CSIRO PUBLISHING

Australian Journal of Primary Health
http://dx.doi.org/10.1071/PY14156

Research

Transitioning to routine breast cancer risk assessment and management in primary care: what can we learn from cardiovascular disease?

Kelly-Anne Phillips[A,B,C], *Emma J. Steel*[A,D], *Ian Collins*[A], *Jon Emery*[E], *Marie Pirotta*[E], *G. Bruce Mann*[F], *Phyllis Butow*[G], *John L. Hopper*[B,H], *Alison Trainer*[A], *Jane Moreton*[A], *Antonis C. Antoniou*[I], *Jack Cuzick*[J] and *Louise Keogh*[D,K]

[A]Peter MacCallum Cancer Centre, Locked Bag 1, A'Beckett Street, East Melbourne, Vic. 8006, Australia.
[B]Centre for Molecular, Environmental, Genetic and Analytic Epidemiology, Melbourne School of Population and Global Health, The University of Melbourne, 207 Bouverie Street, Carlton, Vic. 3010, Australia.
[C]Department of Medicine, St Vincent's Hospital, 29 Regent Street, Fitzroy, Vic. 3065, Australia.
[D]Centre for Health Equity, Melbourne School of Population and Global Health, The University of Melbourne, 207 Bouverie Street, Carlton, Vic. 3010, Australia.
[E]General Practice and Primary Care Academic Centre, The University of Melbourne, 200 Berkeley Street, Carlton, Vic. 3053, Australia.
[F]The Breast Service, Royal Melbourne and Royal Women's Hospital, 20 Flemington Road, Parkville, Vic. 3052, Australia.
[G]Centre for Medical Psychology and Evidence-based Decision-making (CeMPED), The University of Sydney, Transient Building F12, Darlington, NSW 2006, Australia.
[H]School of Public Health, Seoul National University, 1 Gwanek-ro, Gwanek-gu, Seoul 151-742, Korea.
[I]Centre for Cancer Genetic Epidemiology, Department of Public Health and Primary Care, University of Cambridge, Worts Causeway, Cambridge, CB1 8RN, United Kingdom.
[J]Centre for Cancer Prevention, Wolfson Institute of Preventive Medicine, Queen Mary University of London, Charterhouse Square, London, EC1M 6BQ, United Kingdom.
[K]Corresponding author. Email: l.keogh@unimelb.edu.au

Abstract. To capitalise on advances in breast cancer prevention, all women would need to have their breast cancer risk formally assessed. With ~85% of Australians attending primary care clinics at least once a year, primary care is an opportune location for formal breast cancer risk assessment and management. This study assessed the current practice and needs of primary care clinicians regarding assessment and management of breast cancer risk. Two facilitated focus group discussions were held with 17 primary care clinicians (12 GPs and 5 practice nurses (PNs)) as part of a larger needs assessment. Primary care clinicians viewed assessment and management of cardiovascular risk as an intrinsic, expected part of their role, often triggered by practice software prompts and facilitated by use of an online tool. Conversely, assessment of breast cancer risk was not routine and was generally patient- (not clinician-) initiated, and risk management (apart from routine screening) was considered outside the primary care domain. Clinicians suggested that routine assessment and management of breast cancer risk might be achieved if it were widely endorsed as within the remit of primary care and supported by an online risk-assessment and decision aid tool that was integrated into primary care software. This study identified several key issues that would need to be addressed to facilitate the transition to routine assessment and management of breast cancer risk in primary care, based largely on the model used for cardiovascular disease.

Additional keywords: decision support, risk management, screening, tamoxifen.

Received 23 October 2014, accepted 20 December 2014, published online 24 February 2015

Introduction

Breast cancer (BC) is the most common cause of cancer in Australian women and the second most common cause of cancer deaths (Australian Institute of Health and Welfare 2010). Of ~14 000 Australian women who develop BC annually, ~3500 are younger than 50 years, which is when government-funded

What is known about the topic?

- In contrast to population-based assessment and management of cardiovascular risk, which is considered an integral part of primary care, most Australian women do not have their breast cancer risk formally assessed.

What does this paper add?

- This study identified several key factors that could facilitate the transition to routine breast cancer risk assessment and management in primary care.

population screening commences. The most important BC risk factors are age, family history, mammographic density, certain types of proliferative breast disease and having a mutation in genes such as *BRCA1* or *BRCA2* (National Breast and Ovarian Cancer Centre 2009). The oft-quoted 12% average lifetime risk may mislead individual women. BC risk is not normally distributed; rather, most women have a low (less than 4%) lifetime risk and the remainder range from 4% to more than 80% (Hopper 2011; Evans *et al*. 2012).

To capitalise on advances in BC prevention, all women would need to have their BC risk formally assessed to see where they sit on this spectrum. Those at increased risk could then be offered risk-management strategies appropriate to their personal risk level. Australian and international evidence-based guidelines support this approach (Wuttke and Phillips 2015). Depending on a woman's current age, these strategies include lifestyle changes, risk-reducing medication, surgery or intensified breast screening (National Breast and Ovarian Cancer Centre 2010; Harvey *et al*. 2011). This would require a new approach to breast cancer risk assessment and management implemented across the population. Approximately 85% of Australians are seen in primary care clinics at least once a year (Britt *et al*. 2013), so primary care is an opportune location for such an activity. Routine assessment and management of risk for other diseases, particularly cardiovascular disease (CV), is considered an integral part of primary care in Australia (Nelson and Doust 2013), although clinical practice varies based on opportunity, capability and motivation (Bonner *et al*. 2013).

We conducted a series of needs evaluations for a BC risk-assessment and risk-management tool in primary care and relevant specialties. Here we report the data collected from GPs and PNs, demonstrating some of the barriers and enablers to BC risk assessment and risk management in primary care.

Methods

Primary care clinicians (PCCs) were recruited from various sources. Invitations to participate in the study were emailed and follow-up telephone calls were made to GPs and PNs on the membership list of the Victorian Primary Care Practice-Based Research Network (Department of General Practice 2006) and to those that had attended recent General Practice Victoria educational events. The study was also advertised in the newsletters of two primary health care organisations (Medicare Locals). The study was approved by the Human Research and Ethics Committee (HREC) of the University of Melbourne. Informed consent was obtained.

Two focus groups were conducted: one consisted of GPs exclusively and the other included GPs and PNs. Participants completed a short demographic questionnaire before taking part in one of the focus groups, which explored the current practice of BC risk assessment and risk management using simple scenarios (e.g. 'If a patient has a strong family history of cancer, what advice do you provide?'). Issues inhibiting BC risk from being routinely assessed and managed in primary care were a key focus.

Three additional focus groups were also conducted with breast surgeons ($n = 12$) and familial cancer clinic clinicians ($n = 15$), recruited through the Melbourne Breast Surgeons Group and the Australian Familial Aspects of Cancer Conference, respectively. The results from these focus groups are not reported in this paper. The responses of PCCs and breast surgeons to the proposed tool have been reported elsewhere (Collins *et al*. 2014). Discussions were audiotaped and the data transcribed verbatim, de-identified and analysed thematically. QSR NVivo qualitative data management software (QSR International Pty Ltd, Melbourne, Vic., Australia) was used to facilitate organisation and thematic analysis of the data. A coding framework was developed and refined with iterative rounds of data analysis.

Given that the aim of the larger study was to assess need in regard to the proposed tool, we collected data from a range of user groups and did not aim to achieve saturation for any one group. However, the data collected from PCCs, considered alone, provided new insights into the assessment of cancer risk in primary care and was deemed worthy of independent analysis. From the PCC data, two overarching themes emerged strongly and consistently during both focus group discussions and analysis: (1) differences between risk assessment for BC and CV in primary care; and (2) issues to be addressed in order to routinely assess and manage BC risk in primary care.

Table 1. Characteristics of primary care clinician participants

Characteristics		Number (%) $n = 17$
Gender	Male	7 (41)
	Female	10 (59)
Age (years)	<35	4 (23)
	35–44	2 (12)
	45–54	9 (53)
	55+	2 (12)
Clinician	General practitioner	12 (71)
	Practice nurse	5 (29)
No. of years as a clinician	1–15	9 (53)
	16–25	7 (41)
	>25	1 (6)
Group or solo practice	Solo	4 (24)
	Group	13 (76)

Findings

The two focus groups included 12 GPs and 5 PNs. Most (59%) were female and most (76%) worked in group rather than solo practices (Table 1).

Table 2. Why assessing and managing risk for CV is easier than for BC
BC, breast cancer; CV, cardiovascular; PN, practice nurse

Sub-code no.	Sub-code description	Participant	Quotations
1	CV risk assessment is clinician-initiated, expected by patients and 'ingrained' in primary care	GP1	[I assess CV risk] *routinely actually. It's sort of ingrained.*
		GP2	*I think there's a general expectation* [that CV risk will be assessed routinely] . . . *most people expect to have their weight, their blood pressure and their cholesterol checked in their lifetime, so it's regarded pretty much* [routine] *to collect that data, and then you've gotta do something with it, it just doesn't sit there. So I think we pretty much accept that people will want to know that and it's encouraged by our colleagues.*
		Interviewer	And what flags you to do [an assessment of BC risk]?
		GP6	*Usually the patients, I mean if they're worried about a risk usually it's cos one of their family has recently been diagnosed. . .*
		GP5	*Many of my patients would like to know* [their BC risk] *and if they express that desire I would* [discuss it with them], *if* [they] *don't, you know I don't push.*
		GP3	*I perceive that heart disease* [risk] *is very much a domain of general practice. Cancers* [risk] *tend to be more into the specialist services.*
2	CV risk tool is embedded in practice software	Interviewer	And so do you use any guidelines or tools to assess who's at high risk and medium risk and low risk? What do you use?
		GP3	*There's a breast thing online, forgot the name of it cos I've got it bookmarked, but it comes up with a, a tab. I think it's from Cancer Australia actually –*
		GP3	*. . .it was online but now it's all morphed into the Cancer Australia website and in preparation for tonight I looked at that website and I couldn't find it* [yeah], *I couldn't find it. I mean this laminated card was really good. The website was really hard to find the equivalent.*
		GP9	*...it's not like cardiovascular system, your Medical Director* [clinical software product used by some clinicians to manage their patients' healthcare needs], *the software we use, we can go in and actually place the patient in green area, orange area, yellow area* [yeah] *but with the cancer, I think we are actually lack of that tool . . . cardiovascular guys are doing very well.*
		Interviewer	Well, what would make you feel more confident [about assessing and managing breast cancer risk] do you think?
		GP10	*Some tools like . . . the one that we are using for assessing the risk factor for heart diseases.*
3	CV risk calculator tool identifies and portrays risk as modifiable and therefore supports behaviour change	GP3	*I've looked at all the tools . . . there is a fantastic New Zealand* [cardiovascular] *risk calculator that I use all the time and . . . it actually gives their risk over time, so . . . as they get older it tells you what the risk is at that age. It's a beautiful, nice little diagram with your greens, oranges and reds, tells you what the risk is and when you need to intervene and that's what I use now totally, you know, exclusively. And I take patients through it, and it's really great . . . the output is really good and very clear ... it allows you to adjust the various risk factors and it will change the risk up and down accordingly. I found it really powerful so it gives you the absolute risk, it gives the risk over time.*
		Interviewer	And do other people use that as well?
		GP1 and GP2	*Yes.*
		PN1	*There's more GPs using this cardiovascular risk calculator online now than ever before, which is great.*

(*continued next page*)

Table 2. (*continued*)

Sub-code no.	Sub-code description	Participant	Quotations
		GP2	*. . . it's fast becoming the major tool that we all use. You get a figure, you get a five year risk. . .and that is the purpose of using the cardiovascular risk tool is to get a figure, but the really nice thing about it from my point of view is to highlight the plasticity of the risk and the mutability of the risk so that if you slide some of those actual indicators down, you end up with a nice colour instead of a red colour. You get chunks of risks over those 510-year periods, so one of the really powerful things that I've learnt to say is if you modify risks in your forties you're not going to end up in higher risk in your sixties and seventies* [yep], *so it's got a lifetime trajectory that's also truncated. It's a very elegant tool.*

Differences between risk assessment and management for breast cancer and cardiovascular disease

The approaches to BC and cardiovascular risk assessment and management contrasted sharply. The latter was described as routine, expected by patients and clinician-initiated whereas the former was described as more often patient-initiated and perceived to be within the domain of the specialist (Table 2, sub-code 1). There was little consensus among PCCs regarding when, for whom and how BC risk should be assessed. PCCs were most comfortable assessing BC risk when patients specifically asked about their risk, often prompted by a diagnosis in family or friends (Table 2, sub-code 1).

In contrast to the situation for BC, cardiovascular risk assessment and management is supported by office-based tools to encourage and streamline the process. Sidebar prompts on general practice software trigger routine cardiovascular risk assessment. GPs reported that they routinely use a web-based tool to provide personalised risk estimates and to discuss ways of reducing cardiovascular risk (Table 2, sub-code 2). The web-based tool portrays cardiovascular risk as modifiable, which supports behaviour change (Table 2 sub-code 3). Although several accessible BC risk-assessment tools exist (Amir *et al.* 2010), most PCCs were not using them, although some had used the Cancer Australia tool (National Breast and Ovarian Cancer Centre 2010). Some used an outdated, paper-based version rather than the revised and updated web-based version because they had difficulty navigating to the web-based tool (Table 2, sub-code 2).

PCCs identified that they did not routinely assess BC risk, and did not have an optimal tool for assessing and managing BC risk as they do for CV (Table 2, sub-code 2).

Issues to be addressed in order to incorporate the assessment and management of breast cancer risk into general practice

There was general agreement that BC risk assessment and management could be improved in primary care; however, PCCs raised several issues that need to be addressed in order to achieve this change. They suggested that easy access to a BC risk-assessment and risk-management tool, similar to that available for cardiovascular risk, would facilitate them taking on this role (Table 3, sub-code 1). Concern was expressed about the 'morality' of raising BC risk in a consultation if the woman did not raise it herself (Table 3, sub-code 2). Greater stigmatisation, fear and a sense of fatality about cancer compared with other diseases, such as CV, were suggested as barriers to routine BC risk assessment in primary care (Table 3, sub-code 2). The importance of seeing BC risk factors as modifiable was highlighted (Table 3, sub-code 3). PCCs suggested that they could routinely assess BC risk in the future if experts promote this as appropriate (Table 3, sub-code 4). Management of BC risk beyond routine screening (e.g. with risk-reducing medication) was considered outside the domain of primary care (Table 3, sub-code 5), although PCCs indicated that this could be changed. They suggested that PCCs commonly implement changes to their clinical practice based on new evidence, particularly when endorsed in the Royal Australian College of General Practitioners (RACGP) guidelines (Table 3, sub-code 5).

Discussion

There is a clear opportunity in primary care in Australia to enhance the capacity and motivation of clinicians to routinely assess and manage BC risk. This study identified key issues that need to be addressed to facilitate the transition to routine BC risk assessment and management in primary care.

First, clinicians expressed concern about the acceptability of routine BC risk assessment to patients in primary care. Research into the views of Australian women is needed to determine whether these concerns are warranted. If modifiable barriers are identified, a public education campaign with particular focus on the availability of interventions to manage BC risk (such as intensified screening, risk-reducing medication and, for those at highest risk, prophylactic surgery) might help increase the acceptability of routine risk assessment. Similarly, PCCs with a sense of fatalism about cancer risk might benefit from education about the efficacy of available BC prevention interventions, particularly those they can initiate (e.g. medications and intensified screening) (Harvey *et al.* 2011). For BC risk assessment and risk management to become routine, these activities would need to be seen by women and PCCs as an intrinsic, important and endorsed part of primary care.

Second, the absence of an easily accessible risk-assessment and management decision support 'tool' was highlighted as a barrier. Such a tool could be a key component to increasing

Table 3. Steps to routinely assess and manage BC risk in primary care

Sub-code number	Sub-code description	Participant	Quotations
1	Develop a risk tool similar to CV risk tool	GP3	*I mean I think if you could get something like the, if you can do what the New Zealand* [CV] *risk calculator does I'd be rapt because I could give, and then talk about, a lifetime risk and how that risk varies as the person ages, so then you can have a rational talk about when this intervention is going to happen.*
		GP2	*That's it.*
2	Determine whether patients want to know (and can manage knowing) their BC risk	GP2	*I do wonder about just the morality of 'is a woman ready to know this?'* [yes], *if they can't do much about it. Now that may sound a bit strange but some people aren't quite ready to face some of these things, they're not ready to know and whereas with the cardiovascular risk thing you can say, you can do something about this. I think the first rule of medicine is first do no harm, do they really need to know? Maybe they do, cos they could do something. But if they can't do anything, do they really need to know? Do you actually start raising the anxiety in somebody if you can't actually do anything about it?*
		GP4	*But if you're at risk of dying from it, wouldn't you wanna know?*
		GP2	*Not necessarily.*
		GP3	*No.*
		GP4	*I would.*
		GP3	*Yeah.*
		GP3	*I was just reflecting when we produced the risk* [assessment tool] *for diabetes, that was 10 questions that people could do at home and would give them their risk of diabetes. Now we pushed that everywhere, . . . as high as one in three risk of getting type two diabetes, but I think we got away with it because I think cancer has such a bad you know sort of feel to it, bad mojo, whereas I think diabetes everyone can sort of half understand it, everyone was talking about it so I think we managed to get away with it quite okay.*
3	Convince GPs, PNs and patients that cancer risk is modifiable	GP2	*It seems to be implicit in what everyone's saying. It's worth sitting down to do the risk factors for cardiac disease and spend some time on it because there are modifiable risk factors. And I personally would see sitting down and going through a* [breast cancer] *risk factor tool as an educational thing and a motivating thing for patients; to actually do something about diet, exercise, weight. But we don't, we don't. It seems to me like we're not seeing the same thing with breast cancer risk, we're not thinking it's educational. It would be educative and we're going to modify risk factors if we sat down and spent time.*
4	Achieve widespread agreement that BC is in the primary care domain	GP6	*Why don't we talk to our patients about breast cancer? We talk to them about cancer of the cervix 'cos pap smears are accepted as universal. We have a stethoscope and we have a sphygmomanometer and our . . . patients . . . would expect us to, to check their blood pressure otherwise they don't get value for money. But I don't know if we've got to the stage where we are gonna say well, beyond heart disease and cancer of the cervix, which is so important, breast* [cancer risk] *become part of our process. But I think it's, again, it's just got to percolate a bit more into our practices before it's seen to be as important. So it's not that it's not important, it's just, how do you get the GPs to do it and be interested?*
		GP6	*. . . if there's enough, you know, eminent folk saying 'well look this is very much what GPs should be using', then that would make us more confident and comfortable to do it.*
5	Determine pathway (referral or primary care?) for risk management	Interviewer	So with people at high risk, do you ever discuss things like tamoxifen or risk-reducing surgery or any of those things? Or do you leave that?
		GP3	*With that I'd refer my patient on before I'd actually consider giving treatment, tamoxifen or something like that* [yep], *so –*

(*continued next page*)

Table 3. (*continued*)

Sub-code number	Sub-code description	Participant	Quotations
		GP2	*Well we do statins all the time; we're experts in that. We're experts in asthma, hypertension and all of that. We're not experts in this . . . I wouldn't have thought many people would initiate a long-term treatment of tamoxifen for a high-risk breast cancer patient.*
		GP8	*I have not prescribed tamoxifen, I was aware that it could be used. I can't think that I've referred anyone either, but if I knew that this was something that was in a guideline and is what was expected as part of the standard care, you know, safely, based on an individual assessment of a patient this is something they can have, then of course I'll prescribe it if that is what is expected and it's also safe.*
		GP9	*So it's* [re-prescribing tamoxifen for prevention] *a matter of education with GPs.*

tailored BC prevention in primary care. Ideally, it would be integrated into general practice software, or alternatively electronic prompts could promote use of a web-based tool, bearing in mind the risks of 'prompt fatigue' in general practice.

Participants had a preference for their practice to be supported by expert-endorsed guidelines. They also wanted to act in accordance with societal and patient expectations. Any change to practice will require changes at each of these levels. Participants indicated that changes have taken place at each of these levels for cardiovascular risk but not for BC risk, suggesting a lack of awareness of the RACGP guidelines on BC prevention (Royal Australian College of General Practitioners 2012). Although challenges remain in integrating cardiovascular risk estimation and management in primary care (Peiris *et al*. 2009; Nouwens *et al*. 2012), significant improvements in this area (Campbell *et al*. 2005) will help inform the implementation of routine BC risk assessment and management.

The strengths of our study include the heterogeneous sample and the rigorous analysis process. Potential limitations include the small sample size and that self-reported practice could differ from actual practice. The participating clinicians may not represent the views of all PCCs and may be more or less supportive of BC risk assessment in primary care than the wider primary care community. There are differences in the characteristics of the GPs in our sample when compared with published data on Australian GPs (Britt *et al*. 2013); male GPs, those aged 35–44 and over 55 years, and those practising in rural and regional areas were underrepresented in our study, whereas females, those aged less than 35 and between 45–54 years, and those practising in a major city were overrepresented. Nevertheless, we believe the views reported here are an important starting point for a discussion about the potential for management of BC risk in primary care. Future quantitative research could ascertain the representativeness of these views, and further qualitative research with PCCs in rural and regional areas could identify whether views differ in these areas.

In conclusion, as has largely been achieved for CV, routine assessment and management of BC risk by primary care clinicians might improve the uptake of BC prevention and screening interventions, thus reducing morbidity and mortality. However, several important changes to the approach to assessment and management of BC risk are needed to facilitate this. Although not addressed by this study, the same general issues may exist for other common cancers.

Conflicts of interest

None declared.

Acknowledgements

KAP is a National Breast Cancer Foundation Practitioner Fellow. MP is supported by a National Health and Medical Research Council Career Development Fellowship. Funding for this study was provided by the Australia and New Zealand Breast Cancer Trials Group from public donations made to the Breast Cancer Institute of Australia. We thank Prue Weideman for assistance with manuscript preparation.

References

Amir E, Freedman OC, Seruga B, Evans DG (2010) Assessing women at high risk of breast cancer: a review of risk assessment models. *Journal of the National Cancer Institute* **102**, 680–691. doi:10.1093/jnci/djq088

Australian Institute of Health and Welfare (2010) Incidence of cancer. In 'Cancer in Australia 2010: an overview'. AIHW cat. no. CAN 56. pp. 10–19. AIHW, Canberra.

Bonner C, Jansen J, McKinn S, Irwig L, Doust J, Glasziou P, Hayen A, McCaffery K (2013) General practitioners' use of different cardiovascular risk assessment strategies: a qualitative study. *The Medical Journal of Australia* **199**, 485–489. doi:10.5694/mja13.10133

Britt H, Miller GC, Henderson J, Bayram C, Valenti L, Harrison C, Charles J, Pan Y, Zhang C, Pollack AJ, O'Halloran J (2013) 'General practice activity in Australia 2012–13.' (Sydney University Press: Sydney)

Campbell SM, Roland MO, Middleton E, Reeves D (2005) Improvements in quality of clinical care in English general practice 1998–2003: longitudinal observational study. *British Medical Journal* **331**, 1121–1123. doi:10.1136/bmj.38632.611123.AE

Collins IM, Steel E, Mann GB, Emery JD, Bickerstaffe A, Trainer A, Butow P, Pirotta M, Antoniou AC, Cuzick J, Hopper J, Phillips K-A, Keogh LA (2014) Assessing and managing breast cancer risk: clinicians' current practice and future needs. *The Breast* **23**, 644–650. doi:10.1016/j.breast.2014.06.014

Department of General Practice (2006) Victorian Primary Care Practice-Based Research Network. (The University of Melbourne: Melbourne) Available at http://www.gp.unimelb.edu.au/vicren/ [Verified 6 August 2012]

Evans DGR, Warwick J, Astley SM, Stavrinos P, Sahin S, Ingham S, McBurney H, Eckersley B, Harvie M, Wilson M, Beetles U, Warren R, Hufton A, Sergeant JC, Newman WG, Buchan I, Cuzick J, Howell A (2012) Assessing individual breast cancer risk within the U.K. National

Health Service breast screening program: a new paradigm for cancer prevention. *Cancer Prevention Research (Philadelphia, Pa.)* **5**, 943–951. doi:10.1158/1940-6207.CAPR-11-0458

Harvey SL, Francis JE, McBride AJ, Bishop JF, Phillips K-A (2011) Medication to prevent breast cancer – too much to swallow? *The Medical Journal of Australia* **195**, 646–649. doi:10.5694/mja11.10830

Hopper JL (2011) Disease-specific prospective family study cohorts enriched for familial risk. *Epidemiologic Perspectives & Innovations* **8**, 2–10. doi:10.1186/1742-5573-8-2

National Breast and Ovarian Cancer Centre (2009) 'Breast cancer risk factors: a review of the evidence.' (National Breast and Ovarian Cancer Centre: Sydney)

National Breast and Ovarian Cancer Centre (2010) Advice about familial aspects of breast cancer and epithelial ovarian cancer: a guide for health professionals. (NBOCC: Sydney) Available at http://canceraustralia.gov.au/sites/default/files/publications/nbocc-bog-2010-web-a4-printable_504af02a673fd.pdf [Verified 20 May 2014]

Nelson MR, Doust JA (2013) Primary prevention of cardiovascular disease: new guidelines, technologies and therapies. *The Medical Journal of Australia* **198**, 606–610. doi:10.5694/mja12.11054

Nouwens E, Van Lieshout J, Adang E, Bouma M, Braspenning J, Wensing M (2012) Effectiveness and efficiency of a practice accreditation program on cardiovascular risk management in primary care: study protocol of a clustered randomized trial. *Implementation Science; IS* **7**, 94–101. doi:10.1186/1748-5908-7-94

Peiris DP, Joshi R, Webster RJ, Groenestein P, Usherwood TP, Heeley E, Turnbull FM, Lipman A, Patel AA (2009) An electronic clinical decision support tool to assist primary care providers in cardiovascular disease risk management: development and mixed methods evaluation. *Journal of Medical Internet Research* **11**, e51. doi:10.2196/jmir.1258

Royal Australian College of General Practitioners (2012) Early detection of cancers. In 'Guidelines for preventive activities in general practice'. pp. 65–67. RACGP, Melbourne.

Wuttke M, Phillips KA (2015) Clinical management of women at high risk of breast cancer. *Current Opinion in Obstetrics and Gynecology* **27**, 6–13.