

The aging academic workforce – will there be enough teachers to train future doctors? - Mike Foss (April 2005)

Introduction

Internationally the aging population is creating dilemmas for health planners. Older people require more medical interventions than younger people, which will mean that more doctors will be needed to provide medical services.

However, there is currently a shortage of medical staff worldwide including geriatric specialists. This problem is compounded by the fact that the actual specialists are becoming increasingly elderly themselves.

The shortage of medical staff can be addressed by training more doctors in medical schools. This requires quality medical educators and here we encounter a similar problem. For a variety of reasons, young doctors are avoiding academic medicine as a career choice. This has had the effect of multiplying the aging workforce problem in academia.

It should also be noted that, increasing the workload of the existing academic workforce with more students, is hardly an incentive to the younger staff considering academia as a career.

The aging academic (medical) workforce is a significant concern for health planners throughout the world. In the UK, there has been a decrease of 500 clinical academics in the last three years. (*2001 CHMS Survey of Clinical Academic Staffing Levels in UK Medical and Dental Schools.*). International shortages have the potential to create further problems in New Zealand, as medical academics may choose to take up better funded posts overseas. It is clear that further investigation is needed if this potential work force crisis is to be avoided.

The overall purpose of this study was to investigate the drivers that encourage teachers and their current students to pursue careers in academic medicine. These drivers can then be used to strategise means of improving recruitment and retention of medical academics.

Methodology

In this project we aim to investigate what motivates and deters medical students and doctors from entering academic medicine.

The project consisted of:

- 1 Compile the demographics of the teaching staff at Dunedin school of medicine.
- 2 Interview existing staff members as to their motivation for a career in academic medicine.
- 3 Investigate medical student's attitudes to a career in academic medicine – both motivators and deterrents.
- 4 Collate a database of international literature on the aging workforce - review this literature for strategies on recruitment and retention of academic staff.

For the purposes of this study a medical academic was defined as “a registered medical doctor who is involved in teaching, research and clinical practice”.

This could include the joint hospital/DHB appointments, general practice academics and clinical lecturers.

Due to time constraints and for the sake of brevity, it was decided to limit this study to joint hospital/DHB appointments. All medical students have contact with clinical academics whereas general practice academics have a limited teaching role until fifth year in Dunedin.

This project was approved by the University ethics committee.

Compile the demographics of the teaching staff at Dunedin school of medicine

The University of Otago Human Resources department was contacted. They kindly supplied the details supplied in table 1.

Interview existing staff members as to their motivation for a career in academic medicine

An interview schedule was developed by the research group. The interview schedule was tested in the department of general practice and approved for use. Staff were contacted via email and invited to participate in the project. Departmental secretaries were also contacted and asked to advertise the project to staff. We contacted some staff directly to ensure that we had adequate cover in the departments targeted (medicine, surgery, psychiatry, paediatrics, and obstetrics/gynaecology).

The interviews were conducted in accordance with the interview plan (see appendix 1). Prior to the interviews a literature and qualifications search was undertaken for each participant. The team looked at individual researcher's first papers, the general trend in their published work and their latest work. Dates of graduation and any qualifications were noted in an attempt to understand an individual's career path. Any staff internet profiles were used as background for this project.

Later on in this study it became evident that having links to basic science research groups greatly increased an individual's publication rate. Other researcher's publication records were reviewed for strong links to basic science groups. Some researchers had such contacts early in their career but these appeared to have dissipated when they changed localities. As current links to basic science groups had such a strong positive effect on publication rate we grouped any researcher who

- (1) had clear evidence of links to basic science groups and
- (2) Had published with the groups in the last three years together.

The interviews were taped and transcribed. The information from the interviews was analysed for themes. The data was compiled and arranged below.

Investigate medical students attitudes to a career in academic medicine – both motivators and deterrents

An email questionnaire form was developed and tested (see appendix 2). Using the Dunedin school of medicine student email system, the questionnaire was delivered to all students resident in Dunedin (years 2-6). As an incentive the chance to win a \$50 book voucher was offered to students who returned the questionnaire before January 1st. Data from the questionnaire was compiled in Microsoft access, analysed for trends and compiled for this paper. The data from the comments section of the questionnaire was analysed for themes, compiled and reported in this paper.

Results

Table 1: Demographics of Dunedin School of medicine medical academics – Data obtained from University of Otago Human resources department in age bands.

Age Range	% of Total workforce		
	Dunedin School of Medicine	Otago Faculty of Medicine	Registered Doctors (23)
40-	13.7	12.2	39.1
40-44	16.3	24.4	19.6
45-49	14.5	20.5	15.0
50-54	25.8	19.5	10.4
55-59	21.8	16.5	6.7
60+	8.1	7	9.3
Over 50	55.7	42.9	26.3

The Dunedin/Otago data pertains to staff with a clear teaching component to their position. Those staff holding research only positions have not been included. The database does not hold details of Clinical Teaching staff with an EFT of less than 0.3.

Comparison of Employment Conditions

Employer	University of Otago (medical scale)	Otago District Health Board
Starting Salary	\$52,640-68,319 (lecturer)	\$113,500 (junior consultant step 1)
Maximum Salary	141,795 (PROFMC07/PROFDC07)	\$161,000 (step 13)
Annual Leave	25 days	30 days
Sick Leave	8 days	Open ended
Superannuation	Dollar for dollar up to 6%	Dollar for dollar up to 6%
Overtime	None	1.5 on rostered on call
Continuing medical education	As funding allows	\$7500 to support 10 days CME (annual)
Professional expenses	APC, Indemnity Premium, One college membership	APC, Indemnity Premium, relevant college memberships, + relevant professional associations

(3, 13 &14)

Student email survey results

	Average Year of MBChB	Numbers (gender)	Estimation of Academic hours of work (hours/week)	Estimation of what would be fair remuneration (\$/year)	Estimation of current remuneration (\$/year)
all	2nd year	111 (48M/63F)	51-60	101-120	81-100
preclinical	2nd year	69 (25M/44F)	51-60	101-120	81-100
clinical	4th year	48 (23M/19F)	51-60	120-140	120-140
females	2nd year	63	61-70	101-120	81-100
males	3rd year	48	51-60	101-120	81-100
under-graduate	2nd year	75 (30M/45F)	51-60	101-120	81-100
post-graduate	3rd year	30 (14M/16F)	51-60	120-140	101-120
masters	3rd year	4 (2M/2F)	51-60	120-140	101-120
doctorate	3rd year	2 (2M)	51-60	101-120	81-100

Scale 1=much more – 5 = much less

Scale 1 strongly encouraged – 5 strongly discouraged

	Comparison of Academic vs. Non Academic hours of work	Academic v Non academic salary	Chance to do research	salary	teaching students
all	3	4	2.2	3.3	1.9
preclinical	3	4	2.3	3.2	2.1
clinical	2	3	2.1	3.3	1.7
females	2	4	2.0	3.1	2.1
males	3	4	2.5	3.5	1.8
under-graduate	2	3	2.3	3.2	1.9
post-graduate	3	4	2.0	3.4	2.1
masters	3	4	2.0	3.3	1.8
doctorate	2	4	2.0	4.0	2.0

Scale 1 strongly encouraged – 5 strongly discouraged

	life style	hours of work	travel	collaboration with experts	kudos/public recognition
all	2.7	3.1	2.4	2.2	2.6
preclinical	2.7	3.0	2.5	2.2	2.6
clinical	2.7	3.3	2.3	2.1	2.7
females	2.7	3.3	2.4	2.3	2.6
males	2.8	3.0	2.5	2.2	2.7
under-graduate	2.9	3.3	2.3	2.2	2.5
post-graduate	2.5	2.9	2.7	2.4	3.0
masters	2.3	2.5	2.8	1.8	2.5
doctorate	2.5	3.0	2.0	3.0	2.5

	Scale 1 strongly encouraged – 5 strongly discouraged	
	intellectual stimulation	Fun
all	1.9	2.5
preclinical	2.0	2.6
clinical	1.7	2.3
females	1.8	2.4
males	2.1	2.7
under-graduate	1.9	2.5
post-graduate	1.8	2.7
masters	2.5	3.3
doctorate	2.0	2.5

Themes from student survey

Positive factors / encouragers	Negative factors/ discouragers
Decent salary “lots and lots of money”	Insufficient salary
Better hours – more regular hours. Flexible workload/hours of work, more time for family (less hours over summer holidays)	Poorer hours – longer hours, time required for clinical career, additional work load, unrealistic expectations of time
Teaching – passing on knowledge, helping people to learn	Lack of job security
Because it is interesting/stimulating/variety/challenging	Lack of clinical contact with patients – not using skills learnt, no patient interaction, studying medicine to work with patients, competing loyalties...
Needs to be a field that they are interested in	Not enjoying working with researchers
Support for academics – facilities, research teams, funding, good supervisor	Necessity of doing research
Balance (academic and clinical) – a chance to do both	Student debt + fees going up – need to pay it all back.

A chance to do research – new research, expert in field, further medicine	Teaching (smaller number of people adverse to teaching)
Travel	Lack of support – especially poor research team, red tape, paperwork, university bureaucracy, lack of funding, having to do secretarial work
	Excessive amounts of time preparing for teaching – organising course etc
	Research pressure - PBRF
	Loneliness if had to work in lab on their own, lack of young researchers
	The triple jeopardy of teaching, research and clinical practice

Results from staff interviews

Demographics

	Overall	Research degree (MD/PhD)	No higher research degree	Strong links to basic scientists
Number (gender)	12 (11M/1F)	7 (7M)	5 (4M/1F)	4 (4M) all with higher degree
Average Age (years)	51	44	52	53
Average Length of Academic Service	12.4 years	13.3 years	14.8 years	15
Average Hours of Work	55 Hours per week	55 Hours per week	53 Hours per week	56 Hours per week
Average Time between graduating and publishing	8.0 years	6.6 years	10 years	6 years
Average Number of publications (papers)	40	59	12	90
Average length of publishing history	16.0 years	19.4 years	19.4 years	23 years

Themes from staff interviews

Who did you first get involved in academia? – a summary of the comments made:

Interest in research: 10/12 of the people interviewed had a clear interest in research which influenced their choice of career.

Mentor/role model – 6/12 of the people interviewed specifically mentioned one or more inspirational people who encouraged them to enter research

Clear career path – 5/12 people interviewed had what we called a clear career path to academic medicine. These staff members undertook a research based qualification with the aim of improving their career chances in academic medicine.

Needed a job – 2/12 of the people interviewed took an academic position because they wanted to work in Dunedin

Teaching – all had taught as registrars but 2/12 had a clear teaching lead into academia

The positives aspects of a career in academic medicine
Teaching “bright young people” “keeps you on your toes”
Academic medicine offers a respite from the demands of clinical medicine
Academia imposes a discipline of thought that benefits clinical practice
Academic medicine offers a variety of practice which surpasses both pure clinical practice and a solely research based career
Flexible hours of work
Academic medicine stimulates the mind – research in itself + attending conferences and being part of a worldwide research community
Proven research and teaching experience are “strings to the bow” when applying for new positions or securing “retirement” positions.
There is an element of altruism in academic medicine – a kind of champagne socialism which appeals to those who practice academic medicine
Academic medicine is “fun and enjoyable”. The majority of staff interviewed where not intending to change careers at this point.

The negative aspects about a career in academic medicine
The salary differential (and the teaching top up for full time clinicians)
Job sizing from the university – arduous teaching commitments can adversely effect research time. There is a lack of support staff for junior appointments – these staff are often trying to establish themselves as good clinical service providers as well as starting up a research programme. It seems the academic medics only have sufficient time to supervise projects or do “clinical research”.
“Clinical creep” – clinical duties are creeping death to research time. It is increasingly difficult for clinicians to protect university research time from DHB clinical overrun. This was especially evident in the medical subspecialties where the smaller teams are less “protected” from clinical overrun.
Having “two part time jobs” – maintaining competence. Academic medics do encounter problems maintaining clinical competence particularly in the “craft specialities”. The same can be said for their research programmes. Basically a significant personal sacrifice of time and energy is needed to maintain both clinical competence and a research programme.
Having “two part time jobs” – working for two organisations. Academic medics have two employers who have separate administrations and slightly different goals. Basically there is double the bureaucracy for example administrative meetings. Any significant changes to an individual’s situation for example hours of work must be authorised by two managers. The staff can be caught in the middle when the two organisations disagree on issues.
Lack of seed funding for junior research staff and for new programmes
Appling for research funding in general and grant applications in particular. Only 10-15% of grants are approved in NZ – these grants represent a large investment in time for research staff. The amount of work required to secure funding is a disincentive at all levels but particularly impacts junior staff that do not have a research track record.
Ethics committees – while most staff were in favour of ethics committees, a substantial number thought that ethics committees did not help to facilitate research “don’t seem to

help things happen.”

Performance based research funding (PBRF):

The advent of PBRF was surprisingly well received by academic staff at DSM. The general feeling was that PBRF would improve the focus towards research. As PBRF will quantify research effort, it also gives clinically overrun staff something to use in negotiations with DHB. It encourages the university to pay closer attention to its clinical appointees.

Recruitment and retention of junior academic staff:

An active research backbone – lead from the top and supported with some of things noted below.

The true teaching hospital – where all clinicians were involved in research and teaching. A work place where the ethos of the place is focused on scholarship was particularly encouraging to a number of prominent medical academics early career development.

Facilities - world class research requires world class facilities. Good facilities are an incentive to all staff.

Protected research time

Protected teaching development time

Easier access to funding, particularly seed funding. Continuity of funding for successful research groups.

Development of alternative funding streams like venture capital and pharmaceutical companies. Corporate monies can provide vitally needed continuity of funding for research programmes.

Remove or reduce the salary differential

Mentoring and role modelling – it was clear from the interviews that a significant proportion of the staff benefited from mentoring/role modelling. This was especially beneficial during their early academic careers.

A clear career path for medical academics – Leveraging of the existing BMed Sci and MB ChB/PhD programmes to educate students about a career in research. Encouraging the development of research skills in the undergraduate curriculum.

More funding for fellowships so that keen registrars can undertake higher research focused degrees.

College support for academic medicine. Flexible training schedule for registrars attempting to complete higher degrees. It could also include making academic medicine, a subspecialties within a discipline e.g. academic cardiology as a subspecialty.

Building and fostering networks – this includes better provisions for sabbaticals and conferences. It also includes using modern technology like video conferencing to create long distance research collaborations (especially within NZ).

Discussion

School demographics

There is evidence of significant workforce aging at Dunedin School of Medicine. A similar problem is evident through the Faculty of Medicine.

The actual extent of the problem is somewhat difficult to quantify as academics tend to be older at appointment than solely clinical appointments (due to longer training commitments). It would be useful to monitor this trend and compare the results in five years.

Comparing DSM to the general medical register there is significant difference in age banding with 29.4% difference in the over 50 years of age bracket. While an older workforce is not a significant problem in itself, there are ominous long term implications.

Working conditions

The 2004 Association of Salaried Medical Specialist contract has a number of conditions that are superior to the current University contract. Currently there is a massive financial disincentive to future medical academics (in the tens of thousands of dollars). Not only do medical academics get paid less, they also have less leave of all types and no guaranteed training allowance. (3, 13 & 14)

While the remuneration from the University is still excellent compared to the national average wage, it is sufficiently different to the non academic contract to create difficulties with recruitment.

Student survey

The results of the student survey indicated the following trends:

- 1 Students had a good idea of the average hours of work for medical academics. Female students thought that medical academics worked a lot longer than they actually do.
- 2 The students tended to underestimate the salary currently paid to an associate professor. The minimum salary for an Associate Professor is AAPMH01/AAPDH01 \$111,962 per annum. This salary fits into the range that students considered to be fair remuneration for the position.
- 3 In terms of the perceived difference between academic and clinical only appointments: the students were neutral to any difference in the average hours of work. However they did perceive a slightly negative salary differential for academics.

From the series of questions “with your current knowledge of academic which of the following would you consider a positive or negative driver to entering academic medicine?” (1 strongly encouraged - 5 strongly discouraged):

- 1 No one driver was strongly positive or strongly negative
- 2 Teaching students and intellectual stimulation were the most positive drivers
- 3 Chance to do research and collaboration with experts were slightly positive drivers
- 4 Fun, lifestyle and travel were essentially neutral drivers
- 5 Hours of work and salary were slightly negative drivers

Comparison of themes from student survey and staff interviews

Generally the students were well aware of the positives and negatives of an academic career. They highlighted the salary differential, hours of work/lifestyle as important factors. Interestingly they were concerned about support for researchers and research programmes. The students were also conscious of some of the difficulties of having two jobs.

There was a small group of students who were very research focused. These students had academic medicine as a career option. There was a much larger group whose attitude towards research was ambivalent but who were interested in teaching. These students seemed less sure about taking up a career in academic medicine.

Staff demographics

Points to consider:

- (1) The average age of the group was 51 years old
- (2) There was only 1 female (8.33% of survey) in the study. This actually reflects the demographics of DSM. However it is indicative of a problem with recruitment of females into academic medicine.
- (3) Those researchers who had undertaken higher research training were more effective in terms of published output
- (4) Those researchers with strong links to basic science groups were more effective in terms of published output
- (5) On average they worked more than 55 hours per week.

Entry to academia

The major factors in taking up a career in academic medicine were an interest in research. This was strongly assisted by having a clear career path and good role modelling/mentoring.

Literature review

The situation in other countries

The aging academic workforce and academic medicine in general is a topic of debate in the international journals. In March 2004 the BMJ publishing group began an international campaign to revitalise academic medicine. (38)

This campaign was started in response to dire survey results in the United Kingdom (UK).

A report to the combined heads of medical and dental schools showed that the numbers of medical academics has decreased by 500 in 3 years. More ominously the number of junior academics has also fallen – 30% decline in the number of clinical lecturers and a 17% decline in the number of clinical researchers at British medical and dental schools since 2000 (31 & 32). Some of reasons postulated for this decline are:

- competing pressures of service, research and teaching activities
- increased length of time to complete specialist training
- lack of exposure to academia within post-graduate training
- lack of flexibility in the post-graduate training programmes, including opportunities to train part-time
- lower financial rewards than in the National Health Service (33 & 34)

Worldwide there are reports of similar problems. In the USA, insufficient physician scientists being trained to supply demand. Moskowitz *et al* reports massive decreases in new investigators applying for grants (54% decrease) and warned that the nation may “lose a generation of clinical investigators”. (25)

The lack of junior staff means that many departments are faced with ageing faculties. For example, a quarter of faculty members in the department of medicine of the University of Toronto will be over 65 by 2011. (16)

Similarly, in Nigeria there has been trouble maintaining academic staffing levels. The spin off effect of this is that it has adversely affected institutions primary responsibility of teaching students and training young doctors. (26)

Despite declining numbers of academics, the number of medical students is increasing. For example the number of medical students in the UK has increased by 40% since the turn of century. To cope with the teaching burden of the extra students, medical teaching is being increasingly devolved to non academic clinicians (28).

Academic life in general

Academic life has changed significantly in the last 20 years. Universities are more cost driven and business orientated than ever before. Increasing student numbers create pressure on resourcing and have a negative impact on research time. Contractual benefits like tenure and sabbatical leave have been threatened by the ever increasing financial pressure facing institutions.

Liu *et al* report on the US situation where they found that, the number of tenured positions was decreasing. The number of staff hired on non tenure track pathways now

surpasses the percentage hired on tenure track. They also found that tenure did not always mean a full academic salary and that tenure arrangements were becoming more flexible. This may have implications on the retention of senior staff that traditionally had the reward of tenure for their long service to the institution. (19)

Kinman *et al* surveyed 1100 academic staff in the UK. They reported that academic staff have “consistently shown evidence of border line levels of psychological distress. Stress levels for academic and related staff are higher than for doctors, managers and other professional groups, as well as a sample of the population as a whole. And the impact of long hours and over work is spilling over into employees homes and family life”.

A significant number of those surveyed (47%) were seriously considering leaving academia. They cited the following reasons for changing careers: job insecurity, stress, work overload, excessive bureaucracy, few prospects for promotion and advancement in the sector, and poor work–life balance. The design of this study meant that it was skewed towards a negative result. Therefore its results should be interpreted with caution but it does present a worrying trend in academia. (17)

Women in academic medicine

The percentage of females in the medical profession has been steadily rising, particularly in the last twenty years. In Russia in 1990, 69% of doctors were women, and in the United Kingdom female doctors are expected to outnumber male doctors within 10 years. (31)

There are few female medical academics at DSM and again this trend is repeated elsewhere in the world. Looking at the data obtained in this study there are a number of explanations for the dearth of female medical academics. For a start the low numbers of females in the profession makes it hard for junior staff to find a female mentor (5). Careers in medical academia seem to be less accepting of time out for child bearing; for example the UK equivalent of PBRF makes no allowances for part time work or maternity leave when rating academics. Female medics often have an unconventional even “tortuous” path to academia. Many may decide to forgo academia for “safer” clinical positions. (2)

A number of studies show that women in academic medicine are disadvantaged compared to their male peers. Disadvantages include difficulty obtaining promotion and a “glass ceiling” situation where females are excluded from senior positions at medical schools (2, 5, 15, 31 &32). Reichenbach et al reports that “In the United States, women accounted for only 6% of medical school departmental chairs in 1998; in 1999, only six of 125 medical schools had female deans.” (31)

A British Medical Association report produced a number of recommendations for improving the numbers of woman in academic medicine. These recommendations included the following:

- Awareness of gender issues within the organisational structure needs to be raised in all faculties.

- A flexible career structure is vital to improving the recruitment and retention of doctors in academic medicine.
- Forms of assessment and accountability must be made more flexible in order to take into account part-time and flexible working arrangements and career breaks and measure output in terms of achievement, not hours worked.
- Accessibility to appropriate, objective mentors should be available to all medical academics.
- Medical schools and university departments must be made more accountable, particularly in relation to senior appointments. (15)

General practice medical academics

Although not specifically covered by this study it is worthwhile to comment on general practice (GP) academics. When compared to their hospital medicine colleagues, GP academics face a number of problems with their working situation. These include travelling time to their consulting rooms, having no junior staff to cover their commitments and a lower salary for their GP work. All of these factors conspire to make GP academia less appealing to prospective employees (29).

Infrastructure and funding

In addition to the staff, research requires high quality infrastructure to be successful. Research infrastructure includes research facilities, funding pathways, ethical oversight and support services. Medical research in particular tends to be expensive and requires ongoing capital to keep pace with technological advances. As medical research tends to involve living things there are additional regulatory requirements in to ensure that the public is not exposed to risk e.g. biohazard legislation and ethics committees.

The 2003 report to the Academy of Medical Sciences identified two areas of UK academic medicine that required immediate attention – experimental medicine and large scale clinical trials. The report found that there were a number of factors limiting this kind of research including:

- A lack of appropriate facilities and infrastructure
- A lack of appropriately trained clinical scientists and a career structure to support them
- Inadequate funding support for experimental medicine and all types of clinical trials
- A failure to utilize the opportunity provided by the NHS to generate high quality clinical data for such studies
- The increasingly complex and bureaucratic legal and ethical frameworks in the UK and EU (1)

These comments mirror some of the findings of the DSM interviews. It seems that it is increasingly difficult to initiate new areas of work at universities due to infrastructure

problems. Accessing funding and complying with regulations also require an inordinate amount of precious research time.

Encouraging medical students and junior staff to become medical academics

From the student survey it appears that Dunedin students are aware of the negative aspects of an academic career. In terms of positive aspects, only a small percentage of the students have been directly involved in research activities (those who undertake higher degrees or summer studentships). While most students can conceptualise what a medical academic does they have not actually experienced research activities for themselves. This is unusual for a medical discipline – all other branches of medicine ensure that students spend some time in their specialty e.g. All students go to theatre with the surgeons but none are seconded to an academic medicine run.

There is evidence that shows that early participation in research activity can be a positive driver for a career in research. The staff interviews in this study would certainly back this up with most entering academia via research activities. Other studies have shown positive results from including research into undergraduate and postgraduate curriculums (11, 20 & 41). These kind of encouraging results have led to some changes internationally. For example, in the UK, the advent of Modernising medical careers means that 2nd foundation year house surgeons (PGY2) will take part in a mandatory 3-4 months of research. (28)

Postgraduate medical colleges have also made attempts to introduce research into their fellowships programmes by including mandatory 3-6 month research projects. This may be useful but more time is required if registrars are to complete higher research degrees. Currently only one year of a PhD is counted as part of specialty training – this means that aspiring medical academics face a much longer training programme than their non academic peers (on average 10+ years of post graduate training).

In a report to the Academy of Royal Medical Colleges, competency based assessment and flexible training programmes are raised as a possible solution to shorten academic training programmes. (28)

The provision of good mentoring has been shown to enhance research activity. In the staff interviews 50% of those interviewed had benefited from assistance from a mentor or role model. Good mentoring has been shown to increase productivity, and begets future mentorship there by helping to foster a positive academic culture. (27 & 35)

Retention of existing staff

Lack of time for scholarly activity was one of the key complaints from the staff interviews. The staff have insufficient free time to up skill in scholarly areas. For example going on a teaching course may help a staff member become a more efficient

teacher thereby freeing time for research. A number of highly prestigious institutions worldwide have recognized the need for ongoing staff development. They have instigated programmes of faculty development in an attempt to rectify this problem.

These schools have used a variety of methods to improve the development of faculty and its staff. Bland et al report on their schools evidence based strategy to improve vitality (and research productivity). They used a faculty wide needs survey to provide data for planning. They found a number of things including

1. Disconnection between faculty vision and departments vision
2. Not enough time for scholarly activities particularly in clinical departments
3. Lack of collegial atmosphere and appreciation for work done

These survey results were taken into consideration for future planning. They noted that faculty productivity is a “social enterprise” and developed plans to address the problems listed.

Other schools have used academy programmes to enhance the academic skills of their staff. Academy’s for medical educators at Harvard Medical school and University of California Medical school have been successful in “reinvigorating the education mission” of the schools. These programmes are basically intense training, support and mentoring for selected staff. They found that this improves teaching focus of school as well as the individual teacher’s skills. (9 & 39)

In academic institutions where financial incentives are limited, these programmes give staff positive feedback on the value of their work. Improving the morale and ethos of an institution remains a cost effective means of retaining staff.

Conclusion

Medical students at the DSM are aware of potential careers in academic medicine. They have realistic views of academic working conditions. They are perceptive of both the positive and negative aspects of a career in academic medicine.

However, students at DSM have very limited exposure to research activities especially laboratory and clinical studies. Early positive exposure to research activities would help to improve student attitudes to academic medicine.

Those interested students still face significant barriers to entry into academic medicine. The qualifications required for an academic career are over and above the requirements for clinical speciality. This makes the required training programme one of the most arduous in existence. During an academic training programme a registrar can expect a second period of relative poverty while completing a doctoral level degree. This is a discouraging signal to talented people – although some might say it is preparing them for what lies ahead.

Improving the recruitment and retention of academic medics will require changes similar to those purposed for the rural general practitioners. The changes include improving remuneration, providing positive working environment/conditions, and increasing access to mentors. Additional thought must be given to means of enticing women and minorities into academic medicine.

The difficulties with recruitment and retention of academic staff are not insurmountable. However they do reach across a number of organisation's regulatory domains – the government, the universities, the district health boards, the medical council and the medical colleges. At present there is no evidence of national workforce planning for medical academics in NZ. The danger is that staffing will reach crisis point before something is done.

In other countries a co-ordinated effort to promote and revitalise academic medicine is under way – it would be timely for New Zealand to join in.

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Appendix One: Staff interview schedule.

Interview staff

Plan: Construct a 20-30 minute focused interview with staff

Definition of academic medicine for this study is a registered medical practitioner who is involved in teaching, research and clinical work.

First four to be worked out prior to interview.

- 1 Demographics
- 2 Working conditions
- 3 Length of academic service
- 4 Qualifications and training

5 How did you first get involved in academia? – Was there anything in particular that encouraged you to take up a career in academic medicine?

Note: check mentoring, clear career path, good luck or by accident

6 What are the positive drivers/highpoints? – what makes you come to work every day

7 What are the negative drivers/low points? – Is there anything that makes you consider changing the focus of your career?

Note: check effect of PBRF

8 As an academic, how do you find the work life balance compares to your colleagues who are clinical only appointments? (this question can be missed if running short of time)

9 Could you suggest ways of improving the recruitment of junior academic staff.
Note: check mentoring and clear career path

Appendix Two: Student Email Questionnaire.

The Student questionnaire - Email preamble.

Dear Colleague,

As part of a Medical Council of New Zealand summer studentship, I am investigating student attitudes to careers in academic medicine. I need your help to complete this study – it would be really helpful if you could complete the attached email survey and send it back to me.

Just “reply” to this email and then fill in the questionnaire as part of the “reply” – either highlight and bold the answer that you prefer or type the answer at the end of each line. There is a \$50 book voucher up for grabs, for those who reply before January 1st. A reply will be selected at random and that person will receive a UBS book voucher when school restarts.

Other information:

For the purposes of this study I have defined an academic medicine practitioner as “a registered medical doctor who is involved in teaching, research and clinical practice”. This includes the joint hospital/DHB appointments, General practice academics and clinical lecturers.

Student questionnaire

Demographics

Age <18 18-21 22-25 26-29 30-34 34+

Gender Male Female

Ethnicity Please specify:

Current year of study 2nd 3rd 4th 5th TI

Level of current education Undergraduate (MBChB) Postgraduate
(Other degree)
Masters Doctorate

Impressions of current academic medical staff (define the level of staff as Associate professor in charge of a run)

How many hours/week do you think that a full time academic associate professor usually works (including teaching, research and their clinical responsibilities)?

<40 40-50 51-60 61-70 71-80 81-90 90+

How does this compare to a full time non academic consultant in the same speciality (i.e. no teaching or research)?

A lot more work 1 2 3 4 5 A lot less work

What remuneration would you consider fair for a full time associate professor position? (\$NZ)

<60K 61-80K 81-100K 100-120K 120-140K 140K+

What remuneration do you think they receive at present?

<60K 61-80K 81-100K 100-120K 120-140K 140K+

How does the above remuneration compare to the remuneration for a full time non academic consultant in the same speciality?

A lot more money 1 2 3 4 5 A lot less money

With your current knowledge of academia which of the following would you consider a positive or negative driver to entering academic medicine? (Please circle the appropriate number)

Driver: Strongly Positive	1	2	3	4	5	Strongly Negative.
Chance to do research	1	2	3	4	5	
Salary	1	2	3	4	5	
Teaching students		1	2	3	4	5
Life style in general	1	2	3	4	5	
Hours of work	1	2	3	4	5	
Travel	1	2	3	4	5	
Collaborating with experts	1	2	3	4	5	
Kudos/Public recognition		1	2	3	4	5
Being an expert in a field		1	2	3	4	5
Intellectual stimulation		1	2	3	4	5
Academia would be fun		1	2	3	4	5

What would encourage you to consider academic medicine as a career?

What would discourage you?

Comments