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Welcome to the RNZCGP digest. The digest contains a selection of recent New Zealand and overseas journal articles and other publications that might be of interest to general practice and to those working in the primary care sector. Some of the articles are available in full at the links provided. Others require an online subscription.

Health workforce

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Overcoming negative perceptions among Australian medical students about a career in general practice

Authors: Townsend D, Campbell N, Chandler C.

This perspective focuses on addressing the problem of negative perceptions of general practice among medical students in Australia. The authors discuss General Practice Students Network (GPSN) clubs, which were developed to reverse the negativity. The clubs exist in each Australian medical school and are run by student volunteers who organise educational events to promote general practice to medical students. The events include talks from local GPs, career networking nights and clinical skills workshops.

Between 2007 and 2016, the membership of the GPSN grew from 121 to 14,199 student members. This led to the addition of two programmes:

- Going Places Network (GPN), which promotes general practice to prevocational doctors, and
- John Murtagh First Wave Scholarship, a programme that provides placements in general practice for preclinical medical students.

The GPSN, GPN and John Murtagh First Wave Scholarship together are known as GP First, a pipeline that promotes

general practice from the first day of medical school until the commencement of specialty training.

The authors point to the increase in the number of applications for the Australian General Practice Training (AGPT) Program. In 2005, 24.4% of the 1503 medical students who had graduated the previous year applied for the AGPT Program. This compares to 41.3% of the 3441 students in 2014.

Since the inception of the GPSN programme, medical students' perception of general practice has significantly improved. From 2010 to 2013, the proportion of graduates identifying general practice as their top choice for future medical specialty increased from 12.3% to 17%, placing general practice at the top of the list in 2013. The authors conclude that Australia has reversed the downward trend in GP training numbers seen around world, with the demand for places now exceeding supply.

Reference: Med J Aust. 2017 Mar 6;206(4):149–150.
doi: 10.5694/mja16.00454

Rural practice



Solving Australia's rural medical workforce shortage

FREE

Authors: McGrail M, O'Sullivan B, Russell D, et al

This Centre for Research Excellence in Medical Workforce Dynamics' *Policy Brief* presents evidence from the Medicine in Australia: Balancing Employment and Life (MABEL) survey in relation to supporting the rural medical workforce in Australia. MABEL is Australia's national longitudinal survey of doctors and has collected data on doctors since 2008. Nearly 20,000 doctors are followed up every year.

The authors outline some of the findings from the MABEL survey:

- Proportionally fewer recent medical graduates are training and practising as GPs (30–35% of the 1990s and 2000s cohorts versus 50% of the 1970s and 1980s cohorts).
- GP vocational training of Australian-trained doctors in rural settings is associated with subsequent rural practice that is sustained for at least five years.
- Despite the financial incentives offered, 65% of GPs would not move location.
- For the 'average' GP to consider taking up the least attractive rural jobs (which involve longer working hours, frequent on-call, working in small inland communities with limited social interactions and difficulty getting locums), a financial incentive of around 130% of current annual earnings is required (ie \$237,000 per year in 2013), which is much higher than existing financial incentives.
- Higher GP mobility is independently associated with younger age, working in a location for less than three years, being an overseas-trained doctor, and working as a salaried or contracted employee.

- Retention is higher amongst rural GPs who are principals or associates of a practice, undertake hospital or procedural work and work in less remote locations.
- Rural GPs prefer good locum-relief support programmes to financial loadings to improve retention.
- Australia's rural doctors generally work more hours and do more on-call work than metropolitan doctors, but most are very satisfied with their work.
- Hours of work are substantially longer for GPs in smaller rural towns and for procedural GPs, primarily because of the need for additional work in public hospitals.
- The on-call burden substantially increases with decreasing population size.
- Rurally mandated, overseas-trained GPs are substantially less satisfied than non-mandated GPs.

The authors identify the goals of policy as being to:

- continue to select medical students with rural backgrounds and facilitate rural immersion options in undergraduate training.
- enhance the number of trainees in general practice and other relevant generalist specialties to increase their uptake of rural practice as a career.
- ensure more vocational training is undertaken in rural settings.
- further develop workforce capacity, including accessible locum support and professional development.
- increase the ability for rural doctors to continue practising and to undertake advanced skills training, which specifically meets community and practitioner needs.
- target financial incentives more carefully according to a town's population size, geographical remoteness and local need.

The authors conclude that their research provides a rationale for the government's support of rural immersion to attract students into rural generalist careers, increasing the availability of regional vocational training and enhancing rural generalist training pathways. Moreover, there is a strong need for greater support to help mitigate heavy workloads and improve professional development opportunities in rural settings.

Reference: Centre for Research Excellence in Medical Workforce Dynamics. Policy Brief. Issue 3, 2017.

Rural practice

**The proposal for a third medical school in New Zealand: a community-engaged graduate entry medical program**

Authors: Lawrenson R, Town I, Strasser R, et al.

The authors discuss the proposal submitted to the government by the University of Waikato, in partnership with the Waikato District Health Board, to set up a community-engaged medical programme. The proposal aims to help address critical medical workforce issues in provincial and rural communities. The proposed third medical school has a new model of medical training and academic culture to complement the existing programmes and would help to produce New Zealand-trained doctors who serve underserved communities.

The authors explain that community-engaged medical programmes improve medical education, meet community needs and advance health equity agendas. Consultation on community needs and on programme development are essential to the foundation of the medical school. Other components of the programme include investment in training centres in each community, community involvement in student selection, curriculum development, and ongoing involvement in its governance to ensure the programme meets community needs.

The authors argue that a more intensive four-year graduate entry programme could easily achieve the same exposure to teaching, but in less training time. The proposed medical school will select students who have demonstrated high levels of academic achievement in an undergraduate degree and who are predominantly from the communities where doctors are required, in line with evidence that recruiting rural students will help to retain doctors in rural areas. The

programme will seek students who demonstrate a strong commitment to the ethos of a community-engaged medical school, to public and community service and to reducing health inequities. Each student will spend at least one year in community placements. The proposal involves supervisory capability in 15 community education centres in the Midland region.

The authors explain that postgraduate training will also need to adjust, with appropriate incentives to retain doctors in less popular medical specialties and locations. Costs in developing the longitudinal placements can be seen as a social investment, which has an immediate positive impact on the communities involved.

Reference: N Z Med J. 2017 April 7;130(1453):63–70.

**Does New Zealand need a third medical school?**

Author: Crampton P.

In this editorial, the author says the discussion about a third medical school should be in the national interest: “What investment is needed to meet the medical workforce requirements of New Zealand’s diverse rural and urban communities now and in the future?” He notes the increase in medical school places over the past eight years, which will reach ‘steady state’ in 2020. Further, that the regulatory framework for New Zealand’s medical schools dictates that graduates must be equipped to take up any branch of medicine, with a positive value placed on ensuring all doctors have a broad general training experience.

The author poses five questions to guide decision making on a third medical school:

1. What are the medical workforce needs regarding numbers of doctors and the distribution, demography and discipline of the medical workforce?
2. To what extent are the medical workforce needs under the control of medical schools and medical education? For example, medical schools control student selection, curriculum and assessment.
3. To what extent are the needs related to postgraduate training and support? For example, the training pipeline from undergraduate to vocational specialisation.
4. For those medical workforce needs controlled by medical schools, to what extent are they being addressed already and to what extent would another medical school help?
5. What problems might another medical school cause or make worse? For example, recruitment of medical academic staff, redistribution of training opportunities, and additional pressure on the postgraduate training pipeline.

Rural practice

The author considers the policy instruments that are effective in addressing rural medical workforce issues. The system-wide issues relating to rural recruitment and retention are important. Regardless of the effectiveness of medical education, employment conditions in rural areas need to be attractive to graduates, and these issues are mainly the responsibility of the Ministry of Health, the DHBs, PHOs, iwi and rural communities. The second issue considered is the international evidence on training medical students who actively choose to take up rural careers. In response to this evidence, both Otago and Auckland medical schools have implemented policies, which include recruiting students with a rural background and providing students with positive and enriching learning experiences in rural settings.

The author concludes that the system must firstly define the problem the investment is aiming to address. If it is determined that current medical students need more rural exposure during their training, then investment in rural infrastructure and support is needed. Alternatively, if we need more graduates to select general practice as their career, then further investment in system-wide rural infrastructure may be required. He concludes that without careful analysis and planning, there is considerable potential to inflict net harm on the fragile and stressed health system by adding a third medical school.

Reference: N Z Med J. 2017 April 7;130(1453):11–16.

Comment: We acknowledge College President Dr Tim Malloy has had conversations with backers of both the Waikato and Otago–Auckland rural medical school proposals. The College strongly advocates for mechanisms to address the shortage of health professionals in rural areas, and is prepared to work with both options.

Proposed Waikato med school faces challenge from Otago and Auckland in *Stuff* (2017 March 21).

Education



FREE

Teaching rational prescribing to general practice registrars: A guide for supervisors

Author: Morgan, S.

The author discusses strategies for general practice supervisors when teaching registrars about rational prescribing. Specific teaching on medicines prescribing has been shown to lead to improvements in prescribing competency and to reduce medication errors.

The article notes the potential harms of prescribing – economic waste from inappropriate use of medicines, antimicrobial resistance, adverse events from medicines, and the ‘prescribing cascade’, which can lead to a greater risk of complications and patient harm. Under Australia’s National Medicines Policy, quality use of medicines is defined as the use of medicines that is:

- **judicious** (selecting management options wisely)
- **appropriate** (choosing suitable medicines only if a medicine is considered necessary)
- **safe** (using medicines safely and effectively to get the best possible results)
- **efficacious** (choosing medicines that benefit the patient).

The author says teaching rational prescribing should be patient-centred and incorporate an approach to managing uncertainty. Patient-centred practice has been associated with prescribing fewer medications, and registrars need to identify patients’ concerns and expectations. Prescribing as a ‘test of treatment’ is particularly common in undifferentiated presentations, where response to treatment helps refute or confirm a working diagnosis.

The author advocates role modelling quality prescribing and using guidelines, which strongly influence registrar behaviour. He refers to a set of principles to guide training for prescribing that include:

- scheduled time to reflect on prescribing, with appropriate feedback
- supervision that allows registrars to discuss problems and seek advice
- feedback on identified prescribing errors in a blame-free learning environment.

Specific approaches to teaching rational prescribing include random case analysis, audit and feedback of prescribing practice, topic tutorials and the use of specific prescribing resources.

Reference: Aust Fam Physician. 2017 Mar;46(3):160–164.

Clinical issues

**Addiction to exercise****Authors:** Hausenblas HA, Schreiber K, Smoliga JM.

While 'exercise addiction' is not officially classified as a mental health disorder, it has similar effects on emotional and social health as other addictions. Primary exercise addiction is experienced as a loss of control, whereby exercise becomes an obligation and excessive. It differs from 'secondary exercise addiction', which is seen in people with eating disorders where excessive exercise is used to control weight.

Currently, diagnosis of exercise addiction is based on clinical judgment. The current lack of sustained and rigorous research has meant diagnostic criteria are not well defined or validated. Thus, it is difficult to measure overall prevalence. Existing studies identify a positive relationship between exercise addiction and other behavioural addictions (eg shopping). There is also an increased risk in those who identify as an exerciser with low self-esteem and those with tendencies for anxiety, impulsiveness and extroversion.

Exercise-addicted patients may report overuse injuries, anaemia, amenorrhoea or other endocrine, metabolic or immune dysfunction. They can continue to exercise to their physical, social and occupational detriment and report withdrawal effects when their schedule is disrupted. The authors note that exercise addiction should not be confused with a high level of commitment to physical activity or a healthy habit, where intrinsic desire to exercise is under control.

The authors say that treatment is similar to that for other behaviour addictions, although limited literature exists. Treatment might include cognitive behavioural

therapy, discussing the risks and appropriate amounts of exercise, setting SMART goals (specific, measurable, achievable, results-focused and timely), working with fitness professional and psychotherapists, and – for professional athletes – explaining the impact of fatigue from exercise on performance. The authors stress the need to identify exercise addiction early and to manage promptly before compulsive exercise leads to an eating disorder or physical pathologies.

Reference: BMJ. 2017;357:j1745. doi: <https://doi.org/10.1136/bmj.j1745>

FREE

Long term gluten consumption in adults without celiac disease and risk of coronary heart disease: prospective cohort study**Authors:** Lebwohl B, Cao Y, Zong G, et al.

The avoidance of dietary gluten in people without coeliac disease has increased in recent years, in part because of the belief that gluten can have harmful health effects. This US study looked at the association between the long-term intake of gluten and the development of incident coronary heart disease. This prospective cohort study involved 64,714 women in the Nurses' Health Study (female nurses from 11 US states enrolled in 1976) and 45,303 men in the Health Professionals Follow-up Study (health professionals from 50 US states enrolled in 1976). The participants had no history of coronary heart disease and completed a 131-item semi-quantitative food frequency questionnaire in 1986, which was updated every four years through to 2010. The consumption of gluten was estimated from food frequency questionnaires.

During 26 years of follow-up encompassing 2,273,931 person years, 2431 women and 4098 men developed coronary heart disease. The participants in the highest fifth of gluten intake had an incidence rate of coronary heart disease of 277 events per 100,000 person years. This compared with those in the lowest fifth of gluten intake, who had a rate of 352 per 100,000 person years. Therefore, there was an unadjusted rate difference of 75 (95% confidence interval 51 to 98) fewer cases of coronary heart disease per 100,000 person years. The consumption of foods containing gluten was not significantly associated with risk of coronary heart disease.

Clinical issues

After adjusting for known risk factors, participants in the highest fifth of gluten intake had a multivariable hazard ratio for coronary heart disease of 0.95 (95% confidence interval 0.88–1.02; $P=0.29$ for trend). Following an additional adjustment for the intake of whole grains, the multivariate hazard ratio was 1.00 (0.92–1.09; $P=0.77$ for trend). In contrast, after additional adjustment for intake of refined grains, the estimated gluten consumption was associated with a lower risk of coronary heart disease (multivariate hazard ratio 0.85, 0.77–0.93; $P=0.002$ for trend).

The researchers conclude that the findings do not support the promotion of a gluten-restricted diet aimed at reducing coronary heart disease. Moreover, the avoidance of gluten may result in a low intake of whole grains, which are associated with cardiovascular benefits.

Reference: BMJ. 2017 May 2;357:j1892. doi: 10.1136/bmj.j1892

Medicines



Short term use of oral corticosteroids and related harms among adults in the United States: population based cohort study

Authors: Waljee AK, Rogers MAM, Lin P, et al.

Short courses of oral corticosteroids are often used to treat inflammatory conditions, but little is known about prescribing patterns and their potential harm. This US study looked at the overall use of short-term use (defined as less than 30 days) of oral corticosteroids in a general outpatient population and three associated potential risks (ie sepsis, venous thromboembolism and fractures). This was a retrospective cohort study and self-controlled case series using a nationwide dataset of private insurance claims. The participants were adults (aged 18–64 years) who were continuously enrolled from 2012 to 2014.

The researchers found that of 1,548,945 adults, 327,452 (21.1%) received at least one outpatient prescription for short-term use of oral corticosteroids over the three-year period.

The mean age for users was 45.5 years (SD 11.6) compared with 44.1 years (SD 12.2) for non-users ($P<0.001$). Among users, the median number of days of use was six (interquartile range 6–12 days) with 47.4% ($n=155,171$) receiving treatment for seven or more days.

Use was more frequent among older patients, women, and white adults, with significant regional variation (all $P<0.001$). The most common indications were upper respiratory tract infections, spinal conditions and allergies.

Within 30 days of starting treatment, the incidence of acute adverse events increased. There was an increase in

rates of sepsis (incidence rate ratio 5.30; 95% confidence interval 3.80–7.41), venous thromboembolism (3.33; 2.78–3.99), and fracture (1.87; 1.69–2.07). This increased risk persisted at prednisone-equivalent doses of less than 20 mg/day (incidence rate ratio 4.02 for sepsis, 3.61 for venous thromboembolism, and 1.83 for fracture; all $P<0.001$).

The authors conclude there is a need for greater attention to prescribing these medicines and that monitoring for adverse events may potentially improve patient safety.

Reference: BMJ. 2017 Apr 12;357:j1415. doi: <https://doi.org/10.1136/bmj.j1415> (Published 12 April 2017)

Professional practice and development



Countering cognitive biases in minimising low value care

Authors: Scott IA, Soon J, Elshaug AG, et al.

The authors of this narrative review argue that while intuitive decision making can be accurate and efficient, it is vulnerable to various cognitive biases. They discuss cognitive biases that predispose clinician decision-making to low value care. The research is based on a review of PubMed listings of original articles from 1990 to 2015 related to cognitive bias in clinical decision-making.

The authors note some of the most frequently encountered biases:

- **Commission bias:** Clinicians have a strong desire to avoid a sense of regret (or loss) from not administering an intervention that could have benefited at least a few recipients (omission regret).
- **Attribution bias:** Observations of favourable outcomes attributed to an intervention may lead to undue confidence in its effectiveness, eg surgery for back pain.
- **Impact bias, affect bias and framing effects:** There is a tendency to overestimate the benefits and underestimate the harms of interventions (impact bias). Initially favourable impressions of an intervention may evoke feelings of attachment and judgments of high benefits, despite clear evidence to the contrary (affect bias). Benefits and harms are often framed as more appealing relative measures (framing effects).
- **Availability bias:** Emotionally charged and vivid cases can unduly inflate estimates of the likelihood of the same scenario being repeated.

- **Ambiguity bias:** More investigations and treatments reflect an elusive search for diagnostic or therapeutic certainty.
- **Representativeness bias:** Evidence of intervention benefit in a sample may encourage clinicians to expect similar effects among a wider spectrum of patients.
- **Endowment effects and default bias:** A greater than otherwise value is placed on a longstanding form of care that will be withdrawn.
- **Sunken cost bias:** Persistence with low value care because considerable time, effort, resources and training have already been invested.

The following are some of the strategies suggested to mitigate cognitive biases:

- Cognitive huddles and autopsies: Case studies of low value care (eg identified through audits) could be presented within a closed group (or huddle) of colleagues.
- Narratives of patient harm.
- Value of care considerations in clinical assessments: Conscious consideration should be given to adding a value statement detailing the perceived benefits, harms and costs of what is being planned.
- Defining acceptable levels of risk of adverse outcomes if the intervention is to be withheld.
- Providing alternatives of higher value may mitigate endowment effects and sunken cost bias.
- Reflective practice and role modelling; for example, asking, "How would the test result change the management?"
- Nudge strategies and default options: These strategies influence decision making by shaping behaviour without deliberately asking clinicians to identify and reflect on the role of bias.

- Exposure to high value care.
- Shared decision-making: Most informed patients are unlikely to consent to low value care.
- Fitting cognitive debiasing with traditional knowledge translation: For example, survey data suggests that clinicians see the key requirements of Choosing Wisely initiatives as being not just an information source, but a means of helping them deal with decisional uncertainty, patient expectations, drives for efficiency and throughput, malpractice concerns and other drivers of overuse.

The authors believe the biases need to be understood and addressed if campaigns such as Choosing Wisely are to achieve their full potential.

Reference: Med J Aust. 2017 May 15;206(9):407–411.
doi:10.5694/mja16.00999

Health care systems



Minding the gap: Factors associated with primary care coordination of adults in 11 countries

FREE

Authors: Penm J, MadKinn NJ, Strakowski SM, et al.

This study looked at gaps in the coordination of primary care in the United States and other high-income countries by an analysis of the Commonwealth Fund International Health Policy survey using multivariate logistic regression analysis. The respondents were adult primary care patients from 11 countries – Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, United Kingdom and the United States. Questions focused on the experience of respondents over the previous two years in relation to availability of test results and medical records, conflicting information, unnecessary medical tests, and with their specialists. Poor primary care coordination was defined as a report of at least three out of five gaps.

Findings were based on 13,958 respondents. Collectively, one-third of respondents experienced at least one gap in the coordination of care. The rate of poor primary care coordination overall was 5.2% (724/13,958 respondents). The highest rate was in the United States at 9.8% (137/1395 respondents). The rate in New Zealand was 3.8% (27/715). For all respondents, poor primary care coordination was less likely if their primary care doctor often or always knew their medical history, spent sufficient time, involved them, and explained things well (OR=0.6 for each). Poor primary care coordination was more likely to occur among patients with chronic conditions (OR=1.4–2.1 depending on number) and patients younger than 65 years (OR=1.6–2.3 depending on age group).

More than 5% of patients from the United States, France, Germany and Switzerland reported having poor care coordination. In contrast, for the remaining countries, where it is not possible to visit a specialist without a referral from a primary care physician, less than 5% of respondents reported

having poor primary care coordination. The authors say that the gatekeeping role appears to improve care coordination as health care systems become increasingly fragmented. The authors conclude that having an established relationship with a primary care physician is significantly associated with better care coordination; being chronically ill or younger is associated with poorer care coordination.

Reference: Ann Fam Med. 2017 March;15(2):113–119. doi: 10.1370/afm.2028



Time spent reading the RNZCGP Digest has been approved for CME for The Royal New Zealand College of General Practitioners' General Practice Educational Programme (GPEP) Years 2 and 3 and Maintenance of Professional Standards (CPD/MOPS) provided that a Learning Reflection Form is completed. Please click [here](#) to download a CPD/MOPS Learning Reflection Form. One form per Digest is required.

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We welcome your comments or suggestions. Please contact the College's Policy Team at policy@rnzcgp.org.nz

The Royal New Zealand College of General Practitioners is the professional body that provides training and ongoing professional development for general practitioners and rural hospital generalists, and sets standards for general practice.

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