Australia’s national breast screening program 18 years on: time for a new direction?

Mammographic screening for breast cancer has been almost universally accepted as reducing mortality in the screened population through early detection. National breast screening services are now well established in many countries, including Australia, where BreastScreen was established in 1991. Since then BreastScreen has provided a high-quality service to Australian women. A major evaluation of the BreastScreen Program is underway, commissioned by the Australian Health Minister’s Advisory Council. This is an opportunity to reflect on the role of BreastScreen in the provision of breast care in Australia, to establish new and innovative directions, and to ensure the future relevance of the program. This article discusses the issues from the viewpoint of clinicians at the coalface, who are providing breast screening and treatment services, but who appear to be under-represented in the review process. Recent discussion in the international literature about the information provided to women attending breast screening programs further highlights issues with the process of breast cancer screening.

The BreastScreen Australia National Accreditation Standards, against which individual services are evaluated, were set when the program was established and were updated in 2004. Individual services across Australia structure their programs quite differently while striving for these same standards. There is a lack of uniformity in many aspects of service provision, such as structure of the administration, quality assurance procedures, approach to women with a family history of breast cancer, use of clinical staff, data collection procedures, forms used and the approach to issuing results. Many of these processes could be standardized, and successful ideas from one service implemented across others.

BreastScreen Australia aims for a participation rate of 70% of the target population (women aged 50–69); the current national participation rate is only around 52%. While there are a number of variables affecting participation rates, one of the key factors may be that this figure reflects participation in the BreastScreen, but this may not reflect participation in mammography screening in general. An unknown (and probably very significant) number of women have screening outside BreastScreen, and this ‘de facto’ screening is not monitored, partly because there is no Medicare rebate for screening mammography. In the 12 months from July 2007 to June 2008, Medicare paid rebates for 314,000 bilateral mammograms and 40,000 unilateral mammograms. Many of these private ‘diagnostic’ mammograms (eligible for a rebate) in women with a family history, past breast cancer or nodularity/mastalgia may be performed with screening intent. In addition, it is likely that a large (and unknown) number of women attend private screening (without a rebate). Ideally, de facto screening rates need to be monitored and matched to BreastScreen statistics to determine true screening participation rates and strategies to integrate de facto screening clients with BreastScreen could be developed. A challenge is to integrate women who choose to have yearly mammography plus ultrasound privately who may only be eligible for 2-yearly mammography alone in BreastScreen. A potential solution is to provide an Medicare item number for screening mammography in private practices when strict quality standards are met. This would increase the number of women registered as screened and provide more accurate population data.

The information currently provided to women about the aims of BreastScreen and what it can realistically achieve for the individual is often given in the form of advertising material, which is possibly biased towards the benefits of screening and varies from one service to another. Such information provided during the initial consent process has been the subject of recent media attention following the publication of an article in the BMJ recommending the inclusion of information about ‘over-detection’ (over-diagnosis of non-lethal lesions with resultant treatment morbidity). While there is dispute about the extent of over-detection in screening, it must be acknowledged that there seem to be some in situ lesions that will never have the biological potential for invasion/metastasis, and it is reasonable that women be informed of this and some of the other disadvantages of screening to provide balanced information with which women can make choices.

It is outside the mandate of screening services to manage the symptomatic population. This is still not understood by many women (who may self-refer to BreastScreen when they develop a symptom) and some referring medical practitioners (who refer symptomatic women to BreastScreen expecting they will have diagnostic mammography and assessment). Symptomatic women attending the screening program are problematic for several reasons:

1. BreastScreen is not resourced to investigate women with symptoms, all of whom require clinical breast examination (and often ultrasound and biopsy) in addition to mammography.
2. Women and their general practitioners may be falsely reassured by a negative result and not pursue the essential further investigation.
3. Cancers in symptomatic women may be incorrectly reported as ‘screen detected’, artificially increasing the reported cancer detection rate of BreastScreen.
4. ‘Screen-detected’ symptomatic cancers inflate the BreastScreen average tumour size, as these cancers are likely to be larger than screen-detected asymptomatic cancers, making it more difficult to achieve accreditation standards requiring a high percentage of cancers to be small.

The approach to symptomatic women varies widely from one screening service to another. Those with the resources may recall all symptomatic women to an assessment clinic; others will refer the patient back to their general practitioner if mammography shows no suspicious features. This, however, puts the general practitioner (or specialist if referred) in a difficult situation as they do not have immediate access to the original and previous screening films. The decision must be made about whether to wait for and use copied BreastScreen films (technically inferior unless they are digital images) or to repeat the study (in conjunction with ultrasound and further work-up) at a private radiology practice that may not have a breast-trained specialist available.
Screening programs, as the experts in breast diagnosis, would be the ideal place for symptomatic women to be assessed. This would require a change in structure, and it would require additional funding and resources. This could be addressed by allowing BreastScreen to bill symptomatic services through Medicare. This may prove to be more cost-effective option on a population scale (compared with investigation through the private system), as it would avoid duplication of radiology services and avoid specialist referral, which may be driven by anxious doctors and patients. One problem with this model is the time it takes for the callback and work-up in BreastScreen. It may be unacceptable for a symptomatic woman to have the same 4-week wait for assessment that asymptomatic women with screen-detected lesions may have. Many of the screening assessment centres are co-located with symptomatic clinic facilities. Evolving a more seamless distinction between the two services would seem logical, but in the public hospital setting is made difficult by separate streams of funding.

Comprehensive Australian guidelines for breast imaging recommend the use of standardized synoptic reporting. While there has been poor uptake of the recommendations in community and hospital radiology practices, BreastScreen adopted lesion-based synoptic reporting at its inception. BreastScreen reports are very effective at providing the information required for specialist management of the index lesion, but there are still many ways that BreastScreen work-up and reporting could improve.

First, full local staging needs to be performed. Diagnostic work-up often seems to stop when a malignant result is obtained from the index lesion. The process of assessment should continue until all of the information needed for management is known, including the diagnosis of multi-centric lesions, contralateral lesions and axillary metastases. Ultrasound assessment of the whole ipsilateral breast and axilla and the contralateral breast can be justified for the majority of women with breast cancer, and is not part of the standard assessment in many screening services. There is increasing evidence for the benefit of ultrasound screening of the ipsilateral breast to identify multi-centric disease and the contralateral breast to exclude synchronous bilateral cancer occurring in around 2% of cases. In addition, with sentinel node-based axillary management the recommended option for most screen-detected cancers, the identification of abnormal axillary lymph nodes preoperatively is increasingly important. Ultrasound assessment of the axilla, while having relatively low sensitivity and specificity, is becoming part of routine practice in many centres because of the significant change in management that occurs when lymph node metastases are seen preoperatively.

It is a cause of delay in surgery and increased anxiety for women when they are sent for additional tests by their surgeon after assessment at BreastScreen. These tests are then performed by a different radiology service when they could have been performed more efficiently at the BreastScreen assessment by an expert breast radiologist who knows all the facts of the case.

Second, description of long-standing or benign-appearing lesions is essential. This is frequently not provided in reports from BreastScreen, leaving the treating team to wonder if these lesions were not perceived or were considered and dismissed. Surgeons and oncologists often require more information than simply a description and diagnosis of the malignant index lesion in order to plan cancer treatment.

Women at potentially high risk of breast cancer because of a family history and/or gene mutation (National Breast and Ovarian Cancer Centre category 3), women with a history of atypical proliferative breast disease, and women who have previously been treated for breast cancer require annual mammography, usually with ultrasound, and they also require regular clinical breast examination. These women are not suitable for the screening program in its current form. This group represents a large number of women who have no alternative but to attend private radiology services for imaging, taking on the cost of imaging and possibly having their films (potentially complex to interpret) reported by a breast-inexperienced general radiologist. It would take a considerable increase in resources for BreastScreen to provide this particular group of women with a comprehensive screening program; the alternative is to develop a clear policy informing women and referring doctors that they are not eligible to attend BreastScreen.

The integration of an alternative workforce must be considered. A shortage of radiologists for screen reading and assessment is an ongoing problem in many parts of Australia. The integration of radiographers has successfully occurred in some European countries, and evaluation has shown that they can achieve cancer detection rates equivalent to that of specialist radiologists (but with slightly higher recall rate). While there is also a shortage of breast radiographers across much of Australia, the opportunity to screen-read may make this area of practice more appealing.

Breast surgeons are currently used in assessment clinics to discuss results and management options with patients and to perform clinical breast examination. This is unsatisfying, inefficient and unsustainable for many busy breast surgeons. Most patients in BreastScreen clinics do not require surgical management, and those who do may ultimately be referred to other surgeons. Breast physicians are taking on this role in some screening services, and many have the additional skills in screen reading, imaging workup and intervention to bring to the program and credentialing pathways have been developed in some states.

In conclusion, the time is right for reappraisal of the value and process of the national breast screening service. The current inconsistencies and irregularities of the mechanism, as well as the over-simplified communication with clients need to be addressed. The concept of integration with symptomatic services may be a model that delivers both quality and efficiencies if there is the political will to deliver these benefits. The evaluation will hopefully address many of these issues and lead to a more efficient and cost-effective model of screening across Australia.

References
The management of chronic testicular pain is difficult. Patients in whom a clear organic diagnosis cannot be made may be subjected to a range of surgical treatments of unclear benefit. Many of the clinical features of chronic testicular pain ‘syndrome’ overlap with well-recognized somatoform disorders. Thus, the pain some patients experience may in fact represent underlying psychological conflict that is not surgically remedial.

Chronic testicular pain is described as persistent or recurrent episodic pain localized to the testis for at least 3 months.¹ This encompasses a myriad of clinical scenarios: from the patient with unremitting low-grade testicular ache, to episodes of acute scrotal pain with pain-free intervening periods. The main organic causes of scrotal pain that must be considered in each case include infection, testicular torsion and malignancy. Most acute organic causes can be excluded by a thorough history and physical examination, supplemented where indicated by urine and urethral cultures or PCR (Polymerase Chain Reaction) and scrotal ultrasonography. However, finding an organic diagnosis for a patient with chronic pain is more difficult. Despite modern advances in diagnostic evaluation, these patients typically undergo more than four procedures each,³ and no cause is found in 25%.¹

Invasive treatment options have included transrectal ultrasound-guided pelvic plexus block, pulsed radiofrequency, epididymectomy, orchidectomy and testicular denervation.²₄ Evidence for their use is limited to small case series, and their efficacies vary widely. Epididymectomy, previously seen as a last resort, has a reported efficacy of 20–75%.¹³,⁵ Testicular denervation has an efficacy of 71–96%.⁶,⁷ and one large series of 79 patients demonstrated durable relief in 71%.⁵ However, almost 30% of patients still underwent an unnecessary mutilating procedure.

Recent guidelines suggest early involvement of a multidisciplinary pain team.²⁹ Its role includes initial pain management and further evaluation with procedures such as diagnostic nerve blocks. Medical pain management is first attempted using trials of antibiotics, anti-inflammatories, low-dose antidepressants, anticonvulsants, membrane-stabilizing agents and opiates.²⁷ They are complemented by transcutaneous electrical nerve stimulation, lumbar sympathetic blocks or repeated phentolamine infusions,² and other treatments, such as rehabilitative physiotherapy for pelvic floor musculature.⁹

The psychiatric considerations reported in most articles about testicular pain have focused on the assessment and treatment of concomitant depression, rather than on the aetiology of the pain. Yet in one study of 48 men, 56% met criteria for a somatoform disorder, and 27% met criteria for major depression.³⁸ This suggests that the psychological contribution to such presentations may be more significant than previously identified. Somatoform disorders are a controversial collection of psychiatric disorders related to somatization. Somatization is the tendency to communicate psychological distress as somatic and medically unexplained symptoms. There are seven somatoform disorders described in the Diagnostic and Statistical Manual of Mental Disorders (DSM IV, Table 1).¹¹ Their common

### Table 1 Diagnostic and Statistical Manual of Mental Disorders (DSM IV) criteria for somatoform disorder

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<thead>
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<th>Criteria for pain disorder</th>
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<td>(1) Pain in one or more anatomical sites is the predominant focus of the clinical presentation and is of sufficient severity to warrant clinical attention</td>
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<td>(2) The pain causes clinically significant distress or impairment in social, occupational or other important areas of functioning</td>
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<td>(3) Psychological factors are judged to have an important role in the onset, severity, exacerbation or maintenance of pain</td>
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<td>(4) The symptom or deficit is not intentionally produced or feigned (as in factitious disorder or malingering)</td>
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<td>(5) The pain is not better accounted for by a mood, anxiety or psychotic disorder</td>
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DSM IV details the features required for diagnosis of psychiatric disorders. All criteria for pain disorder must be fulfilled for a positive diagnosis.