

Financial viability, benefits and challenges of employing a nurse practitioner in general practice

Christopher Helms^{1,2} RN, NP, MSN, ANP-BC, FACNP, Nurse Practitioner

Jo Crookes¹ BMed, FRACGP, Medical Director

David Bailey¹ Dip PM, FAAPM, JP, CEO

¹National Health Co-op, 20 Cartwright Street, Charnwood, ACT 2615, Australia.

Email: medicaldirector@nhc.coop; ceo@nhc.coop

²Corresponding author. Email: chelms@nhc.coop

Abstract. This case study examines the financial viability, benefits and challenges of employing a primary healthcare (PHC) nurse practitioner (NP) in a bulk-billing healthcare cooperative in the Australian Capital Territory. There are few empirical case reports in the Australian literature that demonstrate financial sustainability of this type of healthcare professional in primary healthcare. This case study demonstrates that the costs of employing a PHC-NP in general practice are offset by direct and indirect Medicare billings generated by the PHC-NP, resulting in a cost-neutral healthcare practitioner. The success of this model relies on bidirectional collaborative working relationships amongst general practitioners and NPs. PHC-NPs should have a generalist scope of practice and specialist expertise in order to maximise their utility within the general practice environment.

What is known about the topic? NPs represent a growing workforce of highly trained and educated advanced practice nurses that aims to improve access to timely and affordable healthcare for underserved populations. Recent legislation has allowed for greater exploration of innovative models of care using NPs in Australian primary healthcare.

What does this paper add? This case study provides practical information on the financial and logistical implications of employing an NP in a bulk-billing general practice. It demonstrates the broad capability of this workforce in Australian primary healthcare, and gives an overview of the facilitators and barriers to their use in private practice.

What are the implications for practitioners? Employment of a PHC NP in general practice requires careful consideration of the direct and indirect benefits associated with the complimentary care they offer. NP access to the Medicare Benefits Schedule is severely restricted, which impairs their ability to achieve a full scope of practice and may contribute to increased health system costs and inefficiencies. There are opportunities for integration and facilitation of this emerging role in general practice with existing nursing workforce. Further research into this evolving area would be of benefit.

Received 4 December 2013, accepted 29 October 2014, published online 22 December 2014

Introduction

Nurse practitioners (NP) belong to a group of healthcare professionals who have been widely researched to examine their credibility, efficacy and utilisation in diverse healthcare settings internationally.^{1–7} Since the profession's birth in the USA in the 1960s, its model has extended to ~70 countries worldwide, including the United Kingdom, Canada, New Zealand and Australia.⁸ The profession's aim is to improve access to treatment, provide cost-effective care, target at-risk populations, provide outreach services to rural and remote communities and provide clinical mentorship and expertise.⁹

The first two NP were authorised in New South Wales in 2000 and numbers have grown steadily. The latest figures from July 2014 registration data collected by the Australian Health Practitioner Regulation Agency reveal that there are 1087 NP

endorsed throughout Australia.¹⁰ The 2012 Australian College of Nurse Practitioners national member survey showed that NP working in Australia are practicing in diverse settings and speciality areas, ranging from emergency departments (30%) to general practice environments (8%), with the majority (71%) working solely for the public sector. When asked whether they would be opening their own private healthcare-related business in the next 5 years, 15% of NP responded in the affirmative.¹¹

Given the above information and the Australian Government emphasis on building a safe, sustainable, efficient and efficacious primary healthcare workforce that meets the requirements of all communities,^{12,13} NP are beginning to transition to general practice to meet health system demands. On 1 November 2010, it became possible for Australian NP to access the Medicare Benefits Schedule (MBS) and Pharmaceutical Benefits Scheme

(PBS) as autonomous and collaborative healthcare providers.¹⁴ Not only did this legislation make financially sustainable private-sector practice more achievable, but it allowed healthcare consumers to seek MBS- and PBS-subsidised care from an NP without financial penalty. These factors, along with government-funded initiatives looking at alternative models of NP-directed healthcare provision in the aged-care sector,¹⁵ have further bolstered NP expansion into private practice. Data from the Australian Medicare Statistics website demonstrates that MBS-billable items by NP are increasing each financial year, especially in Western Australia and Queensland,¹⁶ where policy and legislation have facilitated alternative NP business-practice models.^{17–19}

Despite these factors, growth in private general practice by NP has been slow and has not met all expectations.^{20,21} Central to this issue is national debate about the financial viability of collaborative NP models in private practice.^{22–26} There are many reasons for this, which primarily revolve around the inability of NP and medical practitioner to establish functional, bidirectional, collaborative arrangements²⁷ and the favouring of traditional hierarchical paradigms, as opposed to team-care environments, which share the financial and logistical burdens of care provision.²⁸ Anecdotal evidence from online forums, panel interviews and presentations at national conferences that cater to NP interests have revealed NP fears of leaving longstanding financially secure and senior public-sector positions, difficulties with practice start-up costs *v.* cost recovery, and a perceived inability to translate public-sector speciality practice into private-sector generalist practice environments.^{29–31} This may suggest a lack of understanding of how to translate theoretical NP business models into real-world practice.

The purpose of this case study is to further illustrate the real-world translation of one of the theoretical NP business models presented in discussion papers published by the Australian Medicare Local Alliance.^{18,32} There is a distinct paucity of empirical evidence in the Australian literature that demonstrates the financial implications of NP working in private general practice.

Objectives

This case study has the following aims: (1) to present the financial implications of engaging a primary healthcare (PHC)-NP as an employee in a general practice environment in the Australian Capital Territory (ACT); and (2) to illustrate some benefits and challenges of engaging a PHC-NP.

Methods

Setting

This case study took place at a single primary healthcare practice in the ACT. This is a large general practice that operates five different sites throughout the ACT under a health cooperative (co-op) model. Member-owned health co-ops based in general practices are a relatively new phenomenon in Australia, and few exist.³³ At the time this case study was performed, there was only one health co-op in Australia who had employed an NP. Currently, there are 20 general practitioners (GP), three psychologists, one dietitian, one physiotherapist, five nurses and two NP (one of whom also works as a diabetes educator) working

for the co-op. Under this model, healthcare consumers are charged a nominal annual fee (ranging from \$17.50 for a single healthcare card holder to \$70 for a family with no healthcare card) to become member-owners of the co-op. Once a member-owner of the co-op, all MBS-rebateable items are bulk-billed thereafter.³⁴ From August 2012 to July 2013, when this case study was conducted, this practice had 18 700 patients in its registration system, which equated to ~4.97% of the ACT population.³⁵ This practice targets socioeconomically, culturally and linguistically diverse clients, many of whom are disenfranchised with the healthcare system or are financially reliant on bulk-billed health care.

In January 2011 the practice hired a part-time PHC-NP, who became a full-time employee in March 2011. During the initial months of his employment, the Australian Medicare Local Alliance published a booklet on the benefits of hiring NP in primary-care environments, featuring a case study highlighting the PHC-NP role within the health co-op model. Several themes emerged from this booklet, including opportunities and benefits, employment *v.* contracting arrangements and other considerations necessary for appropriate service planning.³² This case study is an extension of the information presented within that booklet and provides a financial analysis of the PHC-NP role.

Participant

The primary subject for this case study was an expert PHC-NP with 10 years' experience working as an NP across primary- to tertiary-care environments. He received his formal training as an NP in the USA and provides mentorship for NP and NP students based in Australia. His extensive experience affords him a broad scope of practice. He sees all clients aged 2 years and older. His case load emphasises primary prevention through lifestyle modification interventions targeting obesity and the management of chronic diseases seen in general practice (such as hypertension, dyslipidaemia, diabetes and chronic obstructive pulmonary disease). His scope also includes minor illnesses and injuries (such as acute dermatoses, genitourinary and respiratory tract infections, and musculoskeletal injuries). He independently performs minor surgical procedures such as punch biopsies, toenail excisions and skin lesion excisions, as well as performing and interpreting electrocardiographs, ambulatory blood pressure monitoring and spirometry.

The PHC-NP works in collaboration with all 20 GP within the practice and has one primary mentor, the co-op medical director. NP working in private practice who access MBS- and PBS-subsidised services for their clients require a collaborative arrangement with a participating medical practitioner.³⁶ There are various ways to demonstrate a collaborative arrangement,³⁷ with his fulfilled by virtue of the fact that he is an employee of an organisation that employs GP. This collaborative arrangement is based on preference, rapport and functional working relationships echoed by all health professionals working for the co-op, which are built on trust, mutual respect and a thorough understanding of the PHC-NP and GP roles.

The PHC-NP has his own caseload but also receives referrals from GP, nursing and allied health team members within the co-op, for the opinion and management of complex cardiovascular conditions and lifestyle modification interventions, as this is his area of primary expertise and interest.

Twice yearly the PHC-NP, along with the co-op dietitian, provide a well-attended 12-week group lifestyle-modification program targeting obesity for co-op members. A health promotions grant was awarded by the ACT territory for administrative costs associated with this program for the 2011–12 financial year.³⁸ The program was conveniently run after hours to accommodate participant preference and work schedules. Participants are provided individualised evaluations and interventions by the PHC-NP and referred back to the client’s primary GP for ongoing management, or a shared-care model is incorporated into the client’s management plan.

If the PHC-NP reasons a client’s presenting condition to be outside his expertise or scope, or if a client requires diagnostic imaging that is not reimbursable through Medicare by NP (such as pelvic or thyroid ultrasounds, magnetic resonance imaging, computed tomography or peripheral vascular doppler studies) the PHC-NP will refer the client back to a GP to order the appropriate imaging study.

The PHC-NP has expertise in the diagnosis and management of chronic health conditions. Through the course of his care he is able to identify clients who might benefit from Chronic Disease Management Plans (CDMP), Team Care Arrangements (TCA), Mental Health Care Plans (MHCP), Home Medicines Reviews and relevant health assessments. He facilitates the collection and analysis of client data, and provides recommendations for care planning based on nursing expertise, which is then escalated for GP review. The GP assesses the client, who may incorporate these data and recommendations, and provides additional recommendations based on medical expertise in collaboration with the client. The GP bills Medicare for the time spent reviewing, formulating and formalising the relevant assessment, review or plan.

The PHC-NP reported to both the medical director and corporate executive officer for clinical duties and was the lead clinician for nursing staff. His role extended to clinical governance, supervision of nursing staff and staff education. Therefore, he was provided one non-clinical day per week to perform these additional duties.

Sequence of events

An analysis of the characteristics of PHC-NP practice and billable MBS items was undertaken utilising the practice dataset through pre-packaged Structured Query Language queries

offered through Best Practice (Best Practice Software, Bundaberg, Qld, Australia, 2014).

Data in this analysis included all clients seen by the PHC-NP between 1 August 2012 and 31 July 2013, and were analysed in the following manner:

- Total and median number of clients seen per day
- Frequency of MBS item numbers billed (82200, 82205, 82210, 82215)
- Total and average number of initial CDMP and TCA performed per month
- Average time spent per consultation
- Average amount billed per client

A summary of professional attendances and diagnostic and therapeutic items that had been independently performed by the PHC-NP has been provided in Tables 1 and 2, with corresponding Medicare reimbursement rates using the 2013 iteration of the MBS. Table 1 provides a summary of actual professional attendances billed by the NP in the study timeframe while providing a comparison of MBS reimbursement rates for GP professional attendances. Table 2 provides a summary of diagnostic and therapeutic procedures performed by the NP during the study period. For example, MBS item number 11506 corresponds to the measurement and interpretation of respiratory function using spirometry, 11700 corresponds to tracing and report of twelve-lead electrocardiography, and 30032 reflects superficial repair of a facial skin laceration. There are only four time-based MBS item numbers that NP may use; therefore, item numbers corresponding to diagnostic or therapeutic procedures that met MBS criteria for reimbursement were billed according to time taken to complete them, lasting between 20 and 39 min. The NP performed diagnostic and/or therapeutic procedures in the same session as his professional attendances. A comparison is provided to demonstrate the potential billings by a medical practitioner for the same level and type of service.

Discussion

All costs and salaries analysed are reported using 2013 prices and are not indexed for inflation. Analysis of practice data showed that direct earnings generated by the NP from professional attendances in the time period indicated was \$52 439.30, with his employed salary being \$115 000 per annum. His direct earnings

Table 1. Comparison of professional attendance fees for general practitioners (GP) to actual professional attendances billed by the nurse practitioner (NP)^A
VR, vocationally registered

	Non-VR GP		VR GP		NP			
	MBS item no.	Benefit (A\$)	MBS item no.	Benefit (A\$)	MBS item no.	Benefit (A\$)	No. of services	Total (A\$)
Consult A ^B	52	11.00	3	16.60	82200	8.20	28	229.60
Consult B	53	21.00	23	36.60	82205	17.85	826	14744.10
Consult C	54	38.00	36	70.30	82210	33.80	746	25214.80
Consult D	57	61.00	44	103.50	82215	49.80	246	12250.80
Total direct billings by NP								\$52 439.30

^ABenefits shown are for attendances in a bulk-billing general practice consulting room.

^BThere are differing time requirements for Non-VR v. NP/VR-GP professional attendances; consultation types are based on time and serve as a comparison only.

Table 2. Comparison of remuneration for diagnostic and therapeutic procedures between a nurse practitioner and non-vocationally registered (VR)¹ general practitioner for a single episode of care
MBS, Medicare Benefits Schedule

Met criteria for MBS item no. ^A	Non-VR general practitioner			Nurse practitioner Professional attendance total ^B (\$A)	Discrepancy (\$A)
	MBS benefit (\$A)	Professional attendance (\$A)	Total (\$A)		
11506	17.50	38.00	55.50	33.80	21.70
11700	26.60	38.00	64.60	33.80	30.80
30071	44.40	38.00	82.40	33.80	48.60
30032	70.15	38.00	108.15	33.80	74.35
31210	104.65	38.00	142.65	33.80	108.85
47915	144.10	38.00	182.10	33.80	148.30
31270	219.55	38.00	257.55	33.80	223.75

^AThe MBS item numbers displayed reflect the diversity of procedures performed by the nurse practitioner, which could not be claimed as procedure item numbers due to current MBS restrictions.

^BFigures listed in this column correspond to the MBS item number 82210, which in this instance was claimed by the nurse practitioner for the time (between 20 and 39 min) taken for the professional attendance and performing the procedure.

were based on 44 full-time working weeks per year with one administrative (non-clinical) day per week. It excludes paid annual, conference, holiday and sick leave. When employing a PHC-NP in a general practice, associated costs such as worker's compensation, superannuation costs and paid leave need to be accounted for, which results in an approximate 30% loading on top of base salary. The costs of including a consulting room, computer with management software and user licenses, consumables and administrative support is included within this loading. Nurses employed solely as NP in general practice provide Medicare-reimbursable services; thus, the co-op was unable to claim an incentive for employing a nurse through the Practice Nurse Incentive Program.³⁹ Therefore, the total cost of employing this PHC-NP was \$149 500 per annum.

The PHC-NP expedited an average of 30 CDMP/TCA (\$253.45/plan and arrangement) and 12 MHCP (\$70.30/plan) per month for co-op members who had not been previously identified as being eligible for these items. NP are unable to claim for these MBS-reimbursable items in general practice. Therefore, these clients required GP review after the NP had identified them, who then billed Medicare accordingly. Based on 2013 MBS reimbursement rates, the formulation of CDMP/TCA and MHCP alone resulted in the NP earning approximately \$101 365.20 in indirect billable MBS item income for the practice and its GP. Adding the direct and indirect earnings (totalling \$153 804.50) and subtracting the cost of employing the NP (totalling \$149 500) demonstrates a net profit of \$4304.50. The average fee billed to Medicare directly by the NP during the specified timeframe was \$28.41 per consultation. This was lower than the average cost per consultation billed in the same time period of \$41.67 for non-vocationally registered GP and \$68.38 for vocationally registered GP (VR-GP).

As the PHC-NP's caseload predominately reflected the management of chronic disease, his consultation times were longer, seeing a median (range 1–23) of 13 patients per day with an average consultation time of 37 min. In contrast, GP in the co-op whose focus was predominately based on episodic health-care saw ~30 patients per day, with consultation times averaging 15 min. Using the above data, one may extrapolate that if the NP worked five full clinical days per week, his

annual direct billable income would approximate \$81 252.60. Assuming the indirect earnings remain the same, employing a NP at a salary commensurate for his skill and experience in a bulk-billing practice would incur a theoretical profit of \$33 117.80.

A retrospective chart review was conducted on types of therapeutic and diagnostic procedures independently performed by the PHC-NP during the stated time period. Actual procedures completed by the PHC-NP, which would have otherwise met MBS criteria for reimbursement if performed by a GP, can be seen in Table 2. Table 2 serves as a comparison on the financial impact of performing these procedures, and does not reflect the actual number of cases performed. Costs of supplies used, as well as clinical outcomes, were reviewed by the medical director and were found to be equivalent to those procedures performed by GP working at the co-op. Complete episodes of care for procedures were performed solely by the PHC-NP whereas GP performing these same procedures usually had a practice nurse assisting them. The difference in procedural consultation style was a reflection on the fact that practice nurse salaries were partially funded by the Practice Nurse Incentive Program for this purpose, whereas the NP's salary was not. Practice nurse support concordantly decreased GP procedure times when compared with the PHC-NP. This retrospective chart review revealed that the co-op was placed at a significant financial disadvantage by allowing the PHC-NP to work to his full scope of practice. This was due to a lack of access to MBS reimbursements for diagnostic and therapeutic items performed by NP.

There were many intangible benefits identified from this model, which were not directly measured and are outside the scope of this case study. Co-op members voiced a great deal of satisfaction with the type of care provided by the PHC-NP, which is consistent with prior research.¹ It is felt the PHC-NP's broad scope of practice contributed to a decrease in waiting times as he had more flexibility in his schedule for same-day appointments. It was also felt that GP productivity increased because the PHC-NP would manage clients with complex chronic diseases, who take a great deal of time and attention in their management.

Conflicts and constraints

Themes of unnecessary double-handling, interrupted workflow and delayed patient care became apparent throughout the period of study. These issues were primarily attributed to anomalies in Medicare-rebateable services performed or requested by PHC-NP working in private practice.

There are many exemplars of such MBS anomalies. Thyroid and pelvic ultrasounds ordered by the NP are not MBS-reimbursable, whereas abdominal and soft-tissue ultrasounds are. MBS-reimbursable referrals to medical and surgical specialists are allowed, but referrals to allied healthcare professionals (who would be the most likely professional an NP working in general practice would refer to) are not. The chronic disease management and MHCP facilitated by the NP had to be reviewed and formulated by a GP to meet Medicare requirements for reimbursement. When the PHC-NP encountered these barriers, both his and the collaborating GP's workflow were interrupted or patient care delayed in order to obtain the necessary reviews and/or permissions. Medical director review of required support and quality of care undertaken by the PHC-NP was consistently confirmed as being at a standard comparable to that of a third-year GP registrar. This was based on the medical director's experience working as a GP supervisor and fellowship examiner for the Royal Australian College of General Practitioners for the preceding 6 years.

Due to the significant financial disadvantage of the PHC-NP performing surgical and diagnostic procedures when compared with medical colleagues, it was necessary for the NP to refer many cases to a GP for management and/or review. This created conflict for the PHC-NP as he felt he was becoming deskilled in areas in which he had been deemed competent to operate independently. Procedural items that did not incur a large MBS rebate were subsequently referred to the PHC-NP in order to enhance professional job satisfaction.

Lessons learnt and recommendations for future practice

A PHC-NP working in a bulk-billing general practice appears to be financially sustainable given the described average consultation length, MBS restrictions and employment model. There are few empirical case reports in the Australian literature that show how this type of healthcare professional may be utilised to maximum benefit in this working environment. This case study suggests that a competitive salary can be offset by direct and indirect financial billings generated by hiring a PHC-NP with generalist and specialist expertise.

There are significant financial disadvantages for general practices that employ NP who perform diagnostic and/or therapeutic procedures. During the case study timeframe the NP independently performed and interpreted electrocardiograms, spirometry and skin biopsies, and provided therapeutic procedures for ingrown toenails, lacerations and minor skin cancers independently, safely and efficiently. Consideration should be given by the Australian Government to allow NP greater access to existing diagnostic and therapeutic-management MBS items, as retrospective chart review showed that an NP provides equivalent outcomes in their provision.

Finally, our case study found that existing restrictions on NP access to MBS items for allied health referrals and diagnostic imaging were responsible for duplication of care, interrupted

workflows and practice inefficiencies. These issues potentially translate into increasing costs for healthcare provision and would benefit from further review by the Australian Government.

Based on the positive outcomes demonstrated in this case study, we feel that there should be further exploration and study of this novel workforce in Australian general practice. In addition, we feel that general practices should consider 'growing their own' NP with the existing workforce of nurses in general practice, to gain additional financial benefits and care that compliments that of a GP. An examination of operational requirements and professional facilitators that foster and enhance the development of Australian practice nurses to advance their careers into the NP paradigm would be of benefit and interest.

Competing interests

All authors have stated that they have no competing interests.

Acknowledgements

The authors would like to acknowledge Professor Anne Gardner and Associate Professor Elizabeth McInnes from Australian Catholic University for their guidance and support.

References

- Laurant M, Reeves D, Hermens R, Braspenning J, Grol R, Sibbald B. Substitution of doctors by nurses in primary care. *Cochrane Database Syst Rev* 2005; 2: CD001271.
- NSW Department of Health. Nurse practitioner review stage 2, vol I & II. Nursing B, Gibson Marlow C, editors. North Sydney: NSW Health Department; 1993.
- Nursing B, Gibson Marlow C, editors. Nurse practitioner project stage 3: final report of the steering committee. North Sydney: NSW Department of Health; 1996.
- Gardner G, Gardner A, Middleton S, Della P, Kain V, Doubrovsky A. The work of nurse practitioners. *J Adv Nurs* 2010; 66: 2160–9. doi:10.1111/j.1365-2648.2010.05379.x
- Gardner A, Gardner G, Middleton S, Della P. The status of Australian nurse practitioners: the first national census. *Aust Health Rev* 2009; 33: 679–89. doi:10.1071/AH090679
- Gardner G, Carryer J, Gardner A, Dunn S. Nurse practitioner competency standards: findings from collaborative Australian and New Zealand research. *Int J Nurs Stud* 2006; 43: 601–10. doi:10.1016/j.ijnurstu.2005.09.002
- Duffield C, Gardner G, Chang AM, Catling-Paull C. Advanced nursing practice: a global perspective. *J Royal College Nurs Aust* 2009; 16: 55–62. doi:10.1016/j.colegn.2009.02.001
- International Council of Nurses. FAQ: Nurse Practitioner/Advanced Practice Nursing Network; 2013. Available at: <http://www.icn-apnet.org/> [verified 23 October 2013].
- Australian College of Nurse Practitioners. What's an NP? Sydney: Australian College of Nurse Practitioners; 2013. Available at: <http://acnp.org.au/whats-np> [verified 23 October 2013].
- Nursing and Midwifery Board of Australia. Nurse and Midwife Registrant Data: June 2013. Melbourne: Nursing and Midwifery Board of Australia; 2013.
- Australian College of Nurse Practitioners. The 2012 National Survey of the Australian College of Nurse Practitioners. Sydney: Australian College of Nurse Practitioners; 2012.
- Health Workforce Australia. Health Workforce Australia Annual Report 2012–2013. Health Workforce Australia; 2013.
- Commonwealth of Australia. National Primary Health Care Strategic Framework. Canberra: Commonwealth of Australia; 2013.

- 14 Department of Health. MBS Arrangements for Midwives and Nurse Practitioners: Australian Government; 2013. Available at: <http://www.health.gov.au/internet/main/publishing.nsf/Content/midwives-nurse-practitioners> [verified 5 March 2014].
- 15 Department of Health. Nurse practitioner – aged care models of practice program. Australian Government; 2012. Available at: <http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing-agedcare-practice.htm> [verified 5 March 2014].
- 16 Commonwealth of Australia. Medicare Australia statistics. Medicare Australia; 2013. Available at: <http://www.medicareaustralia.gov.au/about/stats/index.jsp> [verified 5 March 2014].
- 17 Queensland Health. Nurse practitioner – practice scope. nursing and midwifery office. 2014. Available at: <http://www.health.qld.gov.au/nmoq/nurse-practitioner/practice-scope.asp> [verified 5 March 2014].
- 18 Western Australia Department of Health. Nurse Practitioner Business Models and Arrangements. Perth: Nursing and Midwifery Office; 2011.
- 19 Queensland Government. Role of a nurse practitioner. WorkCover Queensland; 2014. Available at: <http://www.qcomp.com.au/health-provider/role-of-a-health-provider/the-role-of-the-nurse-practitioner.aspx> [verified 12 April 2014].
- 20 Cesta D. Nurse solution to rural doctor shortage ‘unrealistic’. *Medical Observer*; 2012. Available at: <http://www.medicalobserver.com.au/news/nurse-solution-to-rural-doctor-shortage-unrealistic> [verified 20 May 2014].
- 21 Smith P. Most nurse practitioners working in pharmacies. *Australian Doctor*; 2014. Available at: <http://www.australiandoctor.com.au/news/latest-news/most-nurse-practitioners-working-in-pharmacies?t=635363573432174168> [verified 20 May 2014].
- 22 Guest A. Australia’s first stand-alone nurse practitioner clinic closes. In *The World Today*, editor: ABC News; 17 May 2012.
- 23 Royal Australian College of General Practitioners. Collaborative care agreements: a guide for collaborative care arrangements in general practice. Melbourne: RACGP; 2011.
- 24 Corbin C. The cost of collaboration. *Australian Doctor*. 2011 Available at: <http://www.australiandoctor.com.au/smart-practice/work-wise/the-cost-of-collaboration> [verified 19 June 2014].
- 25 Smith P. Nurse practitioner clinic fails. *Australian Doctor*. 18 May 2012. Available at: <http://www.australiandoctor.com.au/news/latest-news/nurse-practitioner-clinic-fails> [verified 5 March 2014].
- 26 Creswell A. Curtains for nurses-only clinic due to financial problems. *The Australian*. 2012. Available at: <http://www.theaustralian.com.au/national-affairs/health/curtains-for-nurses-only-clinic-due-to-financial-problems/story-fn59nokw-1226358219453?nk=54d566d74c92fe32cdb12324f636c8f8> [verified 5 March 2014].
- 27 Schadewaldt V, McInnes E, Hiller JE, Gardner A. Views and experiences of nurse practitioners and medical practitioners with collaborative practice in primary health care – an integrative review. *BMC Fam Pract* 2013; 14: 132–42. doi:10.1186/1471-2296-14-132
- 28 Wilson K, Coulon L, Hillege S, Swann W. Nurse practitioners’ experiences of working collaboratively with general practitioners and allied health professionals in New South Wales, Australia. *Aust J Adv Nurs* 2005; 23: 22–7.
- 29 Australian College of Nurse Practitioners. ACNP member forums. 2014. Available at: <http://acnp.org.au/member-forum> [verified 5 March 2014].
- 30 Tassell S, O’Brien K. Financial sustainability as an independent NP – is it achievable under Medicare? 8th National Conference of the Australian College of Nurse Practitioners: Nurse Practitioners Across the Lifespan, Transforming Healthcare; 25 September 2013; Hobart: Australian College of Nurse Practitioners; 2013.
- 31 Birchmore L, Donkin-Evers B, Ford E. Private practice: an alternative. In Gosby H, editor. 6th National Conference of the Australian College of Nurse Practitioners – Nurse Practitioners: Coming of Age. Adelaide: Australian College of Nurse Practitioners; 2011.
- 32 King J, Corter A, Brewerton R, Watts I. Nurse practitioners in primary care: benefits for your practice. Canberra: Australian General Practice Network, Julian King & Associates Ltd; 2012.
- 33 Co-operative Development Services. Health care and social assistance co-operatives. 2014. Available at: <http://www.coopdevelopment.org.au/healthlinks.html#hw> [verified 19 June 2014].
- 34 National Health Cooperative. West Belconnen Health. 2013. Available at: <http://www.westbelconnenhealth.coop> [verified 6 November 2013].
- 35 ACT Government. Recent population trends in the ACT. 2012. Available at: http://www.cmd.act.gov.au/__data/assets/pdf_file/0009/456921/act-poptrends.pdf [verified 6 November 2013].
- 36 Roxon N. National health (collaborative arrangements for nurse practitioners) determination 2010. Canberra: Commonwealth of Australia; 2010.
- 37 Australian Government. Eligible nurse practitioners questions and answers. Department of Health; 2014. Available at: <http://www.health.gov.au/internet/main/publishing.nsf/Content/midwives-nurse-pract-qanda-nursepract> [verified 28 March 2014].
- 38 Health ACT. Funded project summaries – community funding round. Canberra: ACT Government; 2012. Available at: <http://health.act.gov.au/health-services/population-health/health-improvement/act-health-promotion-grants/funded-project-summaries/> [verified 24 June 2014].
- 39 Medicare Australia. Practice nurse incentive program guidelines. Canberra: Australian Government; 2012.