpatient bed days	+32% to+37%	+36%
Inpatient discharges	+24 to +30%	+28%
Day patient discharges	+23% to +28%	+29%
ED attendances	+16% to +26%	-
Outpatient attendances	+21% to +29%	+30%
Private Inpatient bed days	+28% to +32%	-
Private inpatient admissions	+20% to +25%	-
Private day patient admisssions	+24 to +28%	-
General Practitioner visits	+20% to +27%	+22%
NDTP Medical Workforce Planning Demand Estimates		**Projected Demand 2028**
Acute hospital specialties		+51%
General Practitioners		+32% to +42%

As can be seen, the Health Service Capacity Review projects a demand for an increase in inpatient beds of between 20% and 56%, depending on whether the status quo prevails or a complete reform of services is successfully implemented. The corresponding increase for day cases is between 14% and 47% depending on whether or not reforms take place. The demand for GPs is projected to be somewhere between 29% and 39%, again depending on reconfiguration of services. The ESRI project an increase in inpatient bed days of up to 37% and an increase in day patient discharges by up to 29%. The ESRI also project an increased demand for GP visits ofup to 27%.

If we use inpatient beds and day case demand as a proxy for demand for consultants, then the estimated demand for an increase of 51% of acute hospital-based consultants and specialists outlined in this report is lower, albeit fairly well aligned with the Health Service Capacity Review scenario whereby the status quo prevails i.e. a 56%

increase. Estimates proposed within the ESRI report are not as well aligned, perhaps due to differences in variables considered in the demand estimation process. As mentioned in general (but not always), working conditions, international benchmarks and new models of care were factored into demand estimates of NDTP stakeholders, along with population change and unmet demand.

The demand for GPs outlined in this report is fairly well aligned with the 'no change' scenario outlined within the Health Service Capacity Review i.e. an increased demand of between 32%-42% proposed herein versus increased demand of 39% should the status quo remain unchanged, as outlined in the health Service Capacity Review.

GP demand within the Health Service Capacity Reviews' reform scenario however, does not align with NDTP estimates of demand should universal free access to GP care be implemented. Demand estimates as per the implementation of a fully integrated health service outlined in the Health Service Capacity Review are below those outlined in the demand estimates for this report i.e. a 29% increase in demand as opposed to NDTPs' estimate of a 42% increase in demand for GPs.

The ESRI estimates of GP demand based on population change align well with those proposed in the Health Service Capacity Review's reform scenario and NDTPs scenario based on free GP care to the under 18s and over 70s i.e. respective estimates of increases up to a 27%, 29% and 32%. Of note is the fact that NDTP and ESRI estimates did not consider the impact of task reallocation from, for example, GPs to practice nurses or other health care professionals and more chronic disease management in the community. More research is recommended in this area.

While workforce planning estimates may be higher than those outlined for some scenarios in both the Health Service Capacity Review and the ESRI report, it is important to keep in mind that demand for consultants and specialists takes into account the need for more appropriate numbers to ensure better staffing across specialties. While the analysis of stakeholder estimates of the future demand for consultants and specialists was in the main high level, all stakeholder estimates aimed to address working conditions within the hospital and community setting including heavy workloads, low levels of staffing, long waiting lists and onerous rostering arrangements. A number of specialty demand estimates considered the implementation of a new model of service delivery along with changes in the population and service utilisation, more care in the community, consultant-delivered care and more integrated care delivery systems. Other stakeholders used international benchmarks alone to project demand.This report did not solely rely on quantitative data to estimate future demand. All stakeholders were given the opportunity to voice and validate the demand estimates for specialist doctors across specialties.

9.2 ENSURING A SELF-SUSTAINABLE MEDICAL WORKFORCE

The approach taken to estimating the future demand for trainees and consultants within this report assumes that Ireland will be self-sustainable in its production of medical doctors and therefore reliance on overseas doctors will decline as more trainees come out of the Irish postgraduate medical training system. Ireland has a responsibility to adhere to the WHO Code on ethical recruitment in health care (World Health Organisation 2010, 2011) and this approach supports such a policy. However, in order to do this a focused approach to reducing doctor emigration will be essential. Work can also be undertaken to bring Irish trained specialists back into the system and therefore potentially offset this against the number of estimated required trainees.

9.3 MORE CONSULTANT-DELIVERED CARE, LESS NON-TRAINING NCHDS

As stated in the introduction to this report, Ireland has among the lowest numbers of specialist doctors per head of population in the OECD (OECD, 2019). It is Government policy that the health system should continue to move in the direction of more consultant-delivered care. A consultant-delivered service for Ireland infers more consultants present at the front line delivering care to patients. An extensive research study carried out by the United Kingdom's

Academy of Medical Royal Colleges (2012) on the benefits of more consultant-delivered care found that 'numerous reviews by expert clinicians have concluded that patients have increased morbidity and mortality when there is a delay in the involvement in their care of consultants across a wide range of fields'. Consideration of expert reviews and the international research by the Academy deduced that 'there is evidence across a wide range of medical fields that consultants deliver better patient outcomes and improved efficiency of care…the consistency of the association between consultant involvement and improved outcomes across many studies in many specialties is compelling' (AOMRC, 2012 P.6).

The conclusions of the study were that the benefits of consultant-delivered care include:

- A high level of clinical competence ensuring rapid and appropriate decision making
- Improved outcomes for patients which follow from appropriate diagnosis and the most clinically skilled interventions
- Skilled judgement and performance leading to the most effective working and more efficient use of resources through, for example, length of stay reduction or fewer unnecessary investigations
- GP's access to the opinion of a fully trained doctor
- Patient expectation of access to appropriate and skilled clinicians and information in a timely fashion

Across health services today, it is accepted that more consultant-delivered care is paramount to effective service delivery and that the huge over-reliance on NCHDs to deliver services has implications for patient safety, service efficiencies and costs (Department of Health 2003). A ratio of between 1 and 1.2 NCHDs per consultant has been cited as appropriate to achieving safer, more efficient and cost effective care(HSE National Doctors Training and Planning, 2016).

As mentioned previously, increasing training posts should correspond with a reduction in the number of non-training scheme posts. This can be done by converting non-training scheme doctor posts to training posts, which will benefit thesystem through ensuring more appropriately trained doctors and a pipeline to meet the future demand for consultants. The caveat here however remains the need to fund a large increase in consultant posts.

It is proposed herein that there is susbstantial potential to expand the HSE's International Medical Graduate Training Initiative (IMGTI), an international medical trainee exchange programme which benefits the Irish healthcare system through the provision of trainee doctors delivering care where needed over a 2-3 year period. Upon completion of the programme doctors return with their acquired skills to deliver services within their home country.

If consultant numbers are to grow in line with the projections outlined in this report, then the following considerations must underline this growth:

1. Along with increasing trainee numbers, consideration must be given to the reduction in non-training posts. Currently there are approximately 2,400 non-training scheme doctors in thepublicly funded health service. A proportion (650 approximately) of these posts could potentially be converted to training posts. This would move the system closer to achieving a more consultant-delivered health service with a higher ratio of trainees to consultants than exists today.**This is in line with Government and WHO policy as well as the recommendations of the Hanly report (Department of Health, 2003)**. A pilot project in Waterford University Hospital is underway to determine if increasing consultant and training posts, while decreasing non-training scheme doctor's posts, can improve patient care and working conditions within the hospital. This project could lay the foundations for future implementation of a more consultant-delivered service nationally.
2. Further considerations to ensure improved patient care include regulation of non-training scheme NCHD posts, improved supports while maintaining the focus on reducing numbers, the introduction of Medical Associate Programme for these doctors as well as expansion of the International Medical Graduate Training Initiative.
3. Much needs to be done to retain Irish medical graduates so that the trend of training doctors for export

is reversed. A situation whereby trainees nearing completion of specialist training had the option to apply for a known upcoming consultant post would likely result in better retention of medical graduates and more consultant-delivered care. T**his would further align the workforce with policy objectives**. Addressing the two-tier system of consultant pay is also required to ensure better recruitment and retention of specialist trained doctors.

4. More consultants in the system in general, and in some cases working an extended day and at weekends would improve efficiencies around clinical decision making and rostering arrangements; reduce onerous workloads, improve the medical training experience of trainees and improve patient outcomes through a parallel reduction in non-training scheme doctors in the workforce. **Patient safety is a high priority within the HSE and a medical workforce consisting of more consultants and less non-training scheme doctors would align with the HSE objective of making patient safety paramount.**
5. More consultants in the system who are appropriately trained to reflect future population and epidemiological healthcare demands. For example, our ageing population will demand more medical specialists with skills to meet the care of the elderly i.e. GPs, Geriatricians, General Physicians, Orthopaedic Surgeons, Cardiologists and so on.
6. **A cost-benefit analysis of increasing consultant numbers with a reduction in the number of non-training scheme NCHDs** and considering the impact of an increase availability of consultant posts on doctor emigration should be considered with a view to giving financial weight to the argument of increasing consultant numbers. Engaging the Department of Public Expenditure and Reform in such an exercise would be beneficial.

9.4 A FINAL WORD

It is important to bear in mind that the prediction of demand is not an exact science and heavily based on the views of stakeholder bodies, including the individual NCPs and Postgraduate Training Bodies. In the developing this report, NDTP engaged with stakeholders for all medical specialties on a number of occasions through requests for submissions on medical workforce planning for consultant/ specialists; through meetings and a seminar, as well as through requests for clarification on data estimates to be included in this report.

The following caveats pertaining to the staffing and training demand estimates should be noted:

1. Despite the demand for consultants/ specialists and parallel training needs, there are limitations pertaining to the capacity within the health system to accommodate trainees in some specialties. On occasion, Postgraduate Training Bodies and the HSE are unable to accommodate the required number of trainees, due to lack of posts within the system. This can be due to insufficient consultant and specialist trainer numbers, among other things.
2. Increasing rigour in determining demand is justified to improve the process of discussion and consensus used.
3. A critical obstacle to determining consultant and specialist doctor staffing demand remains the potential impact of service reconfiguration.
4. While some National Clinical Programmes have developed models of care for their specialties, which serve as a framework or strategy to inform future service developments and parallel staffing needs, not all specialties have developed these models. As such, demand estimates can be made using estimates submitted to NDTP by stakeholders as well as via simple international comparisons, and through other such means, which are not as robust.
5. The transfer of tasks between and across health professionals may impact the future demand for some consultants/ specialists. For example, increased level of nurse-led care may impact the demand in areas such as chronic disease management.
6. There is potential for new and emerging technologies, including drugs, to impact staffing demand but this is difficult to predict and understand with some certainty. More research in this area is warranted.

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11 APPENDICES

APPENDIX A SPECIALTIES/STAKEHOLDERS ENGAGED IN THE MEDICAL WORKFORCE PLANNING PROCESS

National Clinical Programmes	
	National Acute Medicine Programme
	National Clinical Programme for Anaesthesia (including Paediatric Anaesthesia)
	National Clinical Programme for Neurology
	Critical Care Programme
	National Clinical Programme for Older People
	Emergency Medicine Programme
	Diabetes Programme
	National Clinical Programme for Radiology
	National Cancer Control Programme
	National Clinical Programme for Trauma and Orthopaedic Surgery
	National Clinical Programme for Obstetrics and Gynaecology
	National Clinical Programme for Paediatrics and Neonatology
	National Clinical Programme for Palliative Care
	National Clinical Programme for Ophthalmology
	National Clinical Programme for Pathology
	National Clinical Programme for Surgery
	National Clinical Programme for Rheumatology
	National Clinical Programme for Rehabilitation Medicine
Training Bodies	
Royal College of Physicians of Ireland	
Irish Committee on Higher Medical Training	Infectious Diseases
	Gastroenterology
	Clinical Genetics
	Clinical Pharmacology
	Cardiology
	Endocrinology/ Diabetes
	Medical Oncology
	Nephrology
	Neurology
	Rehabilitation Medicine
Training Bodies	
	Respiratory Medicine
	Rheumatology
	Neurophysiology
Faculty of Occupational Medicine	Occupational Health Medicine
Faculty of Paediatrics and Neonatology	Paediatrics and Neonatology
Institute of Obstetrics and Gynaecology	Obstetrics and Gynaecology
Faculty of Public Health Medicine	Public Health Medicine
Faculty of Pathology	Pathology – all specialties
Royal College of Surgeons in Ireland	Radiology (Diagnostic and Radiation Oncology)
	Emergency Medicine
	Sports and Exercise Medicine
	Surgery – all specialties

College of Anaesthesiologists	Anaesthesia and Critical Care
Irish College of General Practitioners	General Practice
Irish College of Ophthalmologists	
Medical Ophthalmology	College of Psychiatrists of Ireland
	Psychiatry
HSE Divisions	
	HSE Primary Care
	HSE Mental Health
	HSE National HR
	HSE Planning and Performance
	HSE Public Health
	Children's Health Ireland
Specialty Representative Bodies	
Irish Thoracic Society	Respiratory Medicine
Irish Society of Occupational Medicine	Occupational Medicine
Irish Endocrine Society	Endocrinology
Irish Board for Training in Cardiovascular Medicine	Cardiology
Infectious Diseases Society Ireland	Infectious Diseases

Note that where a specialty did not respond to recent requests for submissions on medical workforce planning, NDTP used data from 2014 submissions where appropriate. This was only necessary for a small proportion of specialties.

APPENDIX B BREAKDOWN OF DEMAND FOR CONSULTANTS WORKING IN ACUTE MEDICINE

National Acute Medicine Programme (NAMP):
Guidance for CAAC regarding applications for consultant physician posts

Model 4 hospitals
Acute Medical Units (AMUs) are staffed by acute medicine physicians during working hours.

The NAMP recommends that:

1. When undertaking clinical duties in the AMU, consultants should be free from any other commitments (e.g. OPD, procedural, management, etc.)
2. When consultant numbers reach 6, there should be consultant presence from 8.00am – 8.00pm, Monday-Friday, and for 5 hours on weekends and public holidays
3. Each AMU should have a Lead Consultant Physician; this post will rotate every 2-3 years
4. Each AMU should have a Medical Short Stay Ward (MSSW) under the governance of the acute physicians; patients should be reviewed by an acute medicine consultant on a daily basis (including weekends) in order to facilitate early discharge and follow-up
5. Acute medicine physicians should have dedicated specialty time; this should not exceed 50% and be consistent with colleagues in the AMU. Most current posts are weighted between 60-80% acute medicine
6. It is envisaged that AMUs will ultimately function on a 24/7 basis; as additional consultant appointments are made, consultant presence should be extended e.g. to 10.00pm weekdays, and pro rata at weekends
7. Specialist physicians should support the work of the AMP by providing prompt consultation, taking over care of AMU/ SSU patients where appropriate, providing rapid access to cardiac diagnostics and urgent outpatient slots for appropriate AMU patients.

Model 3 hospitals
Acute Medical Assessment Units (AMAUs) operate in a similar way to AMUs, but do not normally have MSSWs.

The NAMP recommends that:

1. All consultants participating in the medical on-call roster should participate in the running of the AMAU
2. When rostered to cover the AMAU, consultants should be free from any other commitments (e.g. OPD, procedural, management, etc.) so that they are immediately available to attend the AMAU
3. The hours of opening of AMAUs varies from unit to unit; however, a consultant physician complement of 8 facilitates consultant availability for 12 hours Monday-Friday and for 5 hours on weekends and public holidays
4. The consultant physician on-call for medicine will manage the AMAU out-of-hours
5. Each AMAU should have a Lead Consultant Physician; this post will rotate every 2-3 years

Model 2 hospitals

Medical Assessment Units (MAUs) have assessment beds in a defined area and serve a clinical decision support function.

The NAMP recommends that:

1. All consultant physicians will be jointly appointed to a Model 3 or 4 hospital
2. All consultant physicians should participate in the running of the unit
3. Each MAU should have a Lead Consultant Physician; this post will rotate every 2-3 years
4. A consultant complement of 6 facilitates consultant availability for 12 hours Monday-Friday and for 5 hours on weekends and public holidays

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