New Zealand general practice registrars' views on their academic learning needs during vocational training: online survey

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Abstract

Most doctors working in New Zealand general practice undertake a vocational training programme through the Royal New Zealand College of General Practitioners. Our aim was to explore the views of general practice registrars on their academic learning needs both during and following vocational training. We conducted an online survey of all current NZ GP trainees in 2019 which was completed by 314 GP registrars. The majority (88%, 275/314) were completing RNZCGP Fellowship only, and of these half (55%, 152/275) were planning a further postgraduate qualification, with a minority (12%, 33/275) indicating a desire to undertake a masters or PhD degree. Almost all (99%, 310/314) intended to work in general practice with a minority (9%, 28/314) intending to also work as rural hospital doctors. The five most common areas of interest for further training were clinical skills (68%), practice-based teaching (66%), specific clinical conditions (63%), age or life-stage specific (47%) and non-clinical areas (41%). There appears to be a considerable gap between those completing RNZCGP Fellowship, those intending to undertake further (formal postgraduate) education and those who actually enrol. This is concerning given the need for lifelong learning and critical evaluation of practice and health service delivery. The future New Zealand general practice workforce will need GPs to be diverse and highly skilled members or leaders of expert teams.

Keywords

General practice; Vocational education; Academic training; Family medicine; Needs

Word count 2888

Introduction

Compared with other medical specialities, the academic discipline of general practice has a short history [1]. In New Zealand (NZ), it was only in 1995 that doctors working in general practice needed to undertake a vocational training programme through the Royal New Zealand College of General Practitioners (RNZCGP), or practice under New Zealand Medical Council oversight [2]. NZ differs from many other countries in that the RNZCGP, a membership organisation, runs both the vocational training programme for a specialist career as a general practitioner (GP) and sets professional standards. In England, GP training is organised through Health Education England: in Scotland, Wales and Northern Ireland through the Deaneries; in Australia through General Practice Training Organisations, and in Canada the family medicine residency training programme is run through the universities, with the College of Family Physicians of Canada accrediting the programme.

New Zealand general practice and other vocational training programmes

The RNZCGP general practice education programme (GPEP) pathway takes 36 months full time equivalent, based on a minimum of eight-tenths clinical time a week, ostensibly with one day a week (two-tenths) for all other learning. RNZCGP Fellowship is awarded upon completion. The programme includes one-on-one GP teacher supervision, seminars and workshops, online modules and discussion forums, video reviews and patient feedback [3].

To achieve Fellowship, doctors must complete the required clinical experience, GPEP1 learning activities, the assessments with a passing grade, and an 'academic component' requirement [4]. The latter consists of a single 15-point university postgraduate course undertaken prior to, or during, the second or third year (GPEP2 or GPEP3). Postgraduate courses include both disciplinary theory and knowledge and develop skills to critically consider ideas and research and think reflectively, whereas the College-provided learning activities are generally focused on clinical practice. Exemptions to this requirement include prior completion of an equivalent course from a non-university tertiary institution; research-informed workplace and clinical initiatives; publication of a refereed journal paper, or conference presentation [5].

Other NZ vocational training programmes have larger academic components. For example, the NZ College of Public Health Medicine requires a Masters in Public Health [6]; the Division of Rural Hospital Medicine training includes a Postgraduate Diploma in Rural and Provincial Hospital Practice [7]; the Royal NZ College of Urgent Care requires three 15 point university postgraduate courses [8], and nurse practitioners complete a clinical Masters degree [9]. Pharmacists complete a PGCert Prescribing to register as Prescribing Pharmacists [10].

Career pathways in general practice

Traditionally general practice has a flat career structure, with no clear pathway of progression beyond RNZCGP Fellowship, and no financial recognition of further training, qualifications or advanced competencies. In Australia, GP careers have been described as 'boundaryless' [11], where many GPs informally develop clinical and other interests to broaden their clinical experience over long 40+ year working lifetimes, but do little to formally advance deeper and transformative learning, often progressively and significantly dropping their working hours mid-career onwards. However the general practice landscape is changing, with increased interprofessional teamwork, and many tasks and areas of practice previously undertaken by GPs are now being performed by other clinicians, for example practice nurses supporting patients with long-term conditions, taking cervical smears and initiating introduction of insulin.

The need for health professional training to be more socially accountable than it in the past is also being recognised [12]. Doctors need to be fit-for-purpose in effectively working with others, meeting current and future health burden in innovative and smarter ways. We need doctors who bring a key skill set to the primary care team, are expert communicators, culturally competent, able to reflect on and change their practice, use information technology, and critically evaluate new evidence [13].

Relying on traditional continuing medical education (CME) may not be sufficient, as this may simply update rather than advance knowledge and practice in new, urgent or high priority areas [14, 15, 16]. Postgraduate qualifications differ from CME, with advanced intended learning outcomes requiring in-depth integrated learning demonstration of mastery of new knowledge and skills through robust assessment [17].

In NZ there is a pathway of doing postgraduate courses for a PG certificate, PG Dip, or taught or research masters. Postgraduate courses might be clinical topics but may also be on research methods, teaching and learning or other more theoretical topics eg on health leadership or ethics. They all should include a theoretical component. Many people start by enrolling in a PG Cert or Dip and then progressing to a masters.

Postgraduate qualifications that ensure in-depth learning in priority areas can greatly accelerate primary care knowledge and skill in priority areas (such as mental health, obesity management and effective team-working) [18]. Reducing disparity in health outcomes is paramount. The current primary care system is falling short, and requires transformative change [19]. In the UK it is proposed that GPs should be considered 'expert medical generalists', involved not only in clinical care, but also teaching, quality improvement including development of guidelines for best practice in primary care, and research, and such a status might require achievement of a higher qualification [20].

Many GPs follow ad hoc pathways through a variety of postgraduate courses, certificates, diplomas, occasionally masters and PhDs, as well as most engaging with specific skills training and CME. Some undergo dual vocational pathways, combining general practice with rural hospital medicine or urgent care.

In our opinion, enhancement of the academic component of the RNZCGP Fellowship would increase the status and recognition of general practice as a specialty, on par with other medical and non-medical disciplines. It may better equip GPs for life-long learning, including ability to find and critique relevant new knowledge, assess its relevance to their specific practice context, and provide advanced skills in niche areas.

This project aimed to explore the views of NZ GP registrars on their academic learning both during and following vocational training, and whether they consider the 'academic component' sufficient for their needs.

Methods

We collaboratively developed a short survey. Questions were drafted and then collective feedback for the named researchers was collated. The research team consists of primary care academics from the two New Zealand medical schools (at University of Auckland and University of Otago) who are ainvolved in postgraduate education, and the lead educator from the RNZCGP. The questionnaire was informally piloted with several GP colleagues who had recently been awarded their Fellowship.

The questionnaire was administered using the Qualtrics^{XM} online survey platform [21].Questions included vocational plans and interest, interest in developing competencies with a specific sub-population (such as age, ethnicity), clinical field (eg travel medicine, palliative care), clinical skill (eg dermoscopy, vasectomy), teaching or research or other academic pursuit. They were also asked in which postgraduate courses or programmes they were currently enrolled and which they intended to take in the future. No identifying information was collected. Competency responses were a mixture of pre-specified options and free text. Trainees were assured that non-completion would have no negative consequences. Demographic details collected were age (in five-year bands), location of initial medical training (NZ or international) and year of GPEP training (1 to 4). No data about the practice(s) to which the trainee was attached was collected. The participant information sheet was the first page of the survey. Completion of the survey constituted consent to participate in the study. Ethical approval was obtained from the University of Auckland Human Participants Ethics Committee (UAHPEC) Ref 018476.

All current GP registrars (Year 1 to 4) were eligible for the study. They were invited to participate via survey link in mid-2019 emailed from the RNZCGP. Data were extracted from Qualtrics as excel files and free text responses synthesised, coded and collapsed on occasion – for example, end-of life care was combined with palliative care; insertion of Mirena and of Jadelle under insertion of LARCs. The resulting dataset was analysed using descriptive statistics with the SPSS statistical software package.

Results

There were 314 participants, of whom 280 were GPEP 1 to 3, giving a 54% (280/515) response rate for this target group (Table 1). Only 302 completed the demographics section as well as the other components of the survey, so 12 (4%) were missing demographic data.

Two thirds of responders were female, with half NZ European and only 4% Māori and 3% Pacifica. The majority were aged under 35 years, with only 7% older than 44. Three quarters were NZ graduates; a third were GPEP1, a quarter GPEP 2, just over a third GPEP 3 and only 7% GPEP4 or more.

These characteristics are compared against total GPEP numbers provided by the College (N=1362), likely to also include people who started GPEP years ago but failed to complete. There is no significant difference between female and male (χ^2=0.048, df=1, p=0.827) nor NZ European and non-European (χ^2 = 2.981, df = 1, p= 0.0842). The College sample is significantly older than 35 years compared with survey participants (χ^2=30.549, df =1, p=0.0000), supporting the premise that it includes many uncompleted doctors. Given these findings, we assume that our survey sample is roughly representative of GPEP1 to GPEP3.

Postgraduate education intentions

Eighty-eight percent (275/314) of registrars were completing RNZCGP Fellowship only, 9% (28) a rural hospital doctor Fellowship, and 3% (11) the Royal Urgent Care College qualification in addition to their GP Fellowship (Table 2). Of those doing only GPEP training 22% (61) were not planning to take any postgraduate courses because they were exempt (previously completed a course, given a conference presentation, published a paper or other non-specified reason), and 23% (62) were planning to take a single course as a certificate of proficiency (COP). Half (55%) were planning a further postgraduate qualification: 23% a PGCert, 20% a PGDip, 6% a taught and 2% a research masters, and 4% (12) were planning to undertake a PhD in the future. In those currently enrolled in dual fellowship (general practice and rural hospital medicine) one planned a future taught masters, two a research masters, and one a PhD.

Future career plans

All but four registrars planned to work in general practice. Although only 11 were currently enrolled in the urgent care programme, 77 planned to work in urgent care (possibly in the context of a general practice with urgent care 'walk-ins'), and 28 as rural hospital doctors. Forty-three planned to also work in another area: four each in public health and sexual health, three each in family planning, sports medicine, and palliative care, two each in aviation medicine, musculoskeletal medicine, cosmetic medicine, and surgery, and one each in health IT, mental health, youth health, sexual assault forensic medicine, hyperbaric medicine, military medicine, skin cancer, and overseas humanitarian aid work. Four were interested in medical/health education, and one each in health leadership and psychiatry. One indicated an unspecified alternative career plan.

Areas of special interest for further training

Registrars were asked to indicate areas of special interest in which they may want further training. This might be in regard to a specific population (ethnicity, gender, age or socio-economic status), condition, or clinical skill, or a non-clinical topic. They were also asked about interests in teaching or research. They identified a wide range of future learning needs (Table 3).

There is considerable interest in Māori and Pacific health, child, youth and women's health, care of people of low socio-economic status and end-of life care. The conditions with the most interest were mental health, travel medicine, diabetes and other non-communicable chronic diseases, multi-morbidity, sports medicine, and dermatology. Over half were interested in surgery, dermoscopy and insertion of long-acting reversible contraceptives (LARCs), and other skills mentioned frequently were ultrasound, cosmetic surgery / aesthetic medicine and vasectomies.

A sizable minority (41%) were interested in a non-clinical study topics, particularly health management, clinical leadership and models of care. Nearly two thirds were

interested in teaching, especially registrars, and a third in conducting research, mainly in their own practice.

Discussion

The study provides an important country-wide snapshot of the perceptions of current and recent NZ GP registrars as to their study interests and aspirations. The responders' gender and ethnicity are broadly consistent with the GPEP demographics provided by the RNZCGP.

Half of respondents express interest in pursuing a postgraduate qualification (most a taught Certificate or Diploma), with a number wishing to undertake a Masters or PhD. Others, while identifying further training as important, appear to place less value on academic study, with no interest beyond the required minimum of one 15 point PG course. There is a wide range of learning interests, to be expected in a generalist discipline, and the numbers training concurrently or sequentially in more than one area are also considerable. However despite having intentions to undertake further PG study, the numbers of GPs and GP registrars taking up postgraduate study to qualification level to date remains small and has been rising only slowly since introduction of the one-paper requirement in 2015 [5].

Popular courses among GPs in the last ten years have been those in travel medicine, women's health and palliative care, with more moderate enrolments in GP teaching and learning and critical appraisal. Despite obvious current relevance, and considerable interest expressed by these respondents in Hauora Māori (Māori health) there are few GP enrolees in university courses in Māori or Pacific health [22].

While 20% indicated an interest in conducting research in their practice, and a further 13% in the context of an academic career, we note that none actually listed an interest in taking research methodology courses to assist in this goal. There is significant interest in health management and leadership, although whether this will be sustained and the direction it may take remains to be seen.

There is always a tension between upskilling in clinical care, especially for vulnerable populations, to reduce health inequities, and developing the broader skills of teaching, critical appraisal and research proposed for the expert medical generalist. Education provided via the university postgraduate route can achieve both.

Current barriers to attainment of postgraduate qualifications

There appears to be a considerable gap between intent and enrolment. Lack of academic ability is unlikely to be a barrier to enrolling and completing a postgraduate qualification. When this is required to complete vocational training, for example the Rural and Provincial Hospital Practice training programme [23], numerous registrars have proved themselves capable of completing a Diploma-level qualification while meeting the key clinical requirements for their programme. Seventy to 80% of rural hospital medicine trainees also do GPEP concurrently. Many achieve extremely well academically as well as clinically and completion rates are high. On the whole, our GP registrars are bright and capable. The few who do struggle usually have mitigating family or personal circumstances to contend with.

Lack of time is commonly mentioned, yet in each of years GPEP1, 2 and 3, regulation-wise one day a week is available for study.[24] Over three years of a 44 week working year (allowing for holidays, and other time out), eight hours weekly equates to 1050 hours, sufficient to accommodate a postgraduate Certificate (400-600 hours) and a variety of other learning. However the majority of GPEP2 and GPEP3 registrars work ten-tenths clinically, since in the current self-funding model for these years, there is no directly funded study time. All other learning must then be undertaken out of hours, and at the registrar's own cost. Fees for postgraduate study, while only representing a portion of the true delivery cost (the rest being government funding for all domestic students), will be a significant barrier for some.

However, it is likely that the greatest barriers are low expectations, lack of encouragement, and poor understanding about the purpose and value of postgraduate qualifications. Creating appropriate expectations and setting clear goals that meet

today's primary sector health workforce needs are the responsibility of any advanced training provider. The College holds this important role for vocational GP training. Already many other medical and nursing specialty training programmes (including those specialising in generalism) routinely incorporate postgraduate qualification(s) into their vocational programmes to ensure that clinicians have the wide range of integrated clinical and academic skills that today's advanced practice requires [6, 7, 8, 9].

Strengths and limitations

We were unable to determine an exact denominator for GPEP numbers and hence an accurate response rate. However we had 292 GPEP 1 through 3 in our sample, from an estimated 600, which is roughly half of the total. The survey was comprehensive including interest and intent towards future CME, skills training and academic learning. We are unaware of previous studies which have sought information of this nature and depth from GP trainees.

Implications for the future workforce

Postgraduate qualifications foster critical, strategic thinking and debate over the course of several discrete but related courses. Unlike typical undergraduate degrees in health sciences, they are not content-driven, but draw on experience, process and content to articulate dilemmas, to connect widely, to problem-solve, to reach new synthesis and advance understanding. All these skills help experienced clinicians become adaptable and flexible as their working world changes more rapidly than ever before. In our view, the learning mastery from a postgraduate certificate is far better value for money than attendance at three conferences, yet they cost about the same. For those that do want to become independent researchers and teaching leaders, either now or later, postgraduate certificates and diplomas provide the staircase to Masters and PhD degrees, where candidates are expected to be creating 'knowledge at the most advanced frontier of a field of study or professional practice' [17]. Internationally, general practitioner clinician researchers are highly sought after and increasingly valued, with both vocational training and a PhD or equivalent as the expected entry point.

The opportunity cost of 21st century GP registrars not undertaking further in depth study is high [25]. As primary care teams further develop, and more patient care of increased scope is expected in the community, GPs are expected to fulfil diverse and highly skilled roles as members and often leaders of expert teams. Effective critical appraisal of information as evidence, use of advanced and digital diagnostic techniques, ability to write and enact policy to reduce disparity are likely to be just as important as the doctor-patient relationship and knowledge of advanced diabetes management.

GPs have long careers and ongoing postgraduate education refreshes and invigorates practice. If the GPs of tomorrow are not equipped to be able to work effectively with their well-trained nursing and nurse practitioner counterparts, their expert pharmacist colleagues and efficient managers and funders, their collective role risks not reaching its full potential, ultimately to the detriment of patient care. This may well result in highly capable people who have gone through long and expensive training to leave the profession mid-career to pursue more rewarding goals.

We have provided the RNZCGP with our report and made a number of recommendations regarding increasing the academic component of the GP training – see Box 1.

Conclusion

While this study is specific to NZ circumstances and conditions, many of the principles are applicable to general practice and family medicine training programmes internationally. Creating appropriate expectations and setting clear goals that meet today's primary sector health workforce needs are the responsibility of any advanced training provider. The RNZCGP holds this important role for vocational GP training in NZ. As primary care teams further develop, and more patient care of increased scope is expected in the community, GPs need to be able to fulfil diverse and highly skilled roles as members of expert teams.

A number of specific recommendations are made to enhance academic components of vocational training, including a postgraduate qualification within the Fellowship

programme. Adoption of these changes would go a considerable way towards meeting the 21st century requirement for tomorrow's GPs to be able to stand alongside and be able to work effectively with their colleagues in other medical disciplines, their well-trained nurse practitioner counterparts, their expert pharmacist colleagues and financially capable managers and funders.

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Table 1. Demographics of participants (N=302)

Characteristic	Survey sample n	%	All GPEP n	%
Gender				
Female	196	65	798	59
Male	103	34	432	31
Gender Diverse	3	1	0	0
Unknown	0	0	132	10
Ethnicity				
NZ European / European	157	52	686	50
Māori	12	4	102	7
Pacific Island	8	3	51	4
Asian	64	21	51	4
Other	61	20	303	22
Age (survey / all)				
25-29 / 26-30	91	30	215	16
30-34 / 31-35	116	38	480	35
35-39 / 36-40	39	13	265	20
40-44 / 41-45	34	11	195	14
>44 / >45	22	7	207	15
Training				
NZ	225	75		
IMG	77	25		
GPEP Year				
1	95	32	175	54
2	75	25	190	39
3	110	36	150	73
4+	22	7	300	3

Table 2 Postgraduate university education plans

PG qualification plans	GP only		Also rural hospital dr		Also urgent care		Total	
	n	%	n	%	n	%	n	%
No course (exempt)	61	22	0	0	0	0	61	19
COP (15 or 30 point course)	62	23	0	0	0	0	62	20
3 COP (45 points)	0	0	0	0	11	100	11	4
PGCert (60 points)	63	23	0	0	0	0	63	20
PGDip (120 points)	56	20	24	86	0	0	80	25
Taught masters (60 points from courses + 60 point dissertation)	16	6	1	3.5	0	0	17	6
Research masters (120 points from courses + 120 point research thesis or portfolio)	5	2	2	7	0	0	7	2
PhD in the future	12	4	1	3.5	0	0	13	4
Total	**275**	**100**	**28**	**100**	**11**	**100**	**314**	**100**

Table 3 Areas of interest for further training

Special interests	n	%*
Ethnicity	**90**	**29**
Māori health	81	26
Pacific health	49	16
Asian health	26	8
Other ethnicity	19	6
Gender specific	**70**	**22**
Women's health	63	20
Men's health	11	4
LGBTQ	7	2
Age or life stage specific	**160**	**47**
Child health	91	29
Youth health	101	32
Adults	55	18
Older adult health	57	18
End of life / palliative care	70	22
Specific population	**112**	**36**
Low socioeconomic status	83	26
Rural	38	12
Migrant	37	12
Refugee	33	11
Specific conditions	**218**	**63**
Mental health	73	21
Travel medicine	64	19
Diabetes & other non-communicable chronic diseases	49	15
Sports medicine	46	14
Multi-morbidity	45	13
Dermatology	58	11
Sexual health (includes sexual assault & family planning)	26	7

Addictions	23	7
Musculoskeletal medicine	17	5
Vaccinology	10	3
Gynaecology	10	3
Nutrition	1	0
Sleep medicine	4	1
Occupational medicine	3	1
Pain	3	1
Paediatrics	2	1
Clinical skills	**218**	**68**
Minor surgery	175	56
Insertion LARC	159	51
Dermoscopy	161	51
Ultrasound	62	20
Cosmetic surgery / aesthetic medicine	55	17
Vasectomy	51	16
Obstetrics	5	2
Termination of pregnancy	2	1
Acute orthopaedic management	2	1
Steroid injections	1	0
CBT / psychological therapies	1	0
Colonoscopy	1	0
Non-clinical topics	**142**	**41**
Health management	83	26
Clinical leadership	76	24
Models of care	68	22
Philosophy of primary care	37	12
Medicolegal issues	39	12
Social & economic determinants of health	1	0
Practice-based teaching	**228**	**66**
Registrar	196	62
Undergraduate	155	49

PGY	132	42
Research	**112**	**33**
In practice	69	20
As an academic	43	13

*Not all participants completed all sections, so valid percentages are presented

Box 1 Recommendations

We have made the following recommendations to the RNZCGP:

- *Profile GPs with postgraduate qualifications*: showcase early career GPs who have succeeded in academic study in conjunction with clinical work and family commitments, including how this changed their career motivations.
- *Regulation changes:* These could be implemented now, albeit at registrars' own costs.
  (1) Postgraduate Certificate (60 points) necessary to be awarded Fellowship – no exceptions, but keep 'relevant' choice wide (eg a PGCert in Education may well be relevant).
  (2) Postgraduate Diploma (120 points) necessary within five years of gaining Fellowship, in order to maintain Fellowship.
  (3) Advanced stream of registrars (at least 25%) undertake Diploma (120 points and/or Masters (240 points) within their three years of vocational training, with provision to complete a Masters if necessary post-Fellowship
  (4) All registrars expected without exception to spend one day per week studying in a non-clinical learning environment (might be at home online).
- *Associated pathways and funding*: potential advocacy work for the College over the next three year period.
  (1) Lobby for an employment model providing guaranteed full time salary for all GP registrars for all three years, with expectation of 8/10th in clinical learning environment; 2/10ths in non-clinical learning environment.
  (2) Lobby for an employment advantage (fiscal/non-fiscal) for those with Masters or PhDs.
  (3) Establish scholarships to cover postgraduate study fees and associated costs for those in genuine financial need.
  (4) Negotiate fees discount for identified NZ priority areas, for example mental health, Hauora Māori, palliative care.
  (5) Work actively with the Health Research Council and any pursue other potential (e.g. philanthropic) funders to foster funded PhD pathways for keen, able GP registrars or new Fellowship GPs.

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