CHERE

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PROJECT REPORT 14

NSW Breast and Cervical Screening Program Review

by
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THE CENTRE FOR HEALTH ECONOMICS RESEARCH AND EVALUATION (CHERE) was established in 1991. CHERE is a centre of excellence in health economics and health services research. CHERE is funded by NSW Health under a Research and Development Infrastructure Grant, with additional support from Central Sydney Area Health Service and funding from external research. It is an affiliated research unit of the Faculty of Medicine, The University of Sydney. The centre aims to contribute to the development and application of health economics through research, teaching and policy support. The Discussion Paper Series reports on the work of the Centre and is intended to stimulate discussion. However, the views expressed are not necessarily the views of the Centre's funding bodies.

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All ideas expressed in this report and any remaining errors are the responsibility of the authors.

NSW BREAST AND CERVICAL SCREENING PROGRAM REVIEW EXECUTIVE SUMMARY AND RECOMMENDATIONS

The NSW Department of Health commissioned the Centre for Health Economics Research and Evaluation to conduct a review into BreastScreen NSW, the NSW Cervical Screening Program and the Pap Test Register (PTR). This report presents the main findings of that review.

The terms of reference for the review (see Attachment 1) were to investigate the programs' performance, funding, the potential to generate efficiencies in those programs, the potential for greater program integration and developments for future agreements. These issues are dealt with via a series of issues papers, constituting the body of this report. The following sections correspond to each of those issues papers, summarising their content. In the last section all recommendations made are listed, but are not presented in any order of importance.

BREASTSCREEN NSW OVERVIEW – ISSUES PAPER 1

1.1 Under the current program structure, screening and assessment services (SAS) unit boundaries do not align with statistical local areas (SLA) boundaries. This makes it difficult to calculate target population numbers and complicates the assessment of participation rates for each SAS unit.

1.2 Accountability for program performance, particularly in SAS units, is complicated by the interaction of Area Health Service (AHS) CEOs and a lack of leverage on the part of the State Coordination Unit (SCU) or the Department to enforce contractual obligations by SAS units, develop strategic plans or influence screening practices.

1.3 One of the principal problems in the current system is the lack of consistent and detailed reporting by SAS units with regard to their performance, resource utilisation and costs. The same point is identified in the KPMG reports. This lack of uniform data has precluded any detailed analysis of program and SAS unit efficiency and made it difficult to attempt to link funding to SAS unit efficiency.

1.4 Future assessments would be more complete if SAS units are required to report against a minimum data set, as outlined in Issues Paper No.1.

1.5 From the available data, it appears that SAS units serving larger populations have lower average costs per woman screened. It is not clear whether this is due to more efficient behaviour or purposeful targeting and screening of easy and cheap to reach women. It is also unlikely that the marginal costs of increasing screening are reflected in the average costs faced by SAS units. Teasing the two out requires more detailed research than afforded by the available data.

1.6 Similar core target populations, techniques and emphasis on recruitment, and a more holistic approach to women's health, suggest that there are potential improvements in

resource use and recruitment of women from closer integration of the Cervical Screening Program and BreastScreen NSW.

1.7 A key challenge for the program is the ongoing assessment of relative costs and benefits of different approaches to service delivery (such as larger SAS units or more mobile screening units). This requires ongoing analysis using a program budgeting and marginal analysis approach (PBMA). Meeting this challenge will require the SCU to access more ongoing health economics advice and expertise.

1.8 Under the present structure, it appears that the SCU is deficient in the level of external advice and expertise it has available on health promotion.

BREASTSCREEN NSW PERFORMANCE – ISSUES PAPER 2

2.1 Program goals are couched in terms of morbidity and mortality. However, there has been no linking of screening information and mortality data, making it difficult to comment on performance against these goals. Performance is subsequently assessed against intermediate indicators - the number of screens, performance to contract, and performance against standards set by the National Accreditation Requirements (NARs).

2.2 Assessment by this review is incomplete insofar as not all the data or information required were measurable or available to this review.

2.3 Analysis of program performance by this review concurs with the conclusions of the recent performance review conducted by the SCU and submitted to the Department in November 1998 - many aspects of the current agreements defining the program and SAS unit operations are being achieved satisfactorily. However, more detailed analysis reveals a more complicated situation.

2.4 On average, the program is screening nearly 87% of the target population, and achieving nearly 60% participation in the principal target group, women 50 to 69. This masks important differences between individual SAS unit performance (the target population range achieved for all ages varied by 27% and for the 50 to 69 year age group by 17%), and screening in the three different age groups - 40 to 49, 50 to 69 and 70 and over.

2.5 All SAS units are screening well above the suggested 15% ceiling for screening in the 70 and over age category. The State requires a clear policy on screening women over 70, and those 40 to 49, particularly given the maturity of the program and that the number over 70 will be increasing as the program matures further. This is borne out by the high re-screen rates found in this group.

2.6 Whilst the majority of re-screens are being carried out within 21 to 27 months of the previous screen, there is considerable variation amongst SAS units concerning the proportion of workload representing early re-screening (that is screening of women less than 21 months after their previous screen).

2.7 A number of issues pertaining to the accuracy of the data are raised. These include: reporting by SAS units; compilation of target population estimates; and currently no clear or consistent treatment in calculating screening performance of annual screens, women who change SAS units, or the prevalence of asymptomatic screening.

2.8 Although there are clear differences in SAS activity in terms of high and low screening rates, it has not been possible, due to incomplete activity and resource utilisation data, to infer that these differences necessarily reflect good or poor performance.

FUNDING BREASTSCREEN NSW – ISSUES PAPER 3

3.1 Commonwealth funding for BreastScreen NSW is capped under the Public Health Outcome Funding Agreement (PHOFA). This means it is appropriate for the Department to cap its expenditure. To not do so would risk a budgetary blow out.

3.2 Calculating the appropriate budget based on achieving steady state is complicated by the lack of clarity in what constitutes steady state. This should be rectified.

3.3 It is not clear that the price paid per woman screened under the current system in any way reflects the true resource costs of screening.

3.4 The incentives paid under the current system are likely to be insufficient to encourage SAS unit directors to proactively recruit hard to reach women or to maintain the standards of quality assurance required in screen reading.

3.5 This review agrees with the majority of the findings in the KPMG review with respect to funding, the assessment of efficiency and the lack of clear costing information. It does not agree with the funding mechanism proposed by KPMG.

3.6 Although SAS unit viability would ideally be measured against the minimum level of resources needed to provide screening services, it is assessed in this report by considering SAS unit income balances - that is screening income less reported expenditure. In three SAS units income balances were negative, and the range across SAS units was from -$9.55 to $24.64 per woman screened.

3.7 Low or negative income balances may be due to a number of factors, and indicate the extent of cross subsidisation. This is important to the program in that smaller SAS units would cease to be financially viable if they were funded on the same basis as larger units.

3.8 Cross subsidisation may not only reflect differences in costs but also a premium to improve equity of access to screening services. It is important to balance this issue of individual SAS unit viability against other program objectives, such as ensuring equity of access. In this sense it is better to consider overall program viability - reported as a positive income balance.

3.9 Discussions of individual SAS unit viability may not be appropriate given the organisational structure and difference in factors contributing to costs.

3.10 Analysis by this review indicates that the program would have saved over $2 million in 1997/98 if it had restricted payments to SAS units to screening women within ceiling rates - specifically only 15% of women 70 and over, and screening in other age groups had remained the same.

3.11 Determining an appropriate funding level greatly depends on the manner in which funding is organised and the extent to which true screening and recruitment costs can be measured. Four options were discussed: restricted screening practice; restricted funding base; average price using the 1996/97 base price; and average price using the MBS fee for bilateral mammography. It was estimated that substantial savings could be made from restricting screening practice to within target screening groups, including appropriate screening intervals

3.12 Six alternative funding models (with variations) are discussed, varying in terms of whether funds are capped or uncapped, screening targets are restricted, SAS functions are separated, the flow of money from the Department and funding based on an agreed amount for the target population or an amount per women screened.

3.13 These models are assessed in terms of their performance against a number of criteria - accountability, equity, viability, duplication of effort, technical and allocative efficiency, incentives and compatibility with the existing institutional framework.

3.14 The preferred model is to allocate an agreed amount to the SCU and to have this distributed to the SAS units on a Resource Distribution Formula basis. There would be some adjustment, in the form of retained funds, for SAS units screening outside of agreed targets.

SAS FEEDBACK ON PROGRAM PERFORMANCE AND ISSUES
ISSUES PAPER 4

4.1 Nearly half the SAS unit directors reported good relationships with the AHS to which they are responsible, but some indicated that current lines of accountability frustrate their ability to manage.

4.2 All unit directors stated they have a good working relationship with the SCU and, for most directors, with local chapters of the Cervical Screening Program. Most did not see scope for greater integration of the two programs.

4.3 The majority of directors identified the lack of a clear and consistent State policy on screening women 40 to 49, and over 70, as one of the biggest problems facing the program, requiring the immediate attention of the SCU and the Department.

4.4 A number of directors reported that they share their capital equipment, particularly core biopsy tables, usually with diagnostic services. However, under current arrangements there is a clear gap between the resources provided to diagnostic services and the financial recompense paid to SAS units. SAS unit directors are keenly aware of the need to move towards at least cost recovery pricing, and potentially beyond.

4.5 Some directors reported concern at the inconsistency across SAS units in the treatment of cost items and reporting, particularly in regard to ownership and payment for capital items, rental charges, salary award supplementation and back pay, and in some instances, utility charges. These inconsistencies have since been rectified.

4.6 SAS unit directors also reported that it was difficult to keep an accurate record of unit overspends or rollovers. In some cases directors were unable to secure access to rollovers held by AHS.

4.7 A number of directors reported concern at the inability of the current reporting system to collect or analyse screening information on a statewide basis, but recognise that the imminent implementation of the Breast Information System will address this issue.

4.8 Over half the directors indicated that their capacity to expand is limited by the availability of radiographers, limited physical capacity and by the capped funding formula currently applied. There was little consistency across SAS units as to future plans.

NSW CERVICAL SCREENING PROGRAM – ISSUES PAPER 5

5.1 The NSW Cervical Screening Program is managed by the WSAHS, while the Pap Test Register (PTR) is managed under contract by the NSW Cancer Council. The program is now in its second phase of operation.

5.2 The program is complicated by the fact that the State has only a very limited role in service delivery, monitoring of standards and policy development in relation to cervical screening, with the majority of services delivered in the private sector.

5.3 Program funding at the State level is primarily directed at recruitment, monitoring and evaluation, strategies for quality improvement, and administration. The approach adopted by the current program manager has been based on using organisational development principles to build collaborative networks to improve cervical screening.

5.4 In general, staff of both the Cervical Screening Program and the PTR report that the level of cooperation and collaboration between the two is high and there are few problems with joint initiatives or the timely provision of data. Separate management of the programs has its advantages, but there are also some difficulties. These arise in terms of data ownership and the increasing importance of data management, relative to other program functions, as the program matures.

5.5 Within NSW AHS's are responsible to the Department for screening rates within their population. The program operationalises this in that each AHS has an Area Cervical Screening Coordinator. The activity of these coordinators is largely directed by the program manager, and therefore provides AHS with limited scope to affect their screening rates. It is unclear what relationship, if any, exists between the screening rates the Department requires from AHS, and those set by the program manager for each Area Coordinator.

5.6 While neither the overall screening target, nor the target for women aged 50 to 69 have been achieved, there is evidence that screening rates in NSW have improved substantially over the period of the program. Estimates of biennialised 12 monthly screening rates for the 20 to 60 year age group increased from 57.2% in September 1997 to 61.3% in September 1998. Over the same period screening rates for the 50 to 69 year age group increased from 51.7% to 56.9%. These rates are below those set in both the Department contract and the PHOFA. However, in light of estimates of baseline screening rates of 58%, it is unreasonable to expect screening rates to increase to 75% (the target stated in the Department contract), particularly given the context in which the program operates in that it has little capacity to direct the activities of those involved in recruitment and screening of women.

5.7 At present there is little consistency in how AHS level screening targets and state targets are set. Both should be established on the basis of assessment of the baseline position, trends, resources available and possible strategies. This would allow a more thorough assessment of what targets can be achieved within the resources the State devotes to the program.

5.8 Area coordinators were interviewed to ascertain their views on program implementation and performance. The majority felt that the program was functioning well, and provided good support and resources. Some coordinators felt that could better function if given greater scope to develop local resources. Relationships with AHS were largely good, although some indicated that they were provided with little support from other AHS staff.

5.9 It is not possible to make a methodologically sound assessment of the cost-effectiveness of the program, or of the components of the program, because of the lack of baseline data and the interaction between the multiple strategies in the program.

5.10 However it is important to consider the range of estimates of cost per additional woman screened as a result of the program. Based on reasonable assumptions about how the resource use of the program should be estimated and allocated, it is estimated that the cost per additional woman screened to date is in the order of $60 to $80. It is also important to estimate the potential overall cost-effectiveness of the program. Again, based on reasonable assumptions about the distribution of resource use, this is in the order of $91 per additional woman recruited to two yearly screening. This suggests that the cost per additional woman screened in the program is high. Given the new structure of the PHOFA, there is a strong case for assessing the benefits of allocating these resources to cervical screening relative to opportunity costs (particularly forgone benefits in other public health programs).

5.11 Variations in the budget projections/ allocations and final expenditure, often greater than $100,000 in specific categories, reflects a lack of sound priority setting mechanisms or financial planning within the program. The financial management and priority setting mechanisms of the program require greater scrutiny. While this should not involve the Department becoming involved in hands-on program management, it could be achieved by requiring the NSWCSP to develop a consistent reporting format and classification of activities, and to make explicit its priority and budget setting mechanisms.

5.12 The allocation of resources at the AHS level needs to be examined, both in terms of the total funding provided to AHS and the distribution of these funds. The lack of any assessment of need or population size in the current allocation is inequitable and a potential impediment to improvements in screening rates. Further, particularly as program emphasis shifts from establishing infrastructure to maintenance of program activities, the share of funds to AHS should increase. In particular, there will not be the same need to build up information resources. The approach taken to date by the program of allocating equal amounts to Area coordinators for program functions and projects is at odds with the Department's approach to resource distribution policies more generally. That is, it does not reflect differences in population size or need.

5.13 Per capita allocation to AHS varies from $0.57 per woman in the target population to $10.77. Given that a considerable part of coordinators' activities depend on population size and demographic profile, this inequity in allocation creates a significant impediment to AHS meeting program targets.

5.14 Under the current structure advice to program is provided through three main avenues: staff employed by the program and PTR; the State Advisory Committee; and Program Task-Forces.

5.15 Through the course of this review, it became apparent that health promotion expertise is under represented in the current structure, particularly in the Task-Forces, and that the capacity of the Task-Forces to provide timely advice is limited in that they meet so infrequently.

PROGRAM OVERLAP AND SYNERGIES – ISSUES PAPER 6

6.1 There is currently limited integration in terms of the coordination and delivery of breast and cervical screening services in NSW.

6.2 Current program structure suggest that women are a collection of parts, not whole beings. This approach to women's health may be less fruitful from a marketing and recruitment point of view.

6.3 The case for integration is strengthened by both programs targeting the same core group of women, and both having difficulties in reaching particular population groups.

6.4 Combining recruitment functions may deliver economies of scale in terms of shared promotional and recruitment experiences, including the integration of record keeping and reminder functions.

6.5 Closer program integration is also compatible with the flexibility afforded by the PHOFA.

6.6 The case against integration centres on the cervical screening program targeting a much larger eligible population overall - such that it is necessary to have a wider range of marketing and recruitment activities.

6.7 There may be opposition and resistance from GP groups to dealing with a combined program, particularly if GPs perceive any closer integration as an attempt by the public sector to capture private screening (if the integrated program is to provide pap smears).

6.8 Integration may also be hampered by differences in relative budget allocations by the programs to different functions. That is, BreastScreen NSW focuses on recruitment and providing screening services, while Cervical Screening focuses only on recruitment and promotional activity.

6.9 There is a continuum of likely integration that could be employed in respect to these programs.

6.10 The preferred model of integration is to have one SCU for both programs, under the auspices of one program manager. The program manager would be advised by respective "clinical champions". Actual services would be provided separately but

would be managed under the SCU. Under this model, there is the potential for record keeping functions and analysis to be performed by the one Cancer Register, in this case the PTR.

6.11 Implementation of the preferred model would be after both programs complete another full screening cycle (two years), within which time scope and form for integration would be investigated and trialed.

6.12 Ultimately, the decision to integrate or not must depend on the detailed assessment of current program functions, their resource implications and the ability of current program managers to agree on potential synergies and benefits.

RECOMMENDATIONS

These recommendations also appear at the end of the Issues Paper in which they arise.

BreastScreen NSW

1. The Department, in conjunction with the SCU, should set a State policy on appropriate screening rates in the 40 to 49 and 70 and over age group. If it is State policy to have ceiling participation rates of 40% for 40 to 49 and 15% for 70 and over then these should be enforced, with the provision that these rates be adjusted in accordance with the outcomes of the current NAR review.

2. There is no active recruitment of either of these groups – individuals in these groups already in the program should not be sent reminder letters or for women 40 to 49, until such time as they reach the age of 50.

3. The SCU take an active role in assessing and advising the Department on the relative costs and benefits of screening women in these age groups as new evidence arises. This information should be used to assist in developing State policy on the NARs.

4. The SCU increase the level and quality of ongoing health promotion advice and expertise in its advisory groups and/or its management structure.

5. The SCU increase its use of ongoing health economics advice to facilitate a PBMA of the program, its resource use and performance.

6. The SCU should ensure that the implementation of the Breast Screening Information System, monitors and tracks women presenting for screening services in order to limit the number of women being repeatedly reported and funded on the basis of being initial screens.

7. The SCU monitor and enforce SAS unit compliance with the minimum data set as specified in Issues Paper 1.

8. The SCU include in its annual report to the Department a detailed summary for each SAS unit of the costs and resources utilised according to the minimum data set prescribed by KPMG and supported by this review.

9. That the Department and the SCU investigate performance measures to assess equity of access across SAS units. This could include distances travelled, the proportion of ATSI/NESB women screened, and rural versus urban uptake.

10. The population target estimates for ATSI and NESB women need to be appropriately adjusted using either one of the two options identified – i.e. calculation of general target rates or kept as separate targets for ATSI/NESB and ESB groups. Maintaining current practice will continue to underestimate the performance of BreastScreen NSW.

11. In line with the NARs, women attending for early re-screens should only be counted once within each screening round. Payment for screening those women should only cover early screens up to 5% of total screening activity.

12. Improvements are required in monitoring the flow of women in to and out of SAS unit areas to facilitate greater accuracy in screening data.

13. The SCU feedback timely performance data to individual SAS units and use these data as the basis of negotiating future performance contracts.

14. Further research is needed to quantify the extent to which diagnostic assessment is being undertaken by SAS units, and screening assessment is being undertaken by the private sector ("pseudo screens").

15. Where omissions in data were not simply because they could not be supplied in time for this report they must be carefully looked at in light of requirements for the minimum data set.

16. Information from the minimum data set be used as the basis for calculating the total screening funds to be allocated by the Department to the SCU on the basis that this information describes the true costs of screening the target population.

17. The Department and the SCU should settle on an agreed definition of steady state and issue a policy to this effect prior to the commencement of the next agreement.

18. The SCU allocate funds prospectively to screening units on a population basis, but adjusts funds retrospectively for the number of screens performed.

19. The Department and the SCU develop an RDF specific to breast screening, accounting for those factors which lead to differentials in the costs of screening, to be used in allocating funds.

20. Assessment of the need for, and viability of, individual SAS units, or potential benefits from combining units, be made by the SCU.

21. SAS units are only paid for screening women within the target ceiling rates.

22. SAS unit boundaries be reclassified to coincide with SLA boundaries.

23. The SCU, and the SAS directors, should report to AHS CEOs through the Senior Executive Forum using the same reporting as provided to the Department.

24. AHS's and SCU investigate the possibility of establishing positions for Area BreastScreen Coordinators in each AHS.

NSW Cervical Screening Program

25. The PTR should remain under contract to the Cancer Council;

26. The Department, in conjunction with the PTR and the Cervical Screening Program Manager should investigate how to align more formally the functions of the PTR and the program overall.

27. The relationship between screening targets determined by the Department for AHS, and those determined by the program manager for Area coordinators, should be made explicit. Screening targets for each AHS should be based on the those set by the program.

28. Revise the current screening targets to be more realistic. These should be in line with the PHOFA targets, and ultimately experience in Victoria should be used as a guide to a long term target.

29. The Cervical Screening Program should establish stronger links between strategic, business and financial planning processes. This should include explicit and sound priority setting.

30. There is a need for greater input of health economics advice to the program, particularly to assist with priority setting and assessments of value for money from different program activities.

31. The allocation of resources at the AHS level needs to be examined, both in terms of the total funding provided to AHS and the distribution of these funds.

32. As program emphasis shifts from establishing infrastructure to maintenance of program activities, the share of funds to AHS should increase.

33. Given the new structure of the PHOFA, there is a strong case for assessing the benefits of allocating these resources to cervical screening relative to opportunity costs (foregone benefits in other public health programs). This is particularly the case given that there is evidence that the cost per additional woman screened in the program is high.

34. Funding to AHS for Area coordinators should be allocated on an appropriate RDF basis, but with a minimum level of funding (at least one half FTE). The RDF should be set through collaboration by the Program Manager and the Department.

35. The program manager should develop formal links to AHS Public Health Division through its Committee Structures, including representation on the Management Committee, and on Task Forces where appropriate. This should also include representation from health promotion and marketing expertise from within the public health system.

36. The role of the SAC in program advice should be clarified and communicated to the program.

Program Overlap

37. Resource information and functions for both programs be compared to determine areas where integration of program functions would either increase screening rates, for given resource utilisation, or reduce resource utilisation, for given screening rates.

38. Analysis of resource utilisation be used to inform the final structure of shared functions to be carried out by the SCU under the single contract structure proposed for integration of the Breast and Cervical Screening Programs.

39. The single contract structure be implemented in the 2000/01 financial year.

40. The PTR remain under contract to the Cancer Council and investigate the option for it to operate as the chief data manager for the joint program structure.

41. Staff employed under the joint contract be made, for administrative purposes, employees of the holder of the single contract - in this case WSAHS.

42. Regardless of which model of integration is adopted, immediate steps should be taken to address methods to combine the recruitment and marketing functions of the programs.

ATTACHMENT 1

Terms of Reference
Breast and Cervical Screening Program Review

The Centre for Health Economics Research and Evaluation (CHERE) was retained by the NSW Department of Health to conduct a review of Breast Screen NSW and the NSW Cervical Screening Program. The Department set the following terms of reference for the review:

- To assess program managers' performance against the goals, targets and objectives outlined in the Commonwealth and State agreements, and the State and Area Health Services agreements defining the operation of these programs;

- To identify potential efficiencies that could be achieved by program managers, given the outcome of activities taken to date, particularly at the State Coordination Unit level;

- To review, in respect of Breast Screen NSW, the existing pricing structure paid to Breast Screen NSW by the Department, and by Breast Screen NSW to each Screening and Assessment Service (SAS);

- To document and assess, in respect of Breast Screen NSW, any differences in the efficiency levels of each SAS and to assess the viability of each SAS;

- To review the degree of synergy and scope for potential improvement in the relationship between the Pap Test Register and the Cervical Screening Program; and

- To recommend to the Department issues that must be taken into the next agreement including; current anomalies arising as a result of Commonwealth funding for breast screening being capped but State funding being uncapped; the funding of the Public Health Outcome Funding Agreement, particularly that incentive funding paid to the State by the Commonwealth is project driven; the development of new technologies in screening for either breast cancer or cervical cancer; and the developments in other states and nationally that may impact on how the programs operate in NSW.

The task was fundamentally one of assessing the performance of the current programs against existing goals and targets, and to identify possible areas for gain in efficiency and effectiveness of the programs in future agreements.

ISSUES PAPER 1:
BREASTSCREEN NSW OVERVIEW

Within NSW, management of the Breast Screening program was awarded via a tender process to the Western Sydney Area Health Service (WSAHS) in 1996. Actual program delivery and management are contracted to the Breast Cancer Institute (BCI), the State Coordination Unit (SCU) for the program. The SCU is responsible for the overall management, maintenance and reporting of program initiatives.

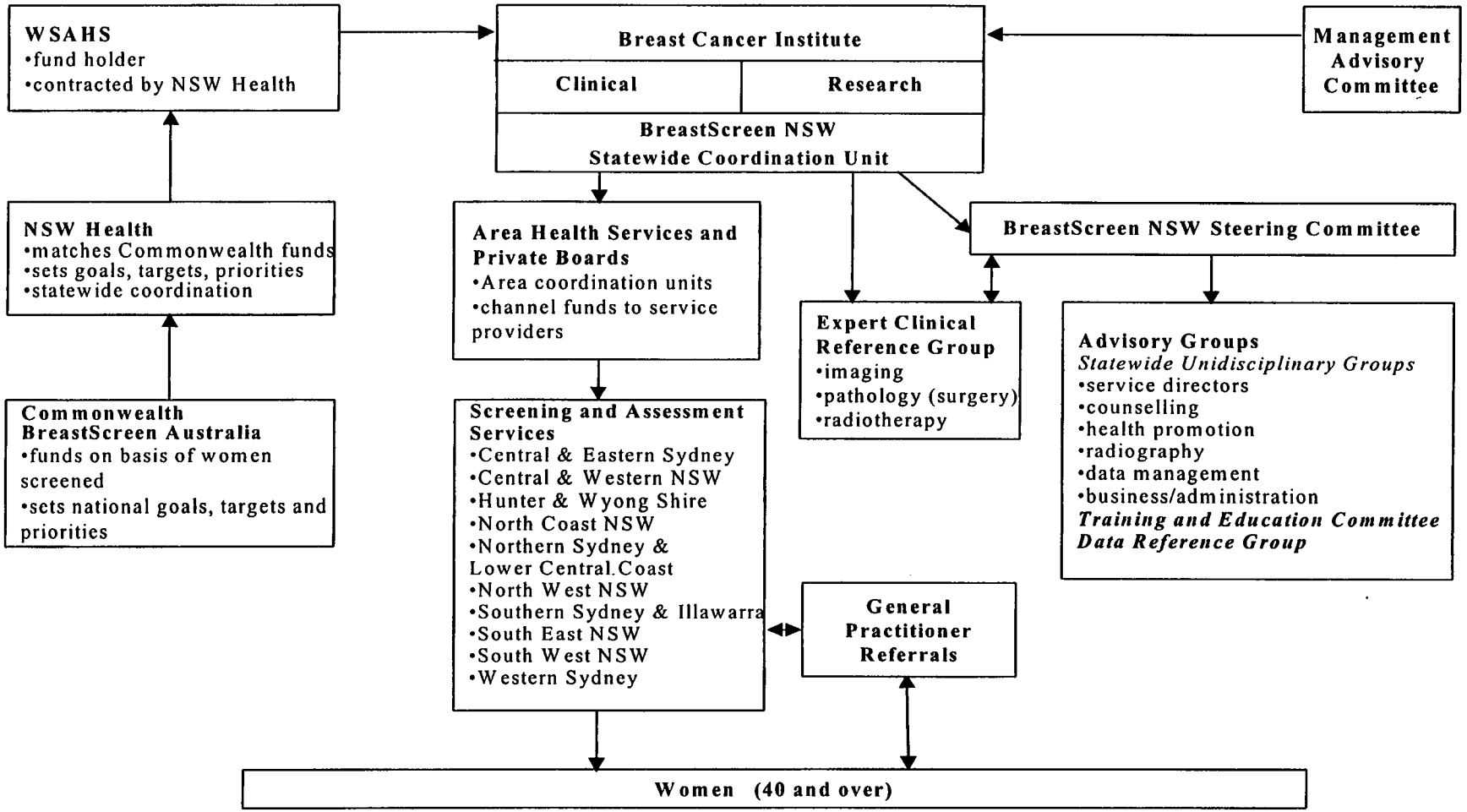
PROGRAM STRUCTURE

Program structure is outlined in Diagram 1. Delivery of program services is the responsibility of the Screening and Assessment Services (SAS) units. For the purposes of administering and delivery of health care services, NSW is divided into seventeen area health services (AHS). The delivery of screening services amongst these areas is organised into 10 SAS units that each cover more than one AHS. Two SAS units are run by private committees or community groups, while the remaining eight are administered through one of the AHS's that they cover.

Some key details of each SAS unit, the AHS responsible, the eligible population served and mix are below in Table 1. SAS unit functions focus on the delivery of screening and assessment services to women, and the continued recruitment of women to the program. Their role also includes the management of women with abnormal screening results up to, and including, diagnosis and referral for further treatment.

A problem with this structure is that SAS units do not cover well defined statistical boundaries, or statistical local areas (SLA). This means that an AHS or a single SLA may be in the catchment area for more than one SAS unit. This complicates the calculation of the eligible screening population for each SAS unit, and reduces confidence in using those numbers to assess the performance of each SAS unit. In contrast AHS have well defined SLA

DIAGRAM 1: STRUCTURE OF BREASTSCREEN NSW



boundaries. Redefining SAS boundries to 'fit' AHS would simplify the process to identify SAS units' eligible populations and to assess SAS units' screening performance.

Accountability Structures

Accountability for the performance of SAS units, under the current structure, is unclear. Each SAS unit has an appointed director who reports to the SCU at one level, and to the CEO of their responsible AHS at a more administrative level. However, it is not always clear to whom the SAS director is immediately accountable. This lack of clear accountability has caused some concern and delay in implementing strategies and expenditure at the individual SAS level (see Issues Paper 4 on SAS feedback on performance).

Although the SCU has the greatest capacity to guide SAS units, under the current structure it has little leverage with which to direct their behaviour. The current structure also inhibits decision making by the SCU at the overall program level, such as recommendations to merge SAS units or implement a centralised booking system, if unit directors disagree and try to block changes. Similarly, AHS CEOs lack the leverage to direct screening activity, even though they are accountable to the Department for population screening performance.

The SCU and SAS units have joint responsibility to ensure that SAS unit planning considers the availability of appropriate personnel and screening services, and looks at appropriate access to services in rural and remote areas.

WSAHS has primary responsibility for service provision. It is consequently responsible to the Department for the obligations and the actions of the SCU. The Department, as the final manager of the program also has specific roles and responsibilities, largely pertaining to the collection and dissemination of information relating to the program, advising the State Health Minister of the performance of the program and serving as key liaison with the Commonwealth.

TABLE 1: DESCRIPTION OF SAS UNITS

	SAS Unit	Management	Start Date	% Urban Screens	Ethnic Mix	Eligible Pop.
1.	Central and Eastern	Central AHS	1988	99	51	164,789
2.	Central and Western	Mid Western AHS	Sept 1995	0	95	54,302
3.	Hunter and Upper Central Coast	Hunter AHS	1989	74	95	149,436
4.	North Coast	North Coast Breast Screening Program Incorporated – private.	May 1993	10	96	108,386
5.	Northern Sydney and Lower Central Coast	BreastScreen Northern Sydney and Lower Central Coast Advisory Committee	May 1993	100	84	194,540
6.	North West	New England AHS	1991	0	95	40,874
*7.	South Eastern	BreastScreen ACT	February 1993	12	n/a	28,156
8.	Southern and Illawarra	South Eastern AHS	June 1994	87	69	134,413
9.	South Western	BreastScreen NSW South West Management Committee - private	January 1994	0	94	45,422
10.	Western Sydney	Western Sydney AHS	February 1993	97	60	251,794

Notes: Eligible population for each SAS is based on estimates from the 1996 Census of the resident female population in each SAS, as defined by the statistical local areas covered by that SAS, 40 or over.
% of urban screens is the proportion of the target population classified as urban.
Ethnic mix is the proportion of the target population who are from an English speaking background.

Source: BreastScreen NSW Strategic Plan; BreastScreen NSW internal documentation.

Goals, Objectives and Policies

The national goal for breast screening is to achieve a reduction in the mortality and morbidity associated with breast cancer by increasing the rate of early detection of breast abnormalities. This goal is to be achieved by targeting a participation rate, that is the proportion of the eligible population presenting for an initial screen and regular biennial screen, of 70% among women between the ages of 50 and 69. Although no target participation rate is set for women outside of this age group, states are to ensure that screening services are adequately accessible by women 40 to 49 and over 70 years of age.

Ceilings for screening in these age groups have been adopted from the National Accreditation Requirements. These are that not more that 40% of the population 40 to 49, and not more than 15% of the population 70 and over should be screened.

More specific goals and aims in terms of reduced morbidity, mortality and increased detection rates are presented below in Table 2. These form the basis of assessing program performance later in this document, and in more detail in Issues Paper 2.

TABLE 2: GOALS, AIMS AND STATEMENT OF PRINCIPLES

Public Health Outcome Funding Agreement	**Performance and Funding Agreement: BreastScreen NSW**	**Performance and Funding Agreement:** *WSAHS and AHS*
Goal: • To reduce morbidity and mortality due to breast cancer through the early detection of breast cancer in women. Statement of principles: • Assist to provide more equitable access. • Where minimum standards have been agreed these will be maintained. • To monitor performance using 2 indicators - > 8 per 10,000 women screened found to have invasive cancers ≤ 10mm; achieve 60% participation for all women 50-69 in a two year period.	Goal: • A 30% reduction in morbidity and mortality attributed to breast cancer in the target population by the year 2000. Aims: • Program implemented to ensure significant reductions in breast cancer mortality and morbidity. • Maximise early detection of breast cancer in target population. • Screening provided by dedicated and accredited SAS units. • Equitable access of the eligible population. • Services accredited, acceptable and appropriate to the eligible population. • High standards of management, delivery, monitoring, evaluation and accountability.	Goal: • As per Performance and Funding Agreement BreastScreen NSW. Aims: • As per Performance and Funding Agreement BreastScreen NSW.

Sources: A draft model Public Health Outcome Funding Agreement 1997/98 – 1998/99, March 1998; Performance and Funding Agreement for NSW Mammographic Screening Program, BreastScreen NSW, June 1997, Generic contract for Performance and Funding Agreement between WSAHS and individual Screening Assessment Services, August 1997.

FUNDING

Although a detailed discussion of the funding system for BreastScreen NSW is contained in Issues Paper 3, it is useful to give a precis of it here. Historically, the program was funded on a matched basis by the Commonwealth and state governments. The introduction of the Public Health and Outcome Funding Agreement (PHOFA) in 1997 effectively capped Commonwealth funding to the states, rolling it into a larger budget, for the affected public health programs.

The PHOFA replaced the payment of individual specific purpose payments to states for the National Breast Screening Program, National Cervical Cancer Screening Program, Female Genital Mutilation Education Program, National Women's Health Program, National HIV/AIDS Program, National Alternative Birthing Services, National Drug Strategy and Immunisation. Allocation of funds to the individual programs is subsequently at the discretion of each state, subject to state compliance with a set of agreed performance indicators. Overall, the Department has quarantined the funding for each of the public health programs in their current proportions until the end of June 1999.

The allocation of funds from NSW Health to the Program for the recruitment, screening and assessment of women is directly linked to the number of women screened. Funding included in the PHOFA is based on a predetermined amount to allow the State to achieve a level of steady state screening in terms of the number of women screened. This amount is calculated on the basis of the number of women screened and an approximation of the cost per woman screened.

Notionally, steady state was set as the level of screening activity 5 years after implementing the program. The implication is that the majority of screens being performed will be rescreens, initial screens being a function of the ageing of the population and some migration.

However there is some concern that the definition of steady state is unclear at best (currently under review by the BCI). If the desired funding amount is to be calculated on the basis of what is

required to achieve steady state, then the methods used to calculate steady state must be more firmly set. Furthermore, although the program overall may have reached some defined steady state level by a certain age, individual SAS units may lag behind if they are not as mature and would therefore be not be able to reach steady state if funded on current screening performance.

Funding is used as a means to generate incentives for efficient operation by the SCU. Direct incentive payments are made to the SAS units in the following areas:

- screening women 50 to 69;
- the detection of small invasive cancers;

The payment of incentives to screen women, and for the detection of small invasive cancers is retrospective. It may be the case that neither of these mechanisms is an effective use of funds. Firstly, incentive payments to screen women may be ineffective as they do not provide the funds up front to encourage the proactive recruitment of hard to reach women.

Secondly, the size of the incentives provided are insufficient to act as an inducement to screen women for cancer. The result is that SAS units may view these incentives as an addition to ordinary funding, arising out of screening, rather than an inducement to more actively recruit hard to reach women or ensure quality is maintained in reading screens.

Under the PHOFA, the capital funding for the program is set at the discretion of the State - when the Department allocates funds it includes a proportion in the screening payments for capital funding and histology. Capital funding is currently set at an arbitrary 7% of total funding - as per the KASAP and National reviews (KASAP, 1996; Carter & Cheok, 1994). However, individual SAS units are being paid differently for capital expenditure, and some are being reimbursed for the purchase of non core capital items. This inconsistency is problematic in that SAS units are not adhering to the capital funding guidelines.

Funding Reform

Options for reforming the funding for the program are discussed in Issues Paper 3. At this stage, and despite the limitations in commenting on program costs and efficiency, it is suggested that program funding be allocated on a population basis. That is, total screening funds would be allocated by the Department to the SCU who would then allocate funds to SAS units on the basis of the total population they serve. Calculation of the overall funding level would be at the discretion of the Department, with advice from the SCU as to the true resource costs of screening women. Adjustments to amounts paid to SAS units would then be made on the basis of screening performance relative to desired targets.

SCREENING AND PERFORMANCE

Ultimately, program performance is judged in terms of health benefits, in reducing morbidity and mortality. In the interim performance is assessed by the ability of SAS units to screen the relevant target populations. Although this is discussed in more depth in Issues Paper 2, it would appear from Table 3 that between 1996 and 1998 SAS units were largely achieving their screening targets.

TABLE 3: PERFORMANCE TO TARGET – ALL AGES : 1996-1998 CYCLE

SAS Unit	Target Population	Screened July 96 – June 98	Proportion of Target (%)
1. Central & Eastern	78,617	66,009	83.9
2. Central & Western	26,365	20,685	78.5
3. Hunter & Upper Central	76,845	71,258	92.7
4. North Coast	51,781	40,895	78.9
5. North West	20,116	18,011	89.5
6. Northern Sydney & Lower Central Coast	94,522	85,299	90.2
7. Southern & Illawarra	67,553	57,483	85.0
8. South Eastern	15,429	12,333	79.9
9. South Western	25,551	27,031	105.7
10. Western Sydney	124,669	105,958	94.7
BreastScreen NSW	**581,448**	**504,962**	**86.8**

Source: *SCU*

Notes: *Target population is calculated based on Census estimate for each age group and 40%;70%;15% participation respectively.*
This paper also appears in Issues Paper 2

These data show that between July 1996 and June 1998, BreastScreen NSW screened 86.8% of its target population for all age groups. Such performance may suggest the program is on track, but in fact it masks important differences between SAS units and between the three different age groups of interest. This notwithstanding, the range achieved by individual SAS units varied by 26.8%. Central and Western SAS achieved the lowest proportion of its target, 78.5%, while South Western SAS screened 5.7% above its target. These differences cannot be explained simply and are certainly more complex than it was possible to ascertain for this review.

Screening Targets

Part of the difference in SAS unit screening performance can be explained by differences in participation by the different age groups in each SAS unit. As Issue Paper 2 indicates, SAS units have not been adhering to ceilings on participation in screening, particularly among women 70 and over. All SAS units are screening significantly above the ceiling participation rate for this age group.

It is not clear whether screening in the 70 and over age group is occurring to the detriment of screening in other age groups, but it may be the case that some SAS units are over screening in that group because they are relatively easy to reach. This group also has a very high rescreening rate. Moreover, and as identified by the SAS unit directors, the extent of this problem will only increase as the program matures and more of the women already in the program reach the age of 70. This is not only an issue in terms of allocating resources within the program itself, but must also be considered in terms of the wider sustainability of the BreastScreen program vis a vis other health care programs.

To be able to address this issue, a clear state policy on screening women 70 plus and those between 40 and 49 is required which is also explicit about inviting women back. Currently, the international evidence in this area is not clear as to whether it is cost effective or indeed efficacious to screen women in either of these groups. What the literature does suggest is that women should be provided with as much information as possible as to the risks of breast cancer, the potential harms and benefits of screening for their age groups and that they be allowed to decide on whether to be screened or not themselves (Byers et al, 1997; Fletcher, 1997; Kerlikowske, 1997; Kricker, 1998; Phillips et al, 1999; Sickles, 1997; van Dongen, 1998).

The potential for such an open ended policy to lead to an increase in screening among women where it has not been shown to be effective, and the associated resource implications, is high. Despite inconclusive scientific evidence, it is prudent for the State to adopt a more consistent policy on screening women 40 to 49 and over 70 (which also considers initial and re-screens) including:

- ceiling participation rates of 40% for 40 to 49 and 15% for 70 and over should be enforced in accordance with current NARs, with provision for adjustment in accordance with the outcomes of the current NAR review;
- that these ceilings be hard ceilings (ie. reflected by the financial incentive mechanism);
- that there is no active recruitment of either of these groups – individuals in these groups already in the program should not be sent reminder letters or for women 40 to 49, until such time as they reach the age of 50;

One potential management strategy is for SAS units to allocate appointments, using booking facilities, to women in these groups and use availability of timeslots as a means of rationing

screening services. Overall, it should be the role of the SCU to inform the development of screening policies, particularly in relation to the cost effectiveness of screening for various age groups, and to inform the NARs of the State's perspective on what constitutes appropriate screening targets. Potential conflicts between state based screening policies and the NARs are discussed in Issues Paper 2.

Tracking Screens

Under the current screening and information systems SAS units are not able to track whether a woman presenting for screening has been screened elsewhere. That is, it is possible for a woman to be screened in one SAS unit but, for whatever reason, if she presents at another SAS for her next screen she is recorded as an initial screen for that SAS unit. This artificially inflates the number of initial screens being performed and payments within the program (see Issues Paper 2).

Although the magnitude of this effect is likely to be small, continuity of service and accurate reporting require that it be addressed. This should occur once the new Breast Screening Information System, which links screening services and performance in all SAS units, comes on line.

CONSTRAINTS AND ISSUES

As raised above, the current structure of the program, both in terms of the overall contractual arrangements and in the manner of service delivery are problematic. These problems arise in a number of areas:

1. Accountability – under the current structure there are multiple lines of accountability in terms of the payment of resources for screening services and who is responsible for achieving the agreed screening outcomes. These complexities to some degree frustrate the functioning of the program and its goals (see Issues Paper 4). Although funds are paid to the SAS units - and they are accountable for expenditure to the SCU - AHS CEOs are also accountable to the Department for screening performance, but have no direct influence over screening funding or activity. This

is problematic in terms of enforcing contractual obligations and the performance of AHS, the SCU and SAS units.

2. Leverage – it is not clear what leverage is available to the Department or to the SCU to ensure that AHS and the SAS units are complying with the terms of their contracts. Inability to enforce contractual obligations reduces the significance of performance criteria set in the contracts. Moreover, it reduces the ability of the Department and of the SCU to influence screening practices.

3. Reporting systems and the minimum data set – one of the main problems of the current system, partially born out of the multiple lines of accountability, is the inconsistency between SAS units in reporting performance and resource utilisation information. The same point is identified in the KPMG reports as perhaps the largest limitation in being able to compare and comment on the relative efficiency of the SAS units (KPMG,1998).

4. Economies of scale – under the current structure it would appear that those SAS units serving larger populations enjoy lower average costs per woman screened. However, whether this is indicative of more efficient behaviour is not clear and should be investigated more thoroughly.

5. Optimise participation – due to the lack of leverage in the current system, there is little scope for the SCU or the Department to ensure that SAS units are providing services in a manner which will optimise participation (that is achieve the most participation amongst women who will benefit). This includes a lack of clear policy direction for the SAS units as to the screening priorities and how to deal with women outside of these groups who present for screening.

6. Funding – under the current program structure, the Department is faced with either having to cap its own expenditure at a level below that needed to achieve steady state or maintain an open ended program and face a budgetary expansion. This decision is complicated by the uncertainty in being able to define and achieve steady state screening. It is not clear that the payment of incentive funds encourages SAS units to actively target hard to reach women. Finally, it is not clear that the price paid per women screened under the current system reflects the true cost of screening.

The majority of these issues are dealt with in Issues Paper 3.

Efficiency and the Minimum Data Set

KPMG identified that the key barrier to implementing any change in funding allocations and more closely approaching a system that meets costs per woman screened is the poor state of the current system for reporting financial information (KPMG,1998a). Furthermore, there is a perception that the current price per woman screened in some way reflects a benchmark efficient price. Rather, this price has been determined on the basis of funding which has historically been available for screening purposes and says little, if anything with regard to the efficiency of SAS operations (KPMG,1998a).

Assessment of the technical efficiency of SAS units requires the existence of agreed benchmarks of efficient behaviour, or at least comparable data on cost and expenditure.

However, under the current reporting system there is little consistency across SAS units in reporting. In particular:

- not all SAS units are charged for capital depreciation;
- not all SAS units are charged rent or utilities on fixed premises;
- there is inconsistency between AHS in charging SAS units for billeting mobile units – resulting in difference both within and between units;
- not all SAS units are required to meet the additional labour costs associated with award wage increases, superannuation and long service leave; and

- travel costs, in particular those associated with living away from home allowances for mobile unit staff, are not treated consistently across SAS units making it difficult to compare units' cost data.

- salaries are not comparable eg. SAS director's salaries are not standard and SAS staff at North Coast SAS are paid on a different scale to employees of other units.

Although comparisons of cost can be made at a very aggregate level, the lack of consistency and the paucity of detailed cost data has made it difficult to make accurate assessments at a disaggregated level. This being the case, there is little that can be said about the relative efficiency of SAS units, or to attempt to link funding to SAS efficiency.

Moreover, differences in reporting systems, and between BreastScreen NSW and other service delivery programs, means that there is not an adequate benchmark against which SAS behaviour can be assessed.

To create appropriate benchmark information the following standards are required:

- consistent reporting of AHS charges to SAS units;
- consistency in how costs are allocated to expenditure items and in the reporting of those items across SAS units and AHS;
- the reporting of expenditure against a consistent set of SAS unit functions, utilising the same cost codes;
- detailed reporting of income sources for each SAS; and
- detailed reporting of screening outcomes, the detection of cancers, and the use of core and open biopsy techniques.

In order to collect such information and facilitate comparison across SAS units on a consistent basis, KPMG has recommended a number of data collection forms. The unit cost variables which comprise this minimum data set are contained in Attachment 1 to this paper.

This review supports the recommendation made by KPMG and further recommends that the minimum data set be made an ongoing requirement in reporting from the overall program to the Department. Further, these data will allow both the Department and the SCU to comment on and potentially improve efficiency at the SAS level.

Synergies and Overlap

Issues Paper 6 explores the potential for greater integration between BreastScreen NSW and the Cervical Screening Program, and the options for how this may be organised. Given that the programs have similar core characteristics eg. focus on women 50 to 69, the relationships that they rely on in order to increase screening; they both cooperate with the AHS; both focus on recruitment of women to screening; there is a case to be made for integration. There was also considerable joint activity reported on the ground. On the other hand, the Cervical Screening Program targets a much larger group of women, does not deliver screening services to the same degree as BreastScreen NSW, is at a different stage in its program development and differs in the importance attached to different relationships.

Nonetheless, it is our opinion that closer integration of the two programs is likely to lead to the better use of resources and potentially to improve recruitment of women by concentrating efforts by the programs.

Although options for integration are discussed in more detail in Issue Paper 6, closer integration could be achieved by allowing both programs to complete another full screening cycle, within which time the form and scope for integration could be investigated and tested. This approach would be completed with a view to the current contractual arrangements being collapsed into one contract between the Department and a BreastScreen/ Cervical Screening program manager. The functional level of integration and program structure would then be the responsibility of the Program Manager.

Program Advice and Expertise

Under the present program structure the SCU receives expert advice from a number of groups, falling into four categories – Expert Clinical Reference Groups, Statewide Unidisciplinary Groups, Training & Education Committee and the Data Reference Group.

Discussions with the SAS unit directors indicated that, by and large, they were confident that the program was being provided with, and providing, sufficient and timely advice. This had not always been the case, particularly in terms of data management and issues, but recent changes in the SCU had resolved this situation.

However, it is not clear that the level of advice and expertise provided at the statewide level is appropriate. In particular, given that one of the main emphasises of the program is the recruitment of women, largely through informing them of the risks of breast cancer and the need to be screened regularly, it is not clear that the SCU has adequate health promotion expertise available. This should be rectified.

Moreover, the program has undergone a number of structural changes, often reviews its funding practices, and is frequently engaged in the evaluation of its own performance. All these tasks require health economic expertise and advice. However to commission such expertise every time it is required somewhat reduces the ability of that advice to make any progressive recommendations that are well informed. It would benefit the program to have more regular health economics input from one person/source which can build up some institutional knowledge and provide more timely, well informed advice on matters of evaluation, performance and resource shifts.

RECOMMENDATIONS

The following recommendations are those arising only from material in this Issues Paper. Other recommendations are made throughout the report in the Issues Paper in which they first arise.

1. The SCU, in conjunction with the Department, set a State policy on appropriate screening rates in the 40 to 49, and 70 and over age groups. If it is State policy to have ceiling participation rates of 40% for 40 to 49 and 15% for 70 and over then these should be enforced, with the provision that these rates be adjusted in accordance with the outcomes of the current NAR review;

2. There is no active recruitment of either of these groups – individuals in these groups already in the program should not be sent reminder letters or for women 40 to 49, until such time as they reach the age of 50;

3. The SCU take an active role in advising the SAS units of the cost effectiveness of screening women in different age groups, and inform the NARs of the State's perspective on screening targets;

4. The SCU increase the level and quality of ongoing health promotion and health economics advice/expertise in its advisory groups and/or its management structure;

5. To ensure that the implementation of the Breast Screening Information System, monitors and tracks women presenting for screening services in order to limit the number of women being repeatedly reported and funded on the basis of being initial screens;

6. The SCU monitor and enforce SAS unit compliance with the minimum data set as specified in this document; and

7. The SCU include in its annual report to the Department a detailed summary for each SAS unit of the costs and resources utilised according to the minimum data set prescribed by KPMG and supported by this review.

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ATTACHMENT 1

Minimum Data Set Requirements

The following unit cost data which are suggested as the basis for the minimum data set are drawn from the KPMG Report 1. For each item, SAS units need to collect data on the volume of resources used (in the appropriate units) and the price paid per each unit of that resource. To illustrate – each SAS should record the hours of radiographer time for which it is billed in each period, and the price charged per hour.

Cost Category	Cost Item
Medical Consumables	
X-ray film per sheet	
Large film	
Standard film	
MINRE film (18x24, 24x30)	
Duplicating film (18x24,24x30)	
Ektascan B ultrasound film	
Developer	
Fixer	
CPW biopsy	
Anaesthetic admin per client	
Fine needle aspiration	
Needle for core biopsy	
Needle guide (14G, 20G)	
Postage and Advertising	
Local letters	
STD letters	
Advertising (general)	
Advertising (promotional)	
Screening and Assessment Service	
Private screen	
Re-locatable screen	
Biopsy	
Stereotactic	
Pathology (FNCP, PEI, other)	
Hospitals – open biopsies	
VMOs (hours, fee)	
VMO/MO travel (hours, fee)	
Radiologists (hours, fee, travel, away allowances)	
Assessment clinics (hours, fee, travel, away allowances)	
Surgeons (hours, fee, travel, away allowances)	
Radiographers (hours, fee, travel, away allowances)	
Administrative (hours, fee, travel, away allowances)	
Travel Expenses	
MV expenses	
Courier	
Vehicle costs (fuel, repairs, registration, insurance)	
Towing mobile vans	

Relocation of relocatables

On Site Service Costs

Rent (paid or subsidised)
Telephone (paid or subsidised – fixed and mobile)
Electricity (paid or subsidised – fixed and mobile)
Other utilities (paid or subsidised)

Capital Costs

Building maintenance (paid or subsidised)
Building depreciation (paid or subsidised)
New buildings (paid or subsidised)
Biopsy tables
Mammography screening units
Office equipment
Computer equipment (paid or subsidised)
Depreciation on equipment

Miscellaneous Labour Costs

Mobile van drivers (hours, fee)
Administration and coordination (hours, fee)
Financial services (Area financial services – hours, fee)
Salary back-pays (hours, fee)

ISSUES PAPER 2:
ASSESSING BREASTSCREEN NSW PERFORMANCE

Assessment of the performance of BreastScreen NSW, particularly of the SAS units, has been made against the performance criteria contained in the State's and WSAHS's Performance and Funding contracts for the years 1996/97, 1997/98 and 1998/99. This review updates previous performance reviews using current data provided by the SCU.

GOALS, AIMS AND OBJECTIVES OF BREASTSCREEN NSW

Table 1 sets out the BreastScreen NSW and SAS goals and a statement of their relevant principles and aims. The Department and WSAHS contract sets a more detailed goal than is found in the agreement between the Commonwealth and the State.

Whilst the latter talks of morbidity and mortality reduction through early detection of breast cancer it does not specify targets. On the other hand, the contract between the Department and WSAHS specifies that a 30% reduction in morbidity and mortality from breast cancer is to be achieved by the year 2000. The statement of principles in the agreement between the Commonwealth and State is assumed to be incorporated in the State agreements with WSAHS as the State is accountable for expenditure of money allocated by the Commonwealth.

Ideally, the long term assessment of the Program should be based on these goals and aims. For the purposes of this review, however, there are two key reasons why the focus has been more narrowly set on intermediate indicators. Firstly, there has been no collection of baseline data since the program's inception by which to chart its progress. Secondly, it is not clear how these goals are to be interpreted within the current time frame.

In addition it is worth noting that BreastScreen NSW data collection and reporting systems concentrate on activities and events, not final end points. There are no routine data collected on morbidity (indeed there is as yet no accepted definition or set of definitions for morbidity

in this context) and linking of BreastScreen NSW data and breast cancer mortality data has not been completed at the present time.

The performance against aims of BreastScreen NSW is also not easily measured. They provide some more detailed guidance on different aspects of the program that are important for performance but the aims are not defined sufficiently that they can be measured. Therefore, whilst the goals and aims stipulate the desired direction of BreastScreen NSW they are of limited use for this review.

TABLE 1: GOALS, AIMS AND STATEMENT OF PRINCIPLES

Public Health Outcome Funding Agreement	**Performance and Funding Agreement: BreastScreen NSW**	**Performance and Funding Agreement: WAHS and AHS**
Goal: • To reduce morbidity and mortality due to breast cancer through the early detection of breast cancer in women.	Goal: • A 30% reduction in morbidity and mortality attributed to breast cancer in the target population by the year 2000.	Goal: • As per Performance and Funding Agreement BreastScreen NSW.
Statement of principles: • Assist to provide more equitable access. • Where minimum standards have been agreed these will be maintained. • To monitor performance using 2 indicators - > 8 per 10,000 women screened found to have invasive cancers ≤ 10mm; achieve 60% participation for all women 50-69 in a two year period.	Aims: • Program implemented to ensure significant reductions in breast cancer mortality and morbidity. • Maximise early detection of breast cancer in target population. • Screening provided by dedicated and accredited SAS units. • Equitable access of the eligible population. • Services accredited, acceptable and appropriate to the eligible population. • High standards of management, delivery, monitoring, evaluation and accountability.	Aims: • As per Performance and Funding Agreement BreastScreen NSW.

Sources: A draft model Public Health Outcome Funding Agreement 1997/98 – 1998/99, March 1998; Performance and Funding Agreement for NSW Mammographic Screening Program, BreastScree NSW, June 1997, Generic contract for Performance and Funding Agreement between WSAHS and individual Screening Assessment Services, August 1997.

Relating Principles and Objectives to Activities and Outcomes

Further guidance on defining performance for BreastScreen NSW is found in the objectives agreed to in the agreements between the Department and WSAHS, and between WSAHS and the other AHSs (see Table 2).

TABLE 2: PROGRAM OBJECTIVES

Performance and Funding Agreement: BreastScreen NSW	Performance and Funding Agreement: WSAHS and AHSs
• After 5 years 70% participation in National program by women in target group (50-69) and access to the Program for 40-49 and 70-79 years • Re-screen at two yearly intervals • Achieve agreed performance on recall rates, retake films, invasive procedures, false negatives, false positives, cancers detected (particularly small ones) • To fund only SASs which are accredited according to agreed NARs • Achieve patterns of participation representative of socio-economic, ethnic and cultural profiles of the target population	• As per contract between WSAHS and AHSs

Sources: Performance and Funding Agreement for NSW Mammographic Screening Program, BreastScreen NSW, June 1997; Generic contract for Performance and Funding Agreement between WSAHS and individual Screening Assessment Services, August 1997.

The details of the performance and funding agreements (PFA) contain further performance measures (schedules 3 and 4 in the NSW Health and WSAHS PFA respectively, and funding targets clause 3.2 of NSW Health PFA). These criteria are listed in Table 3 below.

TABLE 3: PFA PERFORMANCE CRITERIA

- Women are selected for screening on the basis of age alone – 40 years and above are eligible. All promotional materials and recruitment strategies will be targeted at women 50-69 years.
- The screening interval will be every 2 years (21-27 months)
- The screening target includes a maximum of 40% of women, 40-49 yrs; minimum of 70% of women 50-69 yrs; maximum of 15% of women, 70-79 yrs (women 50-69 are to be given priority).
- Annual re-screens are to be less than 5% of a SAS unit's target

Sources: Performance and Funding Agreement for NSW Mammographic Screening Program, BreastScreen NSW, June 1997; Generic contract for Performance and Funding Agreement between WSAHS and individual Screening Assessment Services, August 1997.

To be recognised as an accredited service of the National Program, BreastScreen Australia, individual SAS units are required to meet at least the minimum standard of the National Accreditation Requirements Standards (NARS) (CDHSH, 1994).

Some key minimum standards that are useful to this review are set out in Table 4.

TABLE 4: NARs MINIMUM STANDARDS

Performance Objective	Minimum Standard
Recruitment	
• Maximise the number of women screened	• ≥ 80% of screening targets for previous 12 months
• Maximise women screened – 50-69 years – aim for 70%	• In previous 12 months – screen ≤ 35% women 40-49 years and > 60% women 50-69 years of total screened
• Maximise participation by ATSI and NESB women	• Participation by 60% of women 50-69 years after 5 years of the program • Urban areas ≥ 50% participation of rate for general population, rural/remote follow recruitment plan
• Maximise re-screening	• ≥ 75% of women 50-69 years screened in previous round • Subsequent rounds ≥ 90% of women re-screened
Screening	
• To ensure high quality mammography	• Minimal annual throughput of 4000 urban screens, 3000 rural screens • Each radiographer takes ≥ X-rays for 1000 women • Technical repeats of < 3% of total films • Assessment recalls < 10% of women screened at prevalent round • Recalls < 5% at incident rounds
Assessment	
• To minimise the proportion of women referred for open biopsy	• < 2% of women screened to be referred
• To minimise unnecessary invasive procedure	• ≤2:1 for prevalent round • ≤ 1:1 in incident rounds
Overall	
• Maximise the number of cancers detected	• > 50 per 10,000 women screened – prevalent round • 20 per 10,000 women screened – • incident rounds
• To maximise number of minimal invasive cancers detected ≤ 10mm	• > 8 per 10,000 women screened
• To detect DCIS	• 10-29% of cancers detected
• Minimise interval cancers	• 6 per 10,000 in 12 months following screening

Source: CDHSH, 1994

As most of the performance criteria in Tables 3 and 4 are measurable, the assessment of performance to contract can, in principle, be measured along each of these dimensions. However there are some important omissions from the stated aims or principles for the program, that is they are not defined in the contracts and therefore are not of any help in assessing program performance. Equitable access is a case in point. Therefore there are some further limitations in this review of performance, particularly with respect to any assessment of equity.

Previous Reviews

BreastScreen NSW's Strategic Plan 1997-2000 (BreastScreen NSW, 1997) assessed performance for the period 1991-1996. It found that BreastScreen NSW had met its required performance when assessed against performance standards identified from the NARS and the Commonwealth State contract of the time.

Performance data were submitted as part of the review of management of BreastScreen NSW conducted during the period October 1996 to October 1998 (BCI, 1998). In that report data were presented relating to criteria relevant to clause 3.2 of the contract. Again, the findings support the view that BreastScreen NSW is performing to recognised standards (see Table 5).

TABLE 5: ASSESSMENT OF PERFORMANCE

Indicators of performance	Period	% of Indicator Achieved
Indicator 1; ≥ 95% of proposed target screened	1996/97 1997/98	99.4 106.5
Indicator 2; ≥ 60% of 50-69 year olds (and reach 70% by 1998/99)	1995/96 1996/97 1997/98	52.0 54.0 58.8
Indicator 3; ATSI and NESB women, screen ≥ 50% of the general rate for 50-69 year olds	to June 1998	45.0 (NESB)
Indicator 4; re-screens within 27 months ≥ 75%	1994/95	72.9

Source: BCI, 1998, pp 3-5

DATA ISSUES

The data used in this section are from BreastScreen NSW reports for the period 1996-1998. However six important (or potentially important) data issues were encountered:

1. In order to fulfil terms of reference for this review data were requested by individual SAS, not by AHS as is usually reported by SCU. Advice was received by the Data Manager at the SCU that calculating base population data on this basis might be inaccurate. Census population data are reported for SLAs, but one SAS may not fully cover several SLAs and there is no strict algorithm by which to allocate SLA populations to a specific SAS. However, we are of the view that provided this shortcoming is acknowledged and the data interpreted with care, it remains more meaningful to report performance data by the unit of service delivery, i.e. the SAS unit.

2. The second issue concerns aggregation of target population estimates. It appears that there is inconsistency between the way screening targets for each of the three age groups (40-49; 50-69; and 70-79 year olds) is calculated. Current practice is to apply the respective age-specific targets (40%, 70%, 15%) to *total* population figures as given by the 1996 Census irrespective of the fact that separate ATSI and NESB targets exist (defined as 50% of *total* participation rates for each age group i.e. respectively 20%, 35% and 7.5%). By adopting this practice target levels can never be achieved in principle and thus by continuing this practice BreastScreen NSW will continue to underestimate performance.

   There is a choice between two adjustments to these figures to rectify the situation (both result in the same outcome). The first option is that targets for ATSI and NESB women are adjusted before being incorporated into calculations of overall percentage of met targets or participation rates. The second option is that ATSI and NESB women can be removed from both numerator and denominator and analysed separately. (In practice, owing to limited data being available, it was not possible to re-estimate the figures for this adjustment. Hence unadjusted figures are presented in the following tables.)

   Additionally it is noted that in calculating eligible population figures from Census data strictly speaking the number of women with breast cancer should be removed from the

eligible population estimates. It is however unclear whether this simple adjustment has been done but since these are small numbers not adjusting is unlikely to have a significant impact.

3. Even with the above issues clarified it can be expected for two reasons that the screening figures contain a certain amount of error. The first reason concerns the number of mammograms SAS units perform on symptomatic women that are inaccurately reported as screens. Although this is likely to be a very small proportion of total screening, it is expected to vary between units. Anecdotal evidence suggests that the number of such screens may be higher in rural units. On the other hand, a much larger problem for BreastScreen NSW is adjusting for women who have a "psuedo" screen on Medicare. At this stage it is not possible to adjust screening numbers for either of these types of screens, but both will affect the relative effectiveness of BreastScreen NSW.

4. Attention also needs to be drawn to possible error contained in the reporting of initial screens and re-screens. This error can happen for two main reasons. If a woman moves to a new SAS area she is counted as an initial screen at that SAS, regardless of whether or not she has been screened elsewhere before. Also, if the woman changes her screening location to suit work arrangements, she will be counted as an initial screen at that location although previously she may have attended at the site closest to her residence. As there are distinct and different minimum standards set for re-screen rates depending on the screening round, this suggests that a centralised data collection that could chart the migratory flows of eligible women would eliminate this problem. Currently the order of magnitude of this problem is unknown although it is expected that it would be important in SAS areas with known migration patterns.

5. There is a potential problem caused by an unclear policy for annual screens. If, on a per capita basis, units vary in the number of annual re-screens they perform, then those that do a lot more than is typical will artificially raise their screening uptake and hence participation rate. It is advisable that the number of annual re-screens be carefully monitored to assess the extent to which it becomes a problem in inflating SAS unit

performance. At present they are not reported separately in the screening interval reports making it impossible to monitor this issue.

6. Finally there were some areas of the performance contracts which were not commented on as the information required to do so could not be made available (either it was not part of the centralised data collection or simply could not be supplied in time). These omitted pieces of data included information on numbers of: FTE radiographers per 1000 screens; technical repeats; recalls for assessment; screens by ATSI and NESB women by all age group; core biopsies; detection of invasive cancers for incident and prevalent rounds; numbers of small cancers and interval cancer rates.

PERFORMANCE OF BREASTSCREEN NSW

It is important in the interpretation of performance criteria to understand inherent underlying differences between SAS units (such as rurality, the length of time in business, ethnic mix of the local catchement population or management arrangements). Table 1 of Issues Paper 1 has already described a number of these variables and their differences between SAS units. In general these variations suggest that care should be taken searching for overly simple explanations of differences in performance levels between SAS units. The descriptive analysis that follows (presented as Tables 6.1 through to 6.8) attempts to assess performance using the indicators outlined in Tables 3 and 4. If data were not available in the exact form (either because they are not collected or could not be made available in time for this review) then next best available data have been used.

Table 6.1 below presents an overview of participation performance. These are based on SAS units estimated target population eligible for screening in the 1996-1998 screening cycle.

TABLE 6.1: PERFORMANCE TO TARGET, ALL AGES:
1996-1998 CYCLE

SAS	1996 Census	Target Population[1]	Screened, July 96 – June 98	Percentage of Target Screened
1. Central & Eastern	164,789	78,617	66,009	84.0
2. Central & Western	54,302	26,365	20,685	78.5
3. Hunter & Upper Central	149,436	76,845	71,258	92.7
4. North Coast	108,386	51,781	40,895	78.9
5. North West	40,874	20,116	18,011	89.5
6. Northern Sydney & Lower Central Coast	194,540	94,522	85,299	90.2
7. Southern & Illawarra	134,413	67,553	57,483	85.1
8. South Eastern	28,156	15,429	12,333	79.9
9. South Western	45,422	25,551	27,031	105.8
10. Western Sydney	251,794	124,669	105,958	85.0
BreastScreen NSW	**1,172,112**	**581,448**	**504,962**	**86.8**

Source: SCU

Notes: [1] based on Census estimate for each age group and 40%;70%;15% participation respectively. These data are unadjusted for the proper accommodation of ATSI and NESB targets as identified in the section headed "Data Issues".

These data show that during the period in question BreastScreen NSW screened 86.8% of its target population for all age groups. Such performance may suggest the program is on track, but in fact it masks important differences between SAS units and between the three different age groups of interest. The range achieved by individual SAS units varied by 26.8%. Central and Western SAS achieved the lowest proportion of its target, 78.5%, while South Western SAS screened 5.7% above its target.

These differences cannot be explained simply and are certainly more complex than it was possible to ascertain for this review. However it is important to recognise that the three SAS units that achieved the lowest proportions of their targets (Central and Western, North Coast and South Eastern) are also the youngest SAS units. Also the geographical location of the Central and Western SAS is unique (it covers 47% of the landmass of NSW and is sparsely

populated). In general these figures mask the socio-demographic profile of SAS units and for that reason the subsequent tables are more informative.

TABLE 6.2: PERFORMANCE TO TARGET, 50 TO 69 YEARS: 1996-1998 CYCLE

SAS	1996 Census	Target Population[1]	Screened July 96 - June 98	% of Achieved Target
1. Central & Eastern	67,006	46,904	39,070	83.4
2. Central & Western	23,206	16,244	12,589	77.5
3. Hunter & Upper Central	73,200	51,240	43,358	84.6
4. North Coast	48,865	34,206	25,701	75.1
5. North West	18,227	12,759	11,362	89.0
6. Northern Sydney & Lower Central Coast	87,301	61,111	54,040	88.4
7. Southern & Illawarra	68,745	48,122	39,716	82.5
8. South Eastern	16,724	11,707	9,105	77.7
9. South Western	27,888	19,522	17,910	91.7
10. Western Sydney	111,109	77,776	67,202	86.4
BreastScreen NSW	**542,271**	**379,590**	**320,053**	**84.3**

Source: SCU

Notes: [1]based on 70% participation of Census estimate. These data are unadjusted for the proper accommodation of ATSI and NESB targets as identified in the section headed "Data Issues".

The data in Table 6.2 indicate that for BreastScreen NSW as a whole 84.3% of the women targeted in the 50-69 year age group were screened between 1996 and 1998, 15.7% short of the level targeted. Analysis by SAS unit shows a 16.6% variation in targets achieved and none reaching the target. Once again North Coast and Central and Western SAS units attained the lowest rates for the program (75.1% and 77.5% respectively), while South Western and North Western SAS units attained the highest (91.7% and 89.0% respectively).

As the minimum desired screening standard is 60% participation (approximately 85% of target population) it appears from these data that four SAS units meet this and a further four

are close (84.6%; 84.3%; .83.4%; and 82.5%). The three remaining SAS units achieved a level below the minimum standard 75.1%-77.7% of screening targets for the 50-69 age group. Once again this level of aggregation masks important differences in the cultural make up of individual SAS units.

TABLE 6.3: PERFORMANCE TO TARGET AND UPTAKE RATES:
BY AGE GROUP, 1996-1998

SAS	% Achieved Target, all ages[1]	% Achieved Target, 40-49 years[2]	% Achieved Target, 50-69 years[2]	% Achieved Target, 70-79 years[2]
1. Central & Eastern	84.0	62.1	83.4	225.3
2. Central & Western	78.5	63.5	77.5	183.5
3. Hunter & Upper Central	92.7	76.2	84.6	362.2
4. North Coast	78.9	59.4	75.1	186.4
5. North West	89.5	68.0	89.0	229.2
6. Northern Sydney & Lower Central Coast	90.2	63.4	88.4	240.7
7. Southern & Illawarra	85.1	62.5	82.5	199.5
8. South Eastern	79.9	63.5	77.7	232.6
9. South Western	105.8	89.4	91.7	721.2
10. Western Sydney	85.0	63.2	86.4	225.2
BreastScreen NSW	**86.8**	**65.4**	**84.3**	**241.3**
	% Upatake rates[3], all ages	**% Uptake rates[3], 40-49 years**	**% Uptake rates[3], 50-69 years**	**% Uptake rates[3], 70-79 years**
1. Central & Eastern	40.1	24.8	58.3	33.8
2. Central & Western	38.1	25.4	54.2	27.5
3. Hunter & Upper Central	47.7	30.5	59.2	54.3
4. North Coast	37.7	23.8	52.6	28.0
5. North West	44.1	27.2	62.3	34.4
6. Northern Sydney & Lower Central Coast	43.8	25.3	61.9	36.1
7. Southern & Illawarra	42.8	25.0	57.8	29.9
8. South Eastern	43.8	25.4	54.4	34.9
9. South Western	59.5	35.8	64.2	108.2
10. Western Sydney	42.1	25.3	60.5	33.8
BreastScreen NSW	**43.1**	**26.2**	**59.0**	**36.2**

Source: SCU

Notes: [1] as per final column Table 6.1; [2] screens as percentage of target women for respective ages groups, [3]total screens per age group divided by Census population for respective age groups. These data are unadjusted for the proper accommodation of ATSI and NESB targets as identified in the section headed "Data Issues".

The data in Table 6.3 differentiate between percentages of achieved targets by age group in the first half of the table and crude uptake rates by age group in the second half. Essentially these data provide similar information, the former in terms of how close to target each SAS has performed, the latter what percentage of eligible women are attending. These data show differential performance to contract indicators for each age group and by SAS. Interpretation of these data must recognise the distinction between indicators representing ceilings from those representing floors. The targets represent ceilings for the 40-49 and 70-79 year age groups and for uptake by the 40-49 year olds (no ceiling on uptake is set for the 7-79 year age group). Indicators for target and uptake for the 50-69 year age group represents a floor.

In terms of achieved targets, in general the 70-79 year age group is being over screened, the 50-69 year age group is about 15% under target and about two thirds of the 40-49 year age group target is being screened, well within target. In particular, it is interesting to note South Western SAS screened over 700 times their target for this age group, or attained 108.2% uptake, by far the highest rates of all SASs. The closest SAS behind South Western was Hunter and Upper Central Coast SAS, at 362.2% over target, approximately half the rate for South Western. At the other end of the range both North Coast and Central and Western SAS had considerably lower percentages of targets screened (186.4% and 183.5% respectively). Nevertheless these rates still approached twice the desired target for that age group. We can see from these data that for the younger age group South Western SAS screened the most women, 89.4% of their target whilst the North Coast SAS screened the least, at 59.4% of target.

The NARS set limits on the age groups screened in a 12 month period. There is an upper limit set for 40-49 year old women as a percentage of all screens - $\leq 35\%$ in the previous 12 months. During 1997/98 22.7% of all women screened by BreastScreen NSW were in this age group (not presented in the table), well within NAR standards. Sixty-two percent of all women screened were 50-69 years old, exceeding the minimum NAR standard of at least 60% of total screens. The remaining 15% of screens performed being for older women, 70-79 years old screened. Of specific interests here is that whilst BreastScreen NSW has complied with NAR standards on the mix of women, clearly this did not lead to meeting desired targets. Of all the women screened in a 12 month period the mix should be at least 60% for 50-69 year

olds, no more than 35% for 40-49 year olds leaving around 5% of 70-79 year olds to be screened. Given that a lower number of 40-49 year olds are actually screened in this 12 month period it might be acceptable to allow the percentage in the oldest age group to increase to around 10-8%. However, in practice the mix is more heavily skewed towards the 70 year olds and older age group – the balance is respectively 22.2% 40-49 year olds; 62.5% 50-69 year olds; and 14.7% 70 plus year olds. This raises the question about what to do in situations, such as this, when objectives/standards conflict with one another.

TABLE 6.4: INITIAL AND RE-SCREENING ACTIVITY: 50-69 YEARS, 1997/98

SAS	Total Screens	Initial Screens	Re-screens	% Re-screens
1. Central & Eastern	19,713	3,842	15,871	80.5
2. Central & Western	6,761	3,317	3,444	50.9
3. Hunter & Upper Central	23,366	4,352	19,014	81.4
4. North Coast	14,371	2,788	11,583	80.6
5. North West	5,778	1,150	4,628	80.1
6. Northern Sydney & Lower Central Coast	27,010	7,078	19,932	73.8
7. Southern & Illawarra	20,604	7,851	12,753	61.9
8. South Eastern	4,643	1,575	3,068	66.1
9. South Western	6,612	1,396	5,216	78.9
10. Western Sydney	34,222	7,296	26,926	78.7
BreastScreen NSW	**163,080**	**40,645**	**122,435**	**75.1**

Source: SCU

The data in Table 6.5 presents initial and re-screening activity. Re-screening is defined by the SCU as occurring within a 21-27 month interval. These data are not in the exact form that the minimum accreditation standards require as the data were only available for one year (therefore measures in relation to previous 12 months could not be calculated). Nor are the re-screen data separated into first and subsequent re-screening rounds to be able to compare the differential re-screen rates by screening cycle. Thus it is difficult to place an accurate interpretation on the data. Whilst Central and Western SAS appears to have a particularly low re-screening rate, the interpretation is not necessarily that they experience difficulty attracting women back for screening, rather it may be due to them being the youngest of all the SAS

units. Southern and Illawarra SAS, who also have a low re-screening rate, had not reached the five year "steady state" level of operation either.

TABLE 6.5: RE-SCREENING BY AGE GROUP:
1997/98 SCREENS WITHIN PREVIOUS 2 YEARS

SAS	40 to 49 (%)	50 to 69 (%)	70 to 79 (%)	All ages (%)
1. Central & Eastern	52.9	80.5	90.9	77.7
2. Central & Western	22.6	50.9	50.8	43.4
3. Hunter & Upper Central	53.3	81.4	88.2	75.8
4. North Coast	48.5	80.6	84.2	74.7
5. North West	67.6	80.1	88.4	78.0
6. Northern Sydney & Lower Central Coast	44.9	73.8	78.1	68.4
7. Southern & Illawarra	31.0	61.9	72.5	58.0
8. South Eastern	50.6	66.1	40.7	61.3
9. South Western	53.4	78.9	85.0	75.3
10. Western Sydney	51.3	78.7	83.9	74.7
BreastScreen NSW	**48.1**	**75.1**	**81.4**	**69.8**

Source: SCU

As is shown in Table 6.5, the highest re-screening rates are found in the 70-79 year age group (one factor explaining high overall participation rates for this age group). Clearly the policy concerning re-inviting this group back needs to be made clear if BreastScreen NSW is to stay within its targets. An 81.4% re-screen rate was achieved in 1997/98 for the whole program for this age group, ranging between 50.8% in Central and Western SAS to 90.9% in Central and Eastern SAS. Re-screen rates are lowest in the 40-49 year age group. The state average is 48.1% and ranges between 22.6% and 67.6% for the individual SAS units. Overall the re-screen rate has reached 69.8% of all screens which suggest the program as a whole is near to steady state but clearly there are important deviations from this primarily because of the different ages of individual SASs. The same caveats as discussed for the previous table apply here.

TABLE 6.6: SCREENING INTERVALS, ALL AGES:
JANUARY - DECEMBER 1998

SAS	Early Screens, ≤ 12months (% of total)	Early Screens, <21 months (% of total)	Re-Screens, 21-27 months (% of total)	Late Re-Screens, >27 months (% of total)
1. Central & Eastern	660	2,366	13,709	1,881
	(3)	(12)	(26)	(9)
2. Central & Western	550	1,563	5,258	296
	(6)	(18)	(60)	(3)
3. Hunter & Upper Central	1208	2,339	26,139	2,909
	(4)	(7)	(77)	(9)
4. North Coast	2681	3,728	11,767	1,565
	(13)	(18)	(57)	(7)
5. North West	16	347	5,576	507
	(<0.00)	(5)	(82)	(7)
6. Northern Sydney & Lower Central Coast	4283	6,261	22,354	2,856
	(11)	(17)	(59)	(7)
7. Southern & Illawarra	166	679	16,770	1,329
	(<0.00)	(3)	(86)	(7)
8. South Eastern	244	699	3,579	493
	(4)	(13)	(65)	(9)
9. South Western	44	327	7,309	877
	(<0.00)	(4)	(83)	(9)
10. Western Sydney	4126	6,568	30,760	3,705
	(9)	(14)	(65)	(7)
BreastScreen NSW	**13978**	**24,877**	**143,221**	**16,418**
	(7)	**(12)**	**(68)**	**(8)**

Source: SCU

Notes: Time measured from the 1998 screen to the previous screening, in months. Numbers in parentheses show proportion of total screens. Proportion of total screens for each SAS adds to less than 100% as some of the total screens are initial screens.

The routine screening interval is two years. In practice it is expected that the majority of women will return within 21-27 months. The data presented in Table 6.6 describe the pattern of re-screen interval for women screened during 1998. The majority of re-screens, 68% of the total, were conducted within the 21-27 month time frame. However, these rates varied considerably. Central and Eastern SAS had the lowest percentage in this timeframe, 27% and Southern and Illawarra SAS had the highest, 86%.

Depending on how early re-screens are defined, the data show there is a wide variation at individual SAS unit level in the percentage of early screens conducted. The PFA sets a

standard for annual re-screens at less than 5% of total re-screens. From these data we can see that North Coast SAS (by approximately 8%) and Northern Sydney and Lower Central Coast SAS (by approximately 6%) exceed this target.

If a broad definition of early re-screens is used, i.e. return with 21 months of the previous screen then the early re-screen rate ranges from 3% of total screens (Southern and Illawarra SAS) and 18% (Central and Western and North Coast SAS units).

A further 8% of re-screens were performed beyond the 27 month interval, representing a category of irregular screeners.

TABLE 6.7: SCREENING OUTCOMES
OPEN BIOPSY RATE (% OF TOTAL SCREENS)

SAS	Screens	Total Open Biopsies	Open Biopsies % of Screens	Total Core Biopsies
1. Central & Eastern	33,679	38	< 2%	293
2. Central & Western	11,154	0	-	10
3. Hunter & Upper Central	38,689	63	< 2%	158
4. North Coast	23,087	43	< 2%	31
5. North West	9,263	0	-	0
6. Northern Sydney & Lower Central Coast	43,310	34	< 2%	284
7. Southern & Illawarra	30,393	66	< 2%	199
8. South Eastern	6,172	14	< 2%	87
9. South Western	10,199	11	< 2%	152
10. Western Sydney	55,143	259	< 2%	304
BreastScreen NSW	**261,080**	**528**	**< 2%**	**1,518**

The data in Table 6.7 are those available relating to the assessment phase of breast screening. There are three relevant NAR performance indicators under the assessment category:

1. less than 2% of women screened to be referred for open biopsy;
2. less than or equal 2:1 ratio of open biopsies to cancers detected for prevalent rounds; and
3. 1:1 ratio of open biopsies to cancers detected for incident rounds.

However only the first of these indicators can be assessed as data on prevalent and incident rounds are not available. It is clear from the table that each SAS unit meets the minimum standard for the percentage of women screened referred for an open biopsy. There are, however, no indicators relating to core biopsies performed as an alternative and more prolific assessment procedure.

TABLE 6.8: SCREENING OUTCOMES:
CANCERS DETECTED PER 10,000 SCREENS
(ALL INVASIVE AND SMALL CANCERS)

SAS	40 to 49		50 to 69		70 to 79		Total	
	All	**Small**	**All**	**Small**	**All**	**Small**	**All**	**Small**
1. Central & Eastern	16.8	-	48.2	-	67.8	-	42.8	-
4. North Coast	4.3	-	28.5	-	58.8	-	29.0	-
5. North West	30.6	-	41.5	-	50.3	-	39.9	-
7. Southern & Illawara	17.2	-	19.9	-	50.8	-	24.0	-
8. South Eastern	29.9	-	32.3	-	133.1	-	40.5	-
10. Western Sydney	15.2	-	42.7	-	49.7	-	36.3	-
BreastScreen NSW	**9.8**	**4.5**	**22.2**	**14.8**	**32.7**	**22.1**	**20.9**	**13.6**

Source: SCU

The first point to note about Table 6.8 is the incompleteness of the data. There were no data on small cancer detection rates available for any SAS units, only data at the state level. The NAR minimum standard of more than 8 small cancers detected per 10,000 women screened was achieved by BreastScreen NSW (an average of 13.6 per 10,000 overall). This varied by age group. The highest rate was found in the 70-79 year age group, 22.1 per 10,000 women. For the 50-69 year age group the rate was 14.8 small cancers per 10,000 women and 4.5 per 10,000 women screened in the youngest age group.

A second area of incomplete data relates to total cancers detected. In this case there were four SAS units for which data were not reported. A state average of 20.9 per 10,000 women screened was achieved, varying from 32.7 for the older age group to 9.8 for the youngest age group. It was not possible with these data to assess whether NAR standards had been reached as these would have required the cancer detection rates to be categorised by prevalent and incident screening rounds.

Separate data on DCIS cancers were not made available so we were unable to assess whether the NAR minimum standard of 10-29% of total cancers detected was reached.

Finally we are not aware of BreastScreen NSW being able to provide data on interval cancers so that we cannot assess whether the indicator of less than 6 interval cancers per 10,000 women screened within a 12 month period was attained.

SUMMARY

A number of indicators of performance reviewed in this paper support the general conclusion of the recent performance review conducted by SCU and submitted to NSW Health Department (BCI,1998). This was that many aspects of the current performance and funding agreements between the State and WSAHS, and between WSAHS and individual AHS are being satisfactorily achieved. However, a number of concerns arising from the data made available have been identified. In other instances it was simply not possible to assess performance because of lack of information or measurable criteria in place at the time. Thus it is important to recognise the picture formulated is, at best, an incomplete one.

Also, as mentioned earlier, to accurately interpret variations in data by SAS is a far more complex task than was possible to perform for this review. Even the recent and very detailed KPMG costing project was unable to determine a satisfactory complete explanation for variations in cost and activity by SAS units. Thus by pointing out individual SAS units for unusually high or low performance in our descriptive analyses we can not infer these necessarily depict good or poor performances. Underlying differences within SAS units such as described in the Issues Paper 1 will have important bearings. However, this analysis does serve to highlight some important issues.

First it is worthwhile pointing out the key limitations. The data presented do not say anything about the overall direction of BreastScreen NSW especially in terms of meeting morbidity and mortality goals and to a lesser degree equity concerns. This has proved to be beyond the scope of the review but in assessing performance these higher level directions ought to be taken into account.

More specifically, although screening targets overall appear to be reasonably close to (or in one case above) targets, this is misleading. The overriding concern revealed by looking at these data by age group is of a clear tension between intended (and contracted) screening policy for different age groups and what is taking place "on the ground". There is significant excess of screening in the 70-79 year age group taking place within all SAS units, activity which is considered inappropriate under current contractual arrangements. This also raises the important issue of how long these older women ought to actively be recruited for screening.

From the findings reported we have the following recommendations. Please note they are not presented in any particular order of importance.

RECOMMENDATIONS

1. That the Department and the SCU investigate performance measures to assess equity of access across SAS units. This could include distances travelled, the proportion of ATSI/NESB women screened, and rural versus urban uptake.

2. The population target estimates for ATSI and NESB women need to be appropriately adjusted using either one of the two options identified – i.e. calculation of general target rates or kept as separate targets for ATSI/NESB and ESB groups. Maintaining current practice will continue to underestimate the performance of BreastScreen NSW.

3. In line with the NARs, women attending for an early re-screen should only be counted once within each screening round.

4. Improvements are required in monitoring the flow of women in to and out of SAS unit areas to facilitate greater accuracy in screening data.

5. The SCU feedback timely performance data to individual SAS units and use these data as the basis of negotiating future performance contracts.

6. Further research is needed to quantify the extent to which diagnostic assessment is being undertaken by SAS units, and screening assessment is being undertaken by the private sector ("pseudo screens").

7. Where omissions in data were not simply for reasons that they could not be supplied in time for this report they must be carefully looked at in light of requirements for the minimum data set.

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ISSUES PAPER 3:
FUNDING BREASTSCREEN NSW

An integral part of this review is to investigate how BreastScreen NSW is currently funded, the implications of this for program performance and viability, how to determine an appropriate funding amount and the options for reform of how funding is organised. Consequently this Issues Paper is organised into four main sections: Current Funding Model; SAS Viability; Funding Levels; and Funding Models.

CURRENT FUNDING MODEL

BreastScreen NSW is currently funded on a per woman screened basis, funds drawn from the PHOFA and the Department. Prior to the PHOFA the base funding level had been determined by applying an agreed price per woman screened ($110.28 for rural women and $88.22 for urban women) to the expected number of screens for a given year. This resulted in total base funding for screening in 1996/97 of $21.68 million. While this funding amount is based on a price per screen, the total budget from the Commonwealth is capped.

With the introduction of the PHOFA in 1997/98, the Commonwealth component of funding was capped at the base 1996/97 allocation with an adjustment for price inflation. Funding in that year was also supplemented with additional Commonwealth Incentive and Demonstration money, and roll overs from the 1996/97 allocation. This brought total funding for 1997/98 to $22.93 million. A total of $24.78 million has been allocated to the program for 1998/99.

BreastScreen NSW subsequently funds the SAS units according to a funding model. Given that this model is currently under review, it will not be discussed in detail. Broadly speaking, the current funding system functions as follows:

- total funds are allocated by the Department to the Program Manager, WSAHS. Within WSAHS the program is managed as one of the three arms of the BCI, the SCU. BCI has separate cost codes for each of these functions, including BreastScreen NSW.

- the SCU allocates funds to SAS units according to an agreed funding formula which takes into account demographic factors including rurality/ remoteness, NESB and ATSI populations, as well as the size of the unit (which considers the capacity to benefit from economies of scale).

- to reflect differences in the capacity to benefit from economies of scale, SAS units are divided into five categories, with a differential urban and rural price in each category for base screening. This has resulted in the classifications and pricing in Table 1.

- the SCU allocates additional funds to SAS units which have to screen remote women, recognising the additional costs involved in recruiting and screening such women.

- prior to distributing funds for screening the SCU retains 7% for capital funding, 5% for capped incentive funding and $1 per women screened for central recruitment functions. Capital funds are allocated to the SAS units upon application to the capital sub-committee, with the total allocation for each unit capped at 7% of its total budget allocation. SAS units receive incentive funds for screening women in the 50 to 69 age group and for the detection of small invasive cancers. These funds are paid in addition to payments for base screening and are not linked to any particular project.

- all SAS units, with the exception of Western Sydney SAS, are charged an efficiency penalty by the SCU. This is charged at differential rates across the five expenditure levels. Funds collected via this penalty are held in a contingency fund by the SCU for use in meeting shortfalls in funding by the program. In 1997/98 this fund held $805,892. Western Sydney SAS is currently excluded from paying this penalty because it was perceived to be the most efficient SAS unit on the basis that it had the lowest expenditure per woman.

TABLE 1: SAS CLASSIFICATIONS FOR THE PURPOSES OF BASE FUNDING

SAS Units	Urban Price	Rural Price	Remote Loading
Level One – ACT Screens			
South Eastern	58.00	91.90	
Level Two – 5,000 to 15,000 Screens			
Central & Western		87.80	45.50
North West			
South Western			
Level Three – 15,000 to 30,000 Screens			
North Coast	62.31	87.06	
Southern Sydney & Illawarra			
Level Four – 30,000 to 40,000 Screens			
Central & Eastern	61.83	83.00	
Hunter and Wyong Shire			
Northern Sydney & Lower Central Coast			
Level Five – 40,000 to 60,000 Screens			
Western Sydney	58.40	80.00	

Source: Breast Cancer Institute, 1997

Issues with Current Funding

There are a number of major concerns with respect to the current funding model. First, program funding from the Department is open ended and potentially unsustainable, but the current Department contract is still based on a payment per woman screened and a commitment to fund screening to the steady state level. Commonwealth funding is capped at a lower level of screening.

The Department is therefore faced with either having to cap its own expenditure at a level below that needed to achieve steady state or maintain an open ended program and face a budgetary expansion. This decision is complicated by the uncertainty in being able to define and achieve steady state screening.

Second, SAS units are paid incentive monies to encourage screening in women 50 to 69, and the detection of small invasive cancers. However, the payment of these incentives is retrospective. It may be the case that neither of these mechanisms is an effective use of funds. Incentive payments to screen women 50 to 69 may be ineffective as they do not provide the funds up front to encourage the proactive recruitment of hard to reach women. In addition, the size of the incentives provided are insufficient to act as an inducement to screen women for cancer. The result is that SAS units may view these incentives as an addition to ordinary

funding, arising out of screening, rather than an inducement to more actively recruit hard to reach women or ensure quality is maintained in reading screens.

Third, the lines of accountability in the current system are complex and to some degree frustrate the functioning of the program and achieving its goals (see Issues Paper 3). Although funds are paid to the SAS units - and they are notionally accountable to the SCU - AHS CEOs are also accountable to the Department for screening performance, but have no direct influence over screening funding or activity.

Finally, it is not clear that the price paid per women screened under the current system reflects the true resource cost of screening.

KPMG Review

Many of these funding issues were addressed within the KPMG review. The SCU is expected to implement changes to the current funding model in light of the recommendations made by KPMG (KPMG,1998a). In summary, these recommendations are that:

- SCU should ensure that SAS funding and expenditure data are collected on a consistent basis, to accurately reflect true costs and differences in costs of service delivery;

- Incentive payments for detection of breast cancer should not be used and that resource allocation should be framed within clear guiding principles;

- Cost structures and factors affecting those structures should be used as the basis for developing alternative funding allocations;

- The relationship between costs of service delivery and the funding model should continue to be explored, particularly in terms of how SAS units plan who to screen;

- SAS units should estimate the cost per woman screened, according to costing proforma suggested by KPMG, and that these costs should be used by the SCU as the basis to set an agreed fee for service;

- SAS units should continue to be paid a fee for service for screening women with a predictable lower than average cost (LAC women);

- Capital funding should continue to be allocated on the current basis, with greater consideration of the impact on ongoing costs of purchasing a capital item;

- Screening for women outside the predictable low average cost group should be funded on a directed block funding basis, and that specific changes in screening practice or changes required to alter the mix of women screened should be funded on the same basis.

Although this review agrees with many of the findings and assessment of program performance made by KPMG, it does not agree with the proposed funding mechanism. That is, if it was the case that SAS units could easily differentiate between LAC women, and hard to reach women, it is unlikely that the funding mechanism proposed would achieve the best program outcomes. Rather, program outcomes would be better served by paying SAS units block funding for screening easy to reach women, and paying them on a fee for service basis for more hard to reach women.

Allocating funds on a block grant for easy to reach women, and fee for service for hard to reach women recognises that SAS units face different expenses in recruiting hard to reach women, and that there is a cohort of easier to reach women who can be recruited without too great a change in resources allocated to them. Payment under either of these methods, however, assumes that SAS units can estimate, ahead of time, the number of easy and hard to reach women in the areas they serve who will also be compliant for re-screens, and the relative costs associated with reaching these groups. It is doubtful that either of these assumptions hold to any level of satisfaction.

KPMG identified that the key barrier to implementing any change in funding allocations, and more closely approaching a system that meets costs per woman screened, is the poor state of the current system for reporting financial information (KPMG,1998b,1998c). Furthermore, there is a perception that the current price per woman screened in some way reflects a benchmark efficient price. Rather it has been determined on the basis of funding which has

historically been available for screening purposes and says little, if anything with regard to the efficiency of SAS operations (KPMG,1998b,1998c).

Barriers to Assessing Efficiency

Assessment of the technical efficiency of SAS units requires the existence of agreed benchmarks of efficient behaviour, or at least comparable data on cost and expenditure. This issue has been discussed in Issues Paper 1.

Although comparisons of cost can be made at a very aggregate level, the lack of consistency and the paucity of detailed cost data has made it difficult to make accurate assessments at a disaggregated level. This being the case, there is little that can be said at this stage about the relative efficiency of SAS units, or to attempt to link funding to SAS efficiency.

Moreover, differences in reporting systems, and between BreastScreen NSW and other service delivery programs, means that there is not an adequate benchmark against which SAS behaviour can be assessed. Appropriate data should be collected according to the minimum data set detailed in Issues Paper 1.

SAS VIABILITY

There are a number of possible interpretations of viability. One interpretation is that viability is determined by whether the total income generated by screening is sufficient to cover the operating and capital expenditure of each SAS unit. Alternatively, we can take a more ex ante approach – what is the minimum level of resources with which a SAS unit could provide screening services for its relevant population?

The first interpretation is problematic in that income generated by SAS units is partially a product of their current level of efficiency, and may therefore perpetuate inefficiencies if used as a measure of viability. Similarly, both interpretations are predicated on the fact that the program already exists and has an established structure. Other interpretations of viability may have been applicable if considering program viability before its structure was established. That is, a SAS unit may be viable but it may not be the best way to provide screening services.

The second interpretation is the more appropriate of the two. However, data are not available to allow viability to be measured according to this interpretation. Aggregate expenditure data have therefore been used to compare the actual number of screens performed and incomes received by the sas units thereby giving some indication, albeit rudimentary, of sas unit viability.

Assessment of Viability

The issue of financial viability considers whether each SAS unit is making sufficient income to cover its expenditures. Although South Western SAS recorded the highest average expenditure per woman screened they also recorded the highest income per woman screened, giving them an income balance (ie income less expenditure) of nearly $25 per woman screened (see Table 2). North Coast SAS recorded the second highest income balance, with average expenditure per woman screened being almost $22 less than income earned.

The remaining SAS units either incurred low or negative income balances. Central & eastern SAS recorded the highest income loss, $9.55 per woman screened. Overall, income to the program per woman screened exceeded average expenditure per woman screened by $2.81.

TABLE 2: SAS VIABILITY - 1997/98 FUNDING

	SCREENS	ACTUAL INCOME		EXPENDITURE		INCOME BALANCE	
		Total $	*Per Screen*	*Total $*	*Per Screen*	*Total $*	*Per screen*
1. Central & Eastern	33,679	2,675,634	79.45	2,997,379	89.00	-321,745	-9.55
2. Central & Western	11,154	1,296,316	116.22	1,378,603	123.60	-82,287	-7.38
3. Hunter & Wyong shire	38,689	3,409,350	88.12	3,219,596	83.22	189,754	4.90
4. North Coast	23,087	2,722,990	117.94	2,224,046	96.33	498,944	21.61
5. Northern Sydney & Lower Central Coast	43,310	3,288,024	75.92	3,424,976	79.08	-136,952	-3.16
6. North West	9,263	935,544	101.00	853,648	92.16	81,896	8.84
7. South Eastern	6,172	648,376	105.05	638,793	103.50	9,583	1.55
8. Southern & Illawarra	30,393	2,551,267	83.94	2,536,344	83.45	14,923	0.49
9. South Western	10,199	1,588,233	155.72	1,336,980	131.09	251,253	24.64
10. Western Sydney	55,134	3,811,532	69.13	3,573,559	64.82	237,973	4.32
SCU		721,125		703,551			
Total	**261,080**	**23,648,391**	**90.58**	**22,887,475**	**87.66**	**760,916**	**2.91**

Source: ***Breastscreen nsw 1997/98 SAS acquittal reports***

Notes: ***Expenditure includes operating expenditure and capital expenditure, but not depreciation.***
Income balance is income less expenditure.

Factors Affecting Viability

The differences observed in these balances could be due to a number of factors. First, both the SAS units with high income balances are privately managed. This may indicate differences in managerial practices in those units. Second, SAS populations all differ, although at this stage there appears to be little discernible pattern linking the population make up of the SAS units to their operating viability.

Third, SAS units perform different numbers of core and open biopsies, therefore income received through incentive funding for the detection of small cancers, and payment for core and open biopsies, differs. The performance data are not conclusive in this regard. Fourth, it could be suggested that SAS viability is affected by who they screen. Different expenditure levels could be the result of screening different groups. However, there does not appear to be any discernible relationship between SAS unit income balances and the breakdown of SAS unit screening behaviour according to age categories.

Finally, since viability is measured including capital expenditure, costs faced by SAS units will vary depending on the relative age of the unit and its need to replace, invest in or depreciate existing capital.

Combined, these factors indicate, not surprisingly, that the relative impact of expenditure items differs between SAS units. That is, they face different cost functions. This is supported by the findings of the KPMG cost study (KPMG,1998c).

Discussion of Viability

The income balances may not only reflect viability, but may also give some insight into relative efficiency of SAS units and whether the current funding model is appropriate given the SAS structure. Under the current structure there is a high level of cross subsidisation between SAS units. This is an important factor for the program in the sense that smaller SAS units, largely those serving rural and remote populations, would cease to be financially viable if they were funded on the same basis as larger SAS units.

Table 3 shows that if all SAS units had received the same dollar amount per woman screened in 1997/98, many of the units showing positive income balances under the current structure

would move to a deficit position per woman screened. The overall position of the program would however remain unchanged.

Cross subsidisation, under the current structure, not only reflects differences in factors affecting SAS costs, it may also provide a premium to improve equity of access to screening. On the other hand, it arises because of a lack of information about efficiency variations within the current structure and what is the optimal structure for SAS units. The KPMG reports discuss this issue of subsidisation more extensively.

SAS unit income balances therefore offer some insight into the relative viability of individual SAS units. Differences in target populations suggest that it will be inevitable that some of the SAS units appear to be more financially viable, that is return a higher income balance, than others. However, subsidisation of smaller SAS units by larger ones is essential to compensate for differences in the capacity to earn income and higher expenditure needs.

TABLE 3: ALTERNATIVE SAS VIABILITY - 1997/98 FUNDING

	Screens	Implied income		Expenditure		Income balance	
		Total $	*Per screen*	*Total $*	*Per screen*	*Total $*	*Per screen*
1. Central & Eastern	33,679	2,957,589	87.82	2,997,379	89.00	-39,790	-1.18
2. Central & Western	11,154	979,511	87.82	1,378,603	123.60	-399,092	-35.78
3. Hunter & Wyong Shire	38,689	3,2397,552	87.82	3,219,596	83.22	177,956	4.60
4. North Coast	23,087	2,027,431	87.82	2,224,046	96.33	-196,615	-8.52
5. Northern Sydney & Lower Central coast	43,310	3,803,355	87.82	3,424,976	79.08	378,379	8.74
6. North West	9,263	813,449	87.82	853,648	92.16	-40,199	-4.34
7. South eastern	6,172	542,007	87.82	638,793	103.50	-96,786	-15.68
8. Southern & Illawarra	30,393	2,669,023	87.82	2,536,344	83.45	132,679	4.37
9. South Western	10,199	895,646	87.82	1,336,980	131.09	-441,334	-43.27
10. Western Sydney	55,134	4,841,703	87.82	3,573,559	64.82	1,268,144	23.00
TOTAL	**261,080**	**22,927,266**	**87.82**	**22,887,475**	**87.66**	**743,342**	**2.85**

Source: ***Breastscreen nsw 1997/98 SAS acquittal reports***

Notes: ***implied income is number of screens times average SAS income (see table 2).***
$87.82 is the average income per screen, once SCU income is subtracted from total income.
Expenditure includes operating expenditure and capital expenditure, but not depreciation.
Income balance is income less expenditure.

Alternatively, it is important that the issue of SAS unit viability be balanced against other issues such as ensuring access to services. For example, a smaller rural sas unit may not be financially viable if left to rely on its own capacity to generate income. However, closing down that unit would greatly reduce access by rural women to those services. It may be preferable then to support that smaller SAS, through cross subsidisation, and ensure that the women it serves have access to screening services that is comparable to that of women served by more viable SAS units.

It is perhaps more useful to consider the viability of the program overall, recognising that there will need to be cross subsidisation between SAS units regardless of the organisational structure, in order to achieve all the program objectives. Since the program overall returned a positive income balance, then it would appear to be viable. Discussions of individual SAS unit viability may not be warranted given the organisational structure and difference in factors contributing to costs.

FUNDING LEVELS

There are three issues to consider in order to investigate whether current program funding is appropriate:

1. What resources are needed for the program to provide services according to contract, and in an efficient and equitable manner?
2. What are the opportunity costs of using these resources in terms of where else they could have been used, and for what outputs, in the health care system?
3. What are the costs and benefits associated with either increasing or decreasing funding to the program?

In the absence of consistent costing information, it is difficult to make any claims about how much money should be allocated to BreastScreen NSW. However, it is possible to examine how changes in calculating base funds would impact on overall program funding.

This section discusses four different funding options:

1. Restricted screening practice – under this option SAS units are only paid for screens performed within the age specific targets.
2. Restricted funding base – this option would fund the program the base amount allocated for 1996/97, less incentive, demonstration funds and rollovers, adjusted for price increases.
3. Average price basis using the 1996/97 base funding price.
4. Average price basis using the MBS fee for bilateral mammography as funding price.

Restricted Screening Practice

Issues Paper 2 shows that overall the program is screening twice the number of women in the 70 and over age group than suggested in the performance contracts, but screening below target in the other age groups.

This implies that total expenditure could be reduced if SAS units were paid only for screening within targets, presenting substantial savings for the program overall (see Table 4). That is, by limiting the number of women over 70 screened to 15% of the eligible population, and assuming that screening in the other age groups does not increase from current practice, the total number of women screened falls. This assumes that the current lower than target screening in the under 70s is because those women are difficult to recruit and not because of capacity constraints caused by over screening in the over 70 age group.

Although it is estimated that funding on this basis would have saved the program over $2 million in 1997/98 there are some difficulties with its implementation.[1] Firstly, it is difficult to restrict screening of women over 70 to 15% of the eligible population. This is particularly true if current screening activity in this population is re-screening rather than initial screens.

Secondly, there is no reason to believe that SAS units would not increase active recruitment in the other age groups to compensate for any loss in income from the over 70s. Although this

[1] It should be recognised that the price per screen used to calculate this amount is based on current screening practice of each SAS. In the final analysis, the saving will depend on how the price per screen is affected by changes in SAS screening practice. Calculation of potential savings would therefore become an iterative process that is not possible without some assumption of how SAS units may alter screening behaviour.

would mean that there would be fewer savings for the program, it is not necessarily an issue because SAS units would be achieving program objectives.[2]

Finally there is a risk that restricting screening will lead to an increase in the number of women seeking mammograms through private practitioners.[3] The Commonwealth may argue that such a change in policy and any increase in total MBS payments represents cost shifting, and penalise the State through the Health Care Agreements.[4]

Similarly, it is estimated that if SAS units had only been paid for initial or legitimate re-screens (those presenting for screening 21 months after their initial screen) it would have saved $1.4 million in 1997/98.[5]

It is anticipated that there would be resistance to implementing either of these restricted funding regimes. However, one potential management strategy is to allocate screening positions, using booking facilities, to women in these groups and use availability of timeslots as a means of rationing screening services. Overall, it should be the role of the SCU to inform the development of screening policies, particularly in relation to the cost effectiveness of screening for various age groups, and early screens, and to inform the NARs of the State's perspective on what constitutes appropriate screening targets.

[2] The resource implications of this are not clear for a number of reasons. It may be relatively inexpensive for SAS units to over recruit women in the over 70 age group. However, recruiting the additional women in the 40 to 49 and 50 to 69 year age groups to achieve targets may require very different recruitment strategies, which are potentially more resource intensive.

[3] Kricker (1998) suggests that 12% of the eligible screening population had at least one mammogram outside of the BreastScreen program in 1995/96. This is contributing to population screening but is limiting the ability of the BreastScreen program to achieve its goals in terms of participation.

[4] If at least half those women presented to private practitioners, the Commonwealth could claw back just under $1 million (being 11,734 women at $83.65 – the MBS scheduled fee for bilateral mammography).

[5] This is calculated on the basis that the 24,877 women who presented for early re-screening between January and December 1998 were funded at $58.40, the urban base rate for Western Sydney SAS.

TABLE 4: RESTRICTED SCREENING PRACTICE

	Screens	Income		Adjusted Screens	Adjusted Income	Potential Saving
		Total $	*Per Screen*		*Total $*	*$*
1. Central & Eastern	33,679	2,675,634	79.45	30,882	2,453,444	222,190
2. Central & Western	11,154	1,296,316	116.22	10,341	1,201,876	94,440
3. Hunter & Wyong Shire	38,689	3,409,350	88.12	33,943	2,991,103	418,247
4. North Coast	23,087	2,722,990	117.94	20,875	2,462,076	260,914
5. Northern Sydney & Lower Central Coast	43,310	3,288,024	75.92	38,932	2,955,669	332,355
6. North West	9,263	935,544	101.00	8,581	866,701	68,843
7. South Eastern	6,172	648,376	105.05	5,901	619,923	28,453
8. Southern & Illawarra	30,393	2,551,267	83.94	27,918	2,343,480	207,787
9. South Western	10,199	1,588,233	155.72	8,727	1,359,050	229,183
10. Western Sydney	55,134	3,811,532	69.13	51,511	3,561,033	250,499
TOTAL	261,080	22,927,266	87.82	237,611	20,866,324	2,112,912

Notes: *Adjusted screens assumes that the SASs continue to screen the same number of women in the 40 to 49 and 50 to 69 age groups, but restrict screening of women over 70 to 15% of the population.*
Adjusted income is adjusted screens times actual average income per woman screened.
Potential saving is actual income minus adjusted income This would vary if SAS units alter screening practices, thereby changing the effective price per screen. Calculation of potential savings would therefore become an iterative process that is not possible without some assumption of how SAS units may alter screening behaviour.

Restricted Funding Base

This option would fund the program the base amount allocated for 1996/97, less incentive and demonstration funds and rollovers, adjusted for price increases.

As previously discussed, the amount allocated to the State in the 1996/97 PHOFA was based on the program having reached steady state. However, funding for that year was supplemented with rollover funds and incentive monies, allowing more women to be screened than allowed in base funding. The base funding price in that year was $70.39, as opposed to the actual payment per woman of $91.49 (including the payment of rollovers and incentive funds).

However, if funding for the program for 1997/98 had excluded roll overs and incentive payments, and only increased funding to compensate for price increases, then funding per woman screened would have been only $64.34, as opposed to an actual average of $87.82. It is unlikely that SAS units would be able to function if funded on this basis, given the earlier discussion of viability.

If SAS activity were restricted to within targets, and current activity persisted, then they would receive approximately $71 per woman screened. Altering the population targets would alter the current price per woman, and the overall implied funding amount if the program received a price per woman screened equal to the base funding price for 1996/97 (see Table 5).

TABLE 5: RESTRICTED FUNDING BASE

	Income	**Screens**	**Income per Screen**
1996/97			
Rollover	1,156,345		
Incentive Money	3,843,624		
Base	16,680,230		70.39
Total	21,680,199	236,973	91.49
1997/98			
Actual	22,927,266	261,080	87.82
Assumed	16,796,992		64.34
Actual (Adjusted)		237,611	96.49
Assumed (Adjusted)		237,611	70.69
	Implied Income	**Target Screens**	
Scenario 1	20,463,695	290,724	70.39
Scenario 2	21,065,448	299,273	70.39
Scenario 3	21,667,202	307,822	70.39
Scenario 4	20,860,476	296,361	70.39
Scenario 5	21,263,874	302,092	70.39

Notes: Roll over details from 1996/97 acquittal.
Incentive money information based on funding for enhancement projects.
Base funding is total funding less roll overs, incentive and demonstration money.
Assumed funding for 1997/98 is 1996/97 base indexed by the CPI for year ended June 1998.
See Table 4 for an explanation of adjusted screens.
Scenarios vary target rates for age groups according to the following:

	40 to 49	*50 to 69*	*Over 70*
Scenario 1	*40%*	*70%*	*15%*
Scenario 2	*40%*	*75%*	*10%*
Scenario 3	*40%*	*80%*	*5%*
Scenario 4	*30%*	*80%*	*15%*
Scenario 5	*35%*	*80%*	*10%*

Average Price Basis

There are a number of options which the Department could use to set a price per woman screened. However, to avoid the complications of having an uncapped budget, in all cases the total amount allocated to the program would have to be fixed. Two models of how price could be set are discussed:

- use the 1996/97 base funding
- or use the MBS scheduled fee.

In 1996/97 Commonwealth funding was allocated to the State on the basis of urban screens attracting $44.11 per screen and rural screens $55.14. With total expected screens of 237,000

this would have raised base funding, matched, of $22.43 million.[6] Indexed to 1997/98 prices this would be $22.59 million – giving an effective price per woman screened in that year of $86.51 - $1.30 less than was actually paid.

The second model would be to fund the screening program on the basis that the MBS fee reflects a reasonable price for a screen. This assumes that SAS units can fund recruitment and marketing functions out of the price paid per woman screened - $83.65.[7] Funding on this basis would have reduced total funding for 1997/98 by $1.1 million. Further reductions would have been achieved in that year if SAS units had restricted screens to within population targets, producing total savings of $2.86 million on what was actually allocated.

Determining an appropriate funding level greatly depends on the manner in which the program is funded and the extent to which true screening and recruitment costs can be measured. The former issue is dealt with in the following section, the latter earlier in this document and in Issues Paper 1.

What can be said from this discussion, however, is that there are substantial savings that could be made from restricting screening practice to within target screening groups, including appropriate screening intervals. However, it must be recognised that such action may result in the Commonwealth imposing additional cost shifting penalties on the State.

[6] Calculation of this funding amount assumes that 70.9% of the screens are urban and the remainder rural. The calculated funding amount exceeds actual payment for 1996/97.

[7] Although the MBS fee contains a component for profit, there is no allowance for recruitment spending per woman by SAS. Furthermore, recruitment is also a core function of the SCU, so payment according to MBS fee may be insufficient to afford that SCU expenditure.

FUNDING MODELS

Discussion of the level of funding for the program must be considered in conjunction with issues about how the program is funded. This section discusses the dimensions of the current funding model that may be altered, the criteria by which to assess alternative models and suggests six different funding models (with variations). These models are outlined in Attachment 1.

Dimensions for Variation

Funding models may vary on a number of different dimensions:

- Capped or uncapped. Program funding may be capped in terms of the total amount to be allocated to the SCU for program delivery.

- Target restrictions. The Department may choose to fund only the SCU and the SAS units for delivering services within the guidelines set in the agreements. That is, SAS units will not be paid for screening women outside the agreed target population, or once they have exceeded the agreed screening targets. This raises the questions of what are the most appropriate targets, who will set those targets (see Issues Paper 1) and what are the ethical implications of not screening women once the target bounds have been reached?

- Separate functions. Funding could be allocated separately for screening/assessment and recruitment functions. This recognises that in many instances, recruitment is conducted at the State level, rather than at the SAS level. Separate funding also recognises that a major source of variation in terms of cost of screening women, lies in differences in recruitment. These costs will not only vary across SAS units, but also for the one SAS unit as it matures through the screening cycle. Screening costs will also include a variable component, largely associated with transporting services to women. Separating funding for screening/assessment and recruitment may therefore better match funding and sources of expenditure, particularly due to variability in their underlying factors.

- Who to fund. Within NSW funds may be directed at three different parties, the AHS, the SCU or the SAS units. Exploring where the funds are directed allows consideration to be

made of the directions of accountability in the program and the incentive structures that this establishes.

- Ex ante or ex post funding. This is relevant in that it affects the incentives for screening practice. Funding on an ex ante basis would allocate funds on the basis of dollars per woman in the target population. Funding on an ex post basis would allocate funds on the basis of dollars per woman screened. The former gives the program the resources to recruit women before screening, while the latter refunds resources once screening has taken place. However, funding on either basis raises the question of what is the correct price to pay to have a woman screened?

Criteria for Model Selection

Choosing between alternative funding models examines their performance against a set of desirable criteria. These include:

- Accountability – are the lines of accountability in the model clear?
- Equity – how does the model impact on equity of access to screening services? It is desirable that the model improve, or at least not diminish, existing equity.
- Viability – how does the model impact on the financial viability (in terms of income and expenditure) of SAS units and of the program overall?
- Duplication of effort – it is desirable that the model limit the opportunity for duplication of services or resource use by different parties involved in the program.
- Technical efficiency – does the funding model promote or enhance technical efficiency (where this is expressed as a minimum cost for a given number of screens, or the maximum number of screens for a given budget)?
- Allocative efficiency – does the model promote or enhance allocative efficiency? That is, would it be possible to improve the conditions for some SAS units without diminishing them for others?
- Incentives – what is the incentive structure within the model, and is it desirable in light of program goals and other assessment criteria?
- Compatibility with existing institutional framework – insofar as this program must exist within the broader context of the NSW Health Care System, it is desirable that it is as compatible with that system and necessitates as few modifications to other areas of the system as possible.

Alternative Funding Models

In light of the previous discussion on the dimensions of the funding model that may be altered, six funding models (with variations) are proposed. Although a formal description of these models is contained in Attachment 1, Table 6 describes the models in terms of the 5 dimensions of variation listed above.

TABLE 6: ALTERNATIVE FUNDING MODELS

Model	**Version**	**1. Capped/ Uncapped**	**2. Restricted**	**3. Separate Functions**	**4. Who to Fund?**	**5. Ex ante or Ex post?** *Population based or price based?*
1	a	▪ Capped Commonwealth ▪ Uncapped State	▪ none	▪ no	▪ SCU to SAS units	▪ Ex post
	b	▪ Capped Commonwealth ▪ Uncapped State	▪ No funding for screening women beyond targets.	▪ no	▪ SCU to SAS units	▪ Ex post
2	a	▪ All capped	▪ none	▪ no	▪ SCU to SAS units	▪ Ex post
	b	▪ All capped	▪ No funding for screening women beyond targets.	▪ no	▪ SCU to SAS units	▪ Ex post
3	a	▪ Variants of 1(a), 1(b), 2(a) and 2(b)	▪ Variants of 1(a), 1(b), 2(a) and 2(b)	▪ Recruitment funds creamed off	▪ SCU receives screening money, then SAS ▪ AHS receives recruitment money	▪ Ex post for screening ▪ Ex ante for recruitment
	b	▪ Variants of 1(a), 1(b), 2(a) and 2(b)	▪ Variants of 1(a), 1(b), 2(a) and 2(b)	▪ Recruitment funds creamed off	▪ SCU to SAS	▪ Ex post screening, ex ante recruitment
4		▪ All capped	▪ none	▪ Recruitment funds creamed off	▪ SCU receives recruitment and coordination money, then SAS ▪ AHS receives screening money then SAS	▪ Ex post

Model	Version	1. Capped/ Uncapped	2. Restricted	3. Separate Functions	4. Who to fund?	5. Ex ante or Ex post?
5	a	▪ All capped	▪ none	▪ no	▪ Department to SAS units	▪ Ex ante RDF basis
	b	▪ All capped	▪ none	▪ no	▪ SCU to SAS units	▪ Ex ante RDF basis
6	a	▪ All capped	▪ none	▪ Recruitment funds creamed off	▪ SCU receives recruitment and coordination money, then SAS ▪ AHS receives screening money (can purchase services anywhere)	▪ Ex ante RDF for screening ▪ Ex ante per women for recruitment
	b	▪ All capped	▪ none	▪ Recruitment funds creamed off	▪ SCU receives recruitment and coordination money, then SAS ▪ AHS receives screening money then pays SCU then to SAS	▪ Ex ante RDF for screening, but with ex post adjustment for screening ▪ Ex ante per women for recruitment

Notes: under model 3, there are effectively eight models, 4 for each version, that are variants of the models 1(a), 1(b), 2(a) and 2(b).

Discussion of Funding Models

The assessment of these models against the relevant criteria is shown in Table 7 below. In the absence of a defined benchmark for each of the criteria, the qualitative assessments shown in the table are relative to the status quo and represent the review team's expert judgement (since no empirical investigation of the alternative funding models was feasible).

For Models 1 and 2, and their variants, the most important question is what is the appropriate price at which the costs to a SAS of screening a woman are fully covered? It may be the case that the program should continue to operate as it does currently (Model 1(a)) for at least 12 months, during which time the recommendations made in this review, and those of the KPMG Review, on collecting appropriate cost data would be implemented so as to measure more accurately the cost of screening a woman (including the differentials applied to different women – largely due to difficulties in recruitment).

Model 2(b) is preferred out of models 1 and 2 because it is potentially the most sustainable. Restrictions on targets provide an incentive for SAS units to limit activity to the defined target population groups. However, there is still a high potential for duplication of recruitment functions under this model.

It would be preferable to apply the capped and target restricted model to model 3(b) under which the SCU receives two budgets – one for screening services and one for recruitment. In this case there would need to be strict reporting requirements to ensure that the SCU and SAS units use allocated recruitment monies for recruitment only and not to actually screen women. This model also clarifies accountability structures within the model and has the potential for less duplication. Having capped budgets, with clearer lines of accountability, also improves the incentives for more efficient operation.

Preferred Model

Models, 4 to 6, utilising population based funding are preferred overall. This type of funding recognises that breast screening is a population based program. Moreover it aligns the mechanism for funding the program with those associated with other health programs in which differences in population need and accessibility have already been taken into account.

Model 5 (b) is the preferred funding mechanism. This model allows the Department to allocate funds to the SCU who would then allocate funds to the SAS units using an RDF. The RDF used by the SCU should be developed in conjunction with the Department to take account of its existing expertise in this area and to ensure that the general adjustment factors align with those used in other population based distribution formula. The allocation to the SCU for the program overall will depend on the Department's assessment of the programs budgetary needs, based on the outcome of cost estimates and the number of women expected to be screened.

Although AHS would still be required to provide the administrative frameworks within which SAS units operate, AHS CEOs would no longer be directly accountable for explicit screening rates in their AHS. However, insofar as they are accountable for the overall health of their populations then they will be concerned to monitor screening rates in their AHS.

Under this structure SAS directors would only be directly accountable to the SCU. To ensure that AHS CEOs are informed of screening rates in terms of their populations, it is recommended that the SCU report to the Senior Executive Forum on screening performance, using the same reporting format as supplied to the Department. This will afford AHS CEOs the opportunity to comment to the SCU on screening performance in their AHS and any concerns they may have with that performance.

Further opportunities for AHS input into screening services should be explored. In particular there may be benefits in establishing positions in each AHS for an Area BreastScreen Coordinator. This position would not only provide AHS input into screening and recruitment practices, but would provide the SCU and SAS units a better line of communication with individual AHS.

The benefits of the preferred model are that it offers greater clarity in terms of accountability, potentially enhances equity of access by shifting to a population funding basis, improves the underlying incentive structure through greater clarity and division of functions, reduces the potential for duplication and is compatible with the existing health care system and pending changes therein.

The impact on efficiency is not clear, however it is likely to improve given less scope for duplication. Implementing this model will however require that SAS boundaries are shifted to coincide with SLA boundaries so as to allow SAS catchment populations to be accurately calculated as the basis for allocating screening funds.

TABLE 7: ASSESSMENT OF MODELS

Model	Account.	Equity	Viability	Duplication	Technical Eff.	Allocative Eff.	Incentives	Compatibility
1(a)	▪ Not clear	▪ Not clear	▪ Depends on price	▪ High potential	▪ Not clear	▪ Not clear	▪ Poor	▪ Yes
1(b)	▪ Not clear	▪ No gain	▪ Depends on price	▪ High potential	▪ May improve	▪ May improve	▪ Improves	▪ Yes
2(a)	▪ Not clear	▪ No gain	▪ Better	▪ High potential	▪ May improve	▪ May improve	▪ No gain	▪ Yes
2(b)	▪ Not clear	▪ No gain	▪ Better	▪ High potential	▪ May improve	▪ May improve	▪ Improves	▪ Yes
3(a)	▪ Clearer for AHS	▪ May improve	▪ See models	▪ Lower potential	▪ See models	▪ See models	▪ Improves	▪ Some problems
3(b)	▪ Clearer for AHS	▪ Not clear	▪ See models	▪ Lower potential	▪ See models	▪ See models	▪ Not clear	▪ Some problems
4	▪ Clear for AHS, but complex between AHS and SAS units.	▪ May improve	▪ Better through capping	▪ Lower potential	▪ May improve	▪ Improves	▪ Improves	▪ No
5(a)	▪ Greater clarity	▪ Potentially improves	▪ Depends on RDF	▪ High potential	▪ May improve	▪ Improves	▪ Improves	▪ No
5(b)	▪ Greater clarity	▪ Potentially improves	▪ Depends on RDF	▪ High potential	▪ May improve	▪ Improves	▪ Improves	▪ Yes
6(a)	▪ Greater clarity	▪ Potentially improves	▪ SAS not clear, but improves program	▪ Lower potential	▪ Improves if SAS open to comp.	▪ Improves	▪ Improves	▪ No
6(b)	▪ Greatest clarity	▪ Potentially improves	▪ May improve	▪ Low potential	▪ May improve	▪ Improves	▪ Improves	▪ No

Notes: All assessment is relative to the base case, Model 1(a)

RECOMMENDATIONS

There are a number of recommendations to come out of the discussion of funding:

1. Information from the minimum data set be used as the basis for calculating the total screening funds to be allocated by the Department to the SCU on the basis that this information describes the true costs of screening the target population.

2. The Department and the SCU should settle on an agreed definition of steady state and issue a policy to this effect prior to the commencement of the next agreement.

3. The SCU allocate funds prospectively to screening units on a population basis, but adjusts funds retrospectively for the number of screens performed.

4. The Department and the SCU develop the RDF specific to breast screening, accounting for those factors which lead to differentials in the costs of screening, to be used in allocating funds.

5. Assessment of the need for, and viability of, individual SAS units, or potential benefits from combining units, be made by the SCU.

6. SAS units are only paid for screening women within the target ceiling rates.

7. SAS unit boundaries be reclassified to coincide with SLA boundaries.

8. The SCU, and the SAS directors, should report to AHS CEOs through the Senior Executive Forum with the same reporting as provided to the Department.

9. AHS and SCU investigate the possibility of establishing positions for Area BreastScreen Coordinators in each AHS.

ATTACHMENT 1

Description of Alternative Funding Models

Model 1(a)

Maintain the status quo – funding on the basis of per woman screened, with capped funding from the Commonwealth and uncapped from the Department. Prices per woman screened are differentiated on the basis of age, aboriginality, ethnicity and rurality, and whether it is an initial or re-screen.

1(b)

This would apply the same model, with the exception that SAS units would not receive funding for the screening of women outside of the target population. That is, say targets are 40% for 40 to 49, 70% for 50 to 69 and 15% for over 70s, then SAS units will only be paid for screens falling within these bounds.

Model 2(a)

Payment on the basis of price per woman screened but with total funding capped. The total screening budget is set by the Department, potentially on the basis of the funding required to achieve 'steady state'. SAS units are then paid the implied price per woman screened, but total funding is not permitted to exceed the capped amount – and the effective price per woman screened is the same regardless of the proportion of target achieved.

This again raises the question of what is the correct price per woman screened that the SAS units should be paid. Furthermore, the calculation of steady state is at best nebulous and will determine the overall capped funding allocation.

2(b)

This would apply the same model, with the exception that SAS units would not receive funding for the screening of women outside of the target populations. That is, say targets are 40% for 40 to 49, 70% for 50 to 69 and 15% for over 70s, then SAS units will only be paid for screens falling within these bounds.

Model 3(a)

This applies models 1(a), 1(b), 2(a) and 2(b) with the exception that the price per woman screened is reduced so that SAS units are not paid for recruitment functions, for either initial screens or maintaining screens. In this case the funds for recruitment are creamed off the total budget and distributed by the Department to the AHS. Each AHS is then responsible for the recruitment of its women to attend breast screening.

3(b)

The same as model 3(a) with the exception that the recruitment monies are paid to the SCU, who then passes those funds on to the individual SAS units or utilises them for coordinated State recruitment strategies. The Department is in effect supplying the program with two budgets, one for screening and one for recruitment. It is incumbent on the SCU to prove to the Department that recruitment funds have been used for recruitment and recruitment alone, not to supplement screening processes.

Model 4

Under this option the Department funds the program on a per woman screened basis, with a capped total budget (as per model 2), however, payment is made to the AHS for each woman from their area screened. AHS then pay SAS units for the service provided to their population. Recruitment and coordination funds are creamed off the top of the total budget and paid to the SCU for the functions of data collection, statewide recruitment strategies and resources, ongoing monitoring and evaluation, planning and policy reviews and research into recruitment and screening practices.

Initial payments from the AHS to the SAS units would follow the current flow of service provision as to limit the wholesale shifting of service patterns between AHS and SAS units. The major issue here is the complexity that this type of model may introduce in terms of the interrelationship between SAS units and AHS, particularly that SAS units cross a number of AHS boundaries.

Model 5(a)

Population Based Funding to SAS units – under this model the Department would calculate how much it is willing to fund for the total breast cancer screening program and then allocate

this to the SAS units on the basis of a resource distribution formula, taking into account age, ethnicity, rurality and aboriginality.

The major difficulty in implementing such a system is the complexity involved in determining the base population covered by each SAS (this is a logistical difficulty arising out of the fact that population data are collected on an SLA basis but SAS units do not cover a defined region in terms of SLAs).

5(b)

This is the same as model 5(a) with the exception that the Department allocates the full budget amount to the SCU. It is then incumbent on the SCU to allocate these funds to the SAS units using an RDF.

The allocation to the SCU for the program overall will depend on the Department's assessment of the program's budgetary needs, based on the outcome of cost estimates and the number of women expected to be screened. The RDF used by the SCU should be developed in conjunction with the Department to take account of its existing expertise in this area and to ensure that the general adjustment factors align with those used in other population based distribution formula. Similar issues apply as in 5(a).

Model 6(a)

Population Based Funding to AHS – this is similar to model 5 with the exception that it is incumbent on the AHS to arrange for breast screening services to be supplied to their eligible populations. The system is more simplistic in that it is easier to calculate the definable population for each AHS. However, there may be some difficulty in ensuring that AHS do purchase the services required. Funds would be creamed off the initial budget by the Department and provided to the SCU for recruitment and coordination functions.

6(b)

This is the same as 6(a) with the exception that the AHS pay the SCU to screen their eligible population. The SCU subsequently pays each SAS using the monies collected from AHS according to the number of women they screen. The SCU then reports back to the AHS on the number of their women screened (regardless of at which SAS they were screened). The

AHS subsequently adjusts funding for the next period on the basis of the number of screens performed.

Under this model, the SAS units would all sit within one AHS for ease of administration, reporting, monitoring and evaluation. SAS units would therefore be directly accountable to the SCU. Each AHS would have a contract with the SCU for screening its women, and would be accountable to the Department to ensure that its eligible population is screened.

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ISSUES PAPER 4:

SAS FEEDBACK ON PROGRAM PERFORMANCE AND ISSUES

As part of the review, directors of screening and assessment services (SAS) units were asked to comment on a number of issues identified as pertinent to the assessment of the program. A copy of these questions is at Attachment 1.

The questions and responses can be grouped under the following headings:

1. Relationships
2. Recruitment
3. Screening
4. Organisation
5. Cost Determinants
6. Consumer Satisfaction
7. Capacity
8. Reporting Requirements
9. Future Plans

A simple frequency analysis of the major findings is detailed in Table 1. These results contain information for all the SAS units, with the exception of Western Sydney SAS. Due to major organisational changes within Western Sydney SAS at the time of the interview, the review team was unable to interview the SAS director. This is not expected to have had any major impact on the issues identified in this qualitative analysis.

Relationships

Nearly half the SAS units' directors reported that they have a good relationship with the Area Health Service (AHS) to which they are responsible. However, several directors indicated that the current lines of accountability frustrate their ability to make business decisions and to manage their services effectively.

All directors indicated that they have a good working relationship with the State Coordination Unit (SCU), and are largely supportive of the work done by that unit. They all recognise the need for a SCU. However, one third of directors had some reservations that the structure and

purpose of BreastScreen NSW is being subsumed by the factors driving the Breast Cancer Institute (BCI), of which the SCU is a part. In particular, it was suggested that the resource requirements of the BCI were such that staff were unable to devote their time or resources adequately to the functions of the program. It was felt that this is detrimental to some of the BreastScreen functions, in particular recruitment and marketing. Moreover, the location of BreastScreen NSW within the Western Sydney AHS, and the resulting lines of accountability are seen as a source of conflict and compromise in the management of the overall program.

Two thirds of SAS unit directors indicated that they had good working relationships with the local chapters of the NSW Cervical Screening Program. In most cases this extended to the display of promotional material for pap smears in SAS units, sitting on the local cervical screening committees, or the inclusion of pap smear reminder notices on letters to women notifying them of breast screening results.

Despite these links, the majority of directors did not see scope for greater integration of program functions. Directors of rural SAS units did see the benefits of providing more coordinated services in cases where women were required to travel in order to reach the screening/ assessment centres.

Relationships with local treatment services and general practitioners (GPs) varied across the SAS units, with most failing to mention any aspect of the more general relationships. Some SAS directors reported that they are working hard to link in with treatment services and reinforce the continuity of care for women in the program. This is evident in that up to 90% of women referred for treatment were seeing the same specialist they had seen in the screening program. In contrast, other SAS directors reported having minimal links with treatment services.

The nature of recruitment is such that most SAS units had developed good relationships with their local GPs, and were working with local GP divisions to educate on recruitment practices and risks associated with breast cancer and breast cancer screening. The majority of directors reported that GPs were an important part of their local recruitment strategies.

Recruitment

All the SAS unit directors supplied copies of their local recruitment plans. A major theme in these discussions was the uncertainty regarding state policy and practice on the recruitment to the program of women 40 to 49 or over 70 years of ages. In addition, many directors reported confusion as to whether to continue to offer screening to women currently in the program once they reached the age of 70. Current recruitment practice of these population groups varied across SAS units.

The majority of directors identified these as serious problems that must be addressed by the SCU and the Department. Failure to do so may limit program performance as the cohort of women currently in the program reaches the age of 70.

Two SAS unit directors stressed that it would be better practice to provide all women with information on the risks and benefits associated with breast cancer and breast cancer screening, allowing them to make informed decisions on whether or not to present for screening.

There was little consistency across SAS units in implementing more specialised recruitment strategies to target ATSI or NESB women, although several of the SAS units did report success in organising group transport and group visits for these population groups, even in urban metropolitan areas.

Screening

Apart from actual performance, previously discussed, SAS directors did not report any major issues with screening practice or policies. The majority of directors did not see pseudo-screening, that is screening of asymptomatic women by private pathologists under Medicare referral, as a large problem affecting their screening rates (nb based on anecdotal evidence). Several directors reported that their current screening performance, and ability to meet targets, was constrained by a shortage of qualified radiographers.

Three SAS directors reported that they would discourage symptomatic women requesting mammograms. In contrast, two directors indicated that symptomatic women would be given mammograms, particularly if they had travelled for long distances or belonged to one of the harder to reach groups, such as ATSI women.

One SAS director indicated that the current re-screening rate required under the National Accreditation Requirements of 75% for the first re-screen is too low and would result in a fall in the program participation rate to well below the National target levels. Program sustainability, and maintenance of an acceptable participation rate, would require re-screening rates of at least 85%.

Organisation

Many of the SAS directors feel that the organisational arrangements currently in place for purchasing equipment through their relevant ahs or hospital are frustrating and are indicative of the lack of autonomy they have over their purchasing process. For example, in one case, despite the program having the money to spend, delays caused by the ahs purchasing structure led to SAS units waiting a long time for purchases. This is of concern because it may have resulted in that SAS unit receiving a poor credit rating from its suppliers.

A number of SAS units reported that they share their capital equipment, particularly core biopsy tables, usually with diagnostic services. However, under current arrangements there is a clear gap in the resources provided to diagnostic services and the financial recompense paid to SAS units. SAS unit directors are keenly aware of needing to move towards at least cost recovery pricing, and potentially beyond.

Cost Determinants

One of the key issues identified by SAS unit directors as impacting on costs is whether they own equipment and buildings used for screening purposes. That is, does BreastScreen NSW own the buildings that fixed site services are situated in in their entirety or does it contribute, through capital works, to the refurbishment/extension of AHS or hospital owned buildings?

Three service directors reported that their SAS unit owned the buildings in which they operated. Ownership in one of these units was slightly unclear as the money to pay for it was raised through a local charity appeal. Four other SAS units contributed major capital works funding in order to refurbish or extend existing AHS buildings which they occupy.

Three SAS units own their own mobile screening vans, two are at present leasing vans from other SAS units, and for one unit the mobile van is technically owned by the hospital as it was

purchased using local community Telethon donations. Relocatables, and the trucks required to transport them, are owned by the SAS units that use them.

Core biopsy tables emerged as another key capital item. Most directors reported that if they had one it was also owned by BreastScreen NSW.

In one instance it was difficult to identify ownership of capital items due to complex sub-contracting arrangements for screening NSW women by BreastScreen ACT. Although it was possible for the relevant SAS unit director to identify screening items used by NSW women, it was more difficult to identify assessment service resources dedicated to NSW women as their use is shared between ACT and NSW women.

The data reported here suggest substantial variation in the way BreastScreen NSW's capital assets appear on capital asset registers. This might have been of concern, had assurance not been obtained recently from the Program Manager that these inconsistencies have been rectified. All BreastScreen NSW assets are recorded centrally by the SCU.

As all the equipment for program is owned by BreastScreen NSW, and it has been purchased using dedicated capital funding, it is not appropriate for AHS or hospitals to be charging depreciation on capital items. However, according to the service directors, depreciation is treated differently by the finance departments responsible for different units. Four directors reported being charged for depreciation, while five reported not being charged.

Although this discrepancy has the potential to distort the comparability of expenditure between SAS units, this matter has been sorted out recently by the Program Manager. It will be standard practice that relevant finance departments do not charge depreciation to SAS accounts. If for some reason they do, the Program Manager has been assured it will be credited back to the SAS so there is zero net effect.

SAS units were also treated differently with respect to being charged for rental on accommodation. Four directors reported paying rent to AHS for the use of all their sites, another two units pay rent for their satellite sites only. Three SAS units did not pay rent. In some cases, directors reported that even though they had invested BreastScreen NSW money

into capital works programs to upgrade their facilities, they were still being charged rent by the AHS within which they are located.

SAS directors pointed out that it is also important to recognise that rents and other fees may also be charged in respect to locating mobile services. Anecdotal evidence suggests that charges for mobile vans (including electricity, telephone and site usage) can vary not just across SAS units, but also across AHS served by the same SAS. There seems to be no coherent charging policy when a mobile van visits different locations. Unfortunately, data on this issue are incomplete.

The treatment of staff pay supplementation and back pay also differs across SAS units. Three units had to bear these costs themselves, some of which have asked the SCU for assistance (despite this being extraordinary assistance). A further four units were in the fortunate position that either the AHS, State government or hospital covered their costs in full. Another unit has to meet some of these costs itself whilst the AHS is prepared to pay for others. One SAS was not required to, and was unable to, award its staff pay supplementation.

The interviews also revealed that four AHS or Boards of Management did not cover the cost of providing utilities (electricity, phones, cleaning etc). These costs were covered for at least four SAS units by their respective AHS or Board of Management.
SAS unit directors also revealed that AHS and hospitals respond differently to overruns and overspends by SAS units. In three cases SAS units have had overspends met by AHS. High rent and reimbursement costs were a major factor contributing to these overspends.

Two SAS directors reported that their underspends had been siphoned off by the AHS. Information from unit directors suggests that most SAS units find it hard to keep an accurate record of any roll over (or underspend) they may have. Furthermore, they remain unclear as to their ability to call upon such roll overs from the AHS, even if they kept a separate account of roll overs which was notionally agreed to by the AHS.

Consumer Feedback

Four of the SAS unit directors reported they had surveyed women attending their unit as to service satisfaction. The attitude of service staff, and the quality of facilities and the SAS unit were all listed as factors contributing to satisfaction with screening services.

One survey reported that for some rural women, travel to SAS units is seen as an incidental part of rural life, particularly where a visit to a SAS unit is one of a number of reasons to travel to a larger centre (including appointments with other medical specialists or specialty services).

Capacity

Over half of the SAS unit directors reported that their capacity to expand the number of screens performed in the future is limited by the availability of staff, particularly radiographers, rather than by physical space or capital.

Several directors also reported that capacity to perform additional screens is limited by the capped funding formula currently applied to funding. One SAS unit director indicated that the unit had placed its own limit on screening numbers, below the state target for that unit. It argued that without receiving more funding it could not provide more screens without compromising service quality.

Reporting Requirements

There was little comment on the current reporting requirements affecting SAS units. However, a number of directors expressed concern at the inability of the current system to collect or analyse screening data on a statewide basis. They viewed this as a major challenge facing the program but recognise that the implementation of the Breast Information System will address this issue.

Future Plans

There was little consistency between SAS directors in terms of their future plans for their respective units, with the exception that four units did report an intention to more actively integrate the screening of women and the delivery of breast cancer treatment services.

The interviews with SAS directors were an invaluable part of this review in that they imparted a level of understanding and knowledge regarding the program that would other wise have not been forthcoming. What these interviews highlighted is the absence of any clear and consistent methodology between SAS units in terms of the reporting and treatment of certain

expenditure items; a lack of clear state policy on screening and recruitment practices; and a degree of unease with respect to the current program structure.

However, the interviews also highlighted the importance which current SAS directors place upon what they do, and more importantly on the satisfaction of women using the service.

RECOMMENDATIONS

There are no recommendations emerging from the analysis presented in this issues paper. However, this analysis has been used to inform the recommendations made in the issues papers 1 to 3, and issues paper 6.

TABLE 1: SAS DIRECTOR INTERVIEWS - SUMMARY OF RESPONSES

Aspect	Details	Number
1. Relationships		
Area/ Board of Management	Good relationship with hospital/ AHS	4
	Limited relationship with AHS	4
	Feel lines of responsibility frustrate the decision making process	1
	Poor relationship – based on history and personal issues	2
BSN/BCI	Good relationship with BCI	9
	Concern about BSN sitting with BCI in WSAHS - feel there may be conflicting purposes and that staff may not be used effectively	3
	Current structure promotes BCI ahead of BSN eg. use of BCI letterhead and logo instead of BSN - since BSN is such an important, statewide program, then it should have its own corporate identity outside of BCI.	3
	Poor recruitment and marketing function - feel that BSN is not good at recruiting women at the state level.	4
	Sit on BCI Steering Committee, input to planning	9
Cervical screening	Good – relationship - display promotional materials for cervical screening in the SAS or on re-screen letters	6
	Decided not to link programs more heavily - did not want to put the local GPs offside by linking into the cervical program.	2
	Little scope to link services	4
	Makes sense to link services - particularly for women who have to travel	3
	There are major complementarities in the recruitment of women and health promotion efforts - currently screen and do pap smears at the same site.	1
Treatment services	Good relationship with radiology, pathology, local clinicians.	3
	Limited relationship	3
GPs	Good relationship	8
	Sit on management committee of local GP divisions	2

Aspect	Details	Number
2. Recruitment		
Plans/target	Plan provided	8
Policy for 40 to 49	Does not actively recruit	4
	Limit to 35% of all women screened	1
	It is effective to recruit this group, but not cost effective.	2
	Should inform all women 40-49 of risks of breast cancer and screening then let them decide	2
Policy for over 70s	No proactive recruitment of initial screens, but send reminder letters to re-screen women already in program.	3
General issues	Use group bookings and community transport.	2
	GPs big part of strategy	4
	No specific ATSI recruitment strategy	2
Statewide versus local strategies	SCU is ineffective at recruitment and is more of a hindrance than a help with this aspect of the program.	3
3. Screening		
Annual screens	Problem under review Offer to women with family history	1 2
Pseudo screens	Don't see this as a big issue. High number of pseudo screens	5 2
	Refuse to screen symptomatic women	3
	Accept symptomatic women if they prefer BreastScreen service to medical services	2
ATSI screens	Work with Aboriginal health worker. Continuity of relationship difficult.	2 2
Re-screening rates	Target for re-screens of 75%. Current re-screen target too low	2 1

Aspect	Details	Number
4. Organisation		
Autonomy	Feel they have autonomy over purchasing equipment	2
	Feel they don't have autonomy over purchasing equipment	7
Equipment sharing	AHS and diagnostics share equipment	5
	No sharing	2
	Unclear	2
Equipment charges	Shared equipment charge on cost recovery basis	1
	Nominal charge for shared equipment	4
5. Cost Determinants		
Capital paid for by SAS	All buildings	3
	Capital works on existing buildings	4
	SAS owns mobile	3
	SAS leases mobile from WS	2
	Mobile owned by AHS	1
	Re-locatables	2
	Difficult to identify capital owned by SAS	2
Capital Asset Register (with whom is capital registered?)	SAS	3
	AHS	2
	Both	1
	Don't know	1
	Missing	2
Depreciation	Debited by AHS	4
	Not charged to SAS (including notional debiting by AHS)	5
Rent	Paid by SAS for all fixed sites	4
	Paid by some for only some sites	2
	Not paid by SAS	3
	No rent paid for mobile/ relocatable screening services	1
	Rent/ commercial lease paid on mobile/ relocatable screening services	3

	Don't know if rent/commercial leases paid on mobile/ relocatable screening services	5
Aspect	**Details**	**Number**
Staff on costs – includes pay awards, super, workers compensation, long-service and maternity leave	Paid by SAS (may include payment from SCU) Paid by a combination of AHS and SAS Paid by the AHS/ACT Gov Paid by the private hospital No salary supplementation paid	3 1 3 1 1
Utilities	All provided by AHS Some provided by AHS None provided by AHS	1 4 4
Overruns/ Underspends	AHS bails SAS out for overruns AHS siphons off SAS underspends	3 2
6. Consumer Satisfaction		
Service Quality	How staff treat women, facilities and booking for assessment all important – this is an important aspect of satisfaction with Screening.	2
Travel	Travel seen as incidental for some because they have to travel as part of life anyway if they live in a country centre.	1
7. Capacity		
Ability to expand	Could expand screens with existing resources Limited by physical space Limited by capped funding Limited by the availability of staff, not by space or capital.	1 2 3 5
8. Reporting Requirements		
	Generally happy with requirements	2
Feedback	Reporting back from BCI has improved	1
Information system	Problem with existing system and its ability to allow statewide data collection and comparison	3
9. Future Plans		

	Move into more diagnostic work	1
	More actively integrate screening and delivery of treatment for breast cancer	4

GENERAL ISSUES

Feel the current funding is satisfactory or can not be improved upon	3
Concerned that would be unable to absorb any decreases in funding	4
Capped funding of incentive payments acts as a disincentive for getting hard to reach women	2
A clear state-wide policy on who is to be invited for screening is urgently needed (includes both 40-49 and 70+ age groups)	6
Funds could be distributed better (more fairly) within the program – smaller, rural SAS units have higher costs	3
Revisit policy on annual screens for women with a family history	1
SCUs capital replacement plan keenly awaited	1
Advise on how to set reimbursement levels for sharing use of equipment with diagnostic services, public and private	1
How is aging of the population being incorporated into future plans	1
Improvement of Accreditation process – particularly in areas of emerging technology (eg core/open biopsies)	1
Concern with how well the incentive part of the funding formula is working	3
Need consistency in the treatment of on-costs	3
A state policy is needed for re-screening compliance	1
There should be a statewide mobile screening unit available to all units	1
All SAS units should have access to core biopsy tables	1
Need to prepare for the negative impact of interval cancers	2

ATTACHMENT 1

Questions for SAS Directors

Please note: Any documentation to support the discussion would be greatly appreciated.

1. Your general comments on the terms of reference.

2. Overview of your organisational structure, how services are staffed and delivered.

3. Relationship with Area Health Service(s), NSW Breast Screen, local treatment services and/or GPs, Cervical Screening Program

4. Decision making, input of SASs into statewide planning

5. Recruitment strategies/recruitment plan (hard copy if available please)

6. Screening rates of the target population in your area as specific as possible (copy of annual report).

7. Do you have any consumer feedback eg. satisfaction surveys? Reasons for non-attendance?

8. Capital equipment - what do you have - who owns equipment - who does the purchasing of capital/facilities, asset register and planning. Are facilities/equipment shared at all?

9. How does the budgeting/financing work (copy of last year's financial report if available)?

10. Any issues with funding arrangements over runs/ under runs.

11. Are there any other important issues with funding (e.g. the amount / screen - the way services are funded etc.)

12. Capacity to use resources to increase screening rates (flexibility)

13. Reporting requirements - issues and compliance.

14. Any issues important in the next agreement with NSW Health

15. Future plans for your service/ barriers to planning

ISSUES PAPER 5:
NSW CERVICAL SCREENING PROGRAM

This paper sets out key issues which have emerged from the review of the NSW Cervical Screening Program and the NSW Pap Test Register.

BACKGROUND AND CONTEXT

The NSW Cervical Screening Program (NSWCSP)[8], incorporating the NSW Pap Test Register (PTR), is a Commonwealth/State funded program. The program commenced in 1991 as part of a national initiative to establish an Organised Approach to Cervical Cancer Screening. This was in response to identified problems with cervical screening in Australia:

- over-screening of some women and substantial under-screening of others;
- lack of quality assurance at all points in the screening pathway; and
- no clear guidelines for follow-up of women with screen detected abnormalities.

The National Program, which formalised the Organised Approach, established clear screening policies, as well as joint Commonwealth/State funding and agreed strategies for addressing problems in cervical screening.

The program is now in its second phase. In NSW the first phase of the program, from 1991/92 - 1994/95 was managed by the NSW Cancer Council under a contract from NSW Health. The management of the program for the current contract period was transferred to Western Sydney Area Health Service in 1995/96, following its successful bid in a limited tender process. The contract for the PTR remained with the NSW Cancer Council and the Register commenced on 1 July, 1996.

The NSW Cervical Screening Program is made complex by the fact that the NSW health system has only a very limited role in service delivery, monitoring of standards and policy development

[8] The title NSW Cervical Screening Program is generally used for both the combined components of the program (NSWCSP and PTR) and for the program activities excluding the PTR. In general in this paper, "NSW Cervical Screening Program" or "Program" will not include the PTR activities unless specified.

in relation to cervical screening. The vast majority of the program's services across the whole screening pathway are delivered in the private sector by general practitioners, pathology laboratories and gynaecologists (with some cervical screening also being provided by the Family Planning Association, which receives a Commonwealth grant). Reimbursement arrangements and quality standards are set at the Commonwealth level. Thus, although NSW Health has responsibility for population health outcomes and for meeting specific performance targets in cervical screening, it has relatively little input to service delivery. The State's only direct service provision responsibility is for funding and delivering screening services provided by Women's Health Nurses.

Program funding at the state level is primarily directed at recruitment, monitoring and evaluation, strategies for quality improvement, and the program administration functions necessary to support these activities. This contrasts with Breastscreen NSW, which is primarily a service delivery program, where NSW has much greater capacity to manage the level of service provision and the nature of service provision.

In addition, the context for the cervical screening program is one in which there was an existing pattern of service delivery before the program's inception, albeit one which was ad hoc in terms of who was screened and the quality of screening and follow-up. This has meant that the focus of the program has necessarily been on changing practice and patterns of service delivery rather than on establishing new services.

Thus, the approach adopted by the current Program Management has been based on using organisational development principles to build collaborative networks to improve cervical screening. The Program has identified five key challenges:

- engaging stakeholder collaboration at local, state and professional levels;
- recruiting women at risk;
- supporting compliance with national standards for laboratories processing Pap smears;
- ensuring best clinical practice along the screening pathway; and
- operations oriented research, evaluation and monitoring.

These key challenges have been addressed through a range of activities, including:

- production and distribution of educational brochures and videos for women particularly through General Practitioners;
- production and distribution of training materials for health care providers, including videos and training manuals;
- establishment of the position of Cervical Screening Coordinator, Steering Groups and AHS strategic plans in each AHS;
- funding of projects aimed at improving cervical screening rates and the quality of cervical screening;
- establishment of expert taskforces to advise the program;
- the undertaking of a radio based media campaign; and
- ongoing use of PTR data to assess program effectiveness and identify future directions.

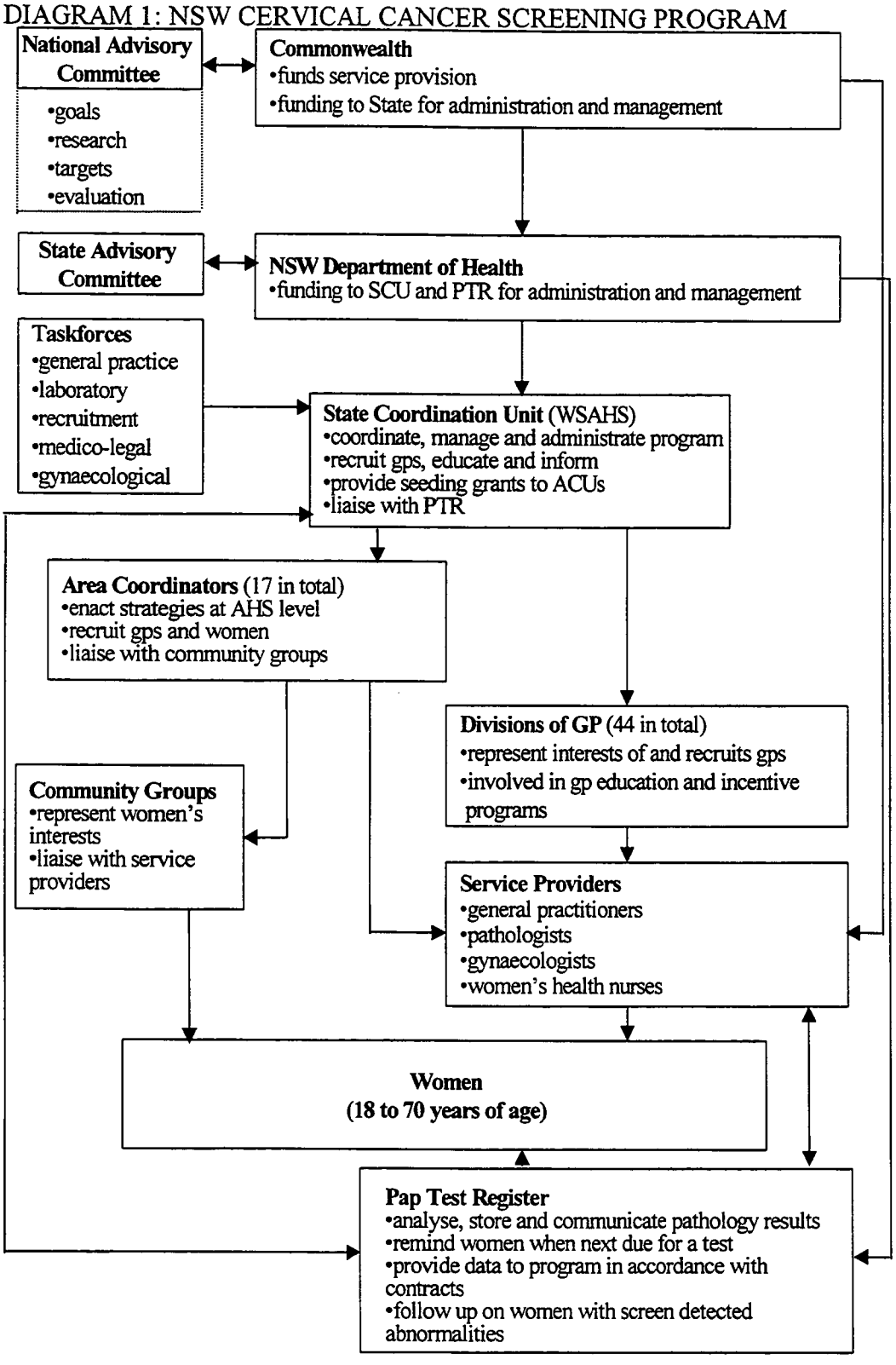
ACCOUNTABILITY STRUCTURES AND REPORTING RELATIONSHIPS

Diagram 1 is a representation of the accountability and reporting relationships that exist within the NSW Cervical Screening Program. In this section, issues arising from the structure which are pertinent to this review are briefly outlined.

NSWCSP and PTR Linkages

As noted above, the Program is managed by Western Sydney Area Health Service (as the holder of the contract with NSW Health) but also includes the PTR which is managed under a separate contract by the NSW Cancer Council. Both components of the program report to the Department of Health and to the State Advisory Committee. The contracts for the two components of the program specify requirements for provision of PTR data to support NSWCSP activities, areas of joint responsibility, and requirements for collaborative activity and communication of program matters between the two parties.

DIAGRAM 1: NSW CERVICAL CANCER SCREENING PROGRAM



In general, the staff of both units report that the level of cooperation and collaboration between the two components of the program is high, and there are few problems with joint initiatives or with timely provision of data. There is representation of the PTR on relevant Taskforces of NSWCSP and of NSWCSP on the PTR's Advisory Committees. In addition, some advantages of maintaining separate units have been noted:

- the separation of the PTR from the NSWCSP has enabled the NSWCSP to work effectively with general practitioners who in some cases have maintained concerns about the existence and role of the PTR;
- the location of the PTR in the NSW Cancer Council aligns it with other cancer registers;
- the separation has enabled the NSWCSP to undertake program activities without activity and resources being diverted to data issues, that is, it has enabled a consistent allocation of resources to the two program components to be maintained.

There are some areas where the separation of the two components of the program creates potential problems for the program. The separation of the two units means that the program's data is "owned" by the PTR. While it is clear that the data is to be provided to support program activities, this contractual arrangement creates the potential for some uses of the data to be extra-contractual.

Further, as the program develops in maturity in NSW, it is likely that the register functions will become more central. As screening rates improve and quality assurance mechanisms are established, there will be less need for the current emphasis on organisational development and recruitment, and the role of the PTR in supporting the maintenance of screening rates and the monitoring of laboratory quality will increase. This suggests that in future rounds of screening, the maintenance of separate contracts may not be the most appropriate structure for the program.

However, overall, there is evidence to suggest that the maintenance of separate contracts at this stage is advantageous. It may be appropriate to consider mechanisms to strengthen and formalise the relationship between the two components.

NSW Cervical Screening Program and AHS Relationships

Improvements in screening rates and reductions in morbidity and mortality from cervical cancer in NSW are the responsibility of both the NSW Cervical Screening Program and of each AHS.

The Department of Health currently sets screening targets for the AHS in its performance contract with the Chief Executive Officer, and the contract for the NSWCSP also specifies screening targets.

Given the complex structure, the Program has developed an effective model to clarify lines of accountability. NSWCSP has a contract with each AHS covering the provision of funding for the coordinator positions. The contract specifies the activities the AHS must undertake in relation to cervical screening, and requires the AHS to develop local screening targets which in turn contribute to the achievement of the Statewide screening targets. The strength of this model is that at each level there is a clear flow of funds and clear lines of responsibility, thus facilitating shared responsibility of stakeholders.

The model provides a mechanism for the AHS to influence screening rates through the work of the Area Cervical Screening Coordinator, the AHS Steering Group and AHS based projects. However, the lines of accountability are such that NSWCSP has significant capacity to determine these activities. Thus, the scope of the AHS to direct resource allocation at the local level is limited. Further, the provision of funding attached to a contract provides the Program with capacity to influence planning decisions within the AHS, which may impact upon other population health activities.

The process by which screening targets determined between the AHS and NSWCSP are linked to screening targets determined between NSW Health and the AHS is not clear. Ideally there should be correspondence between the different performance requirements of the Program.

ASSESSMENT OF PERFORMANCE AGAINST CONTRACT

A number of aspects of assessment of performance against the contract requirements need to be considered for the NSW Cervical Screening Program and the PTR.

NSW Cervical Screening Program Contract

The contract requirements and performance targets for the NSW Cervical Screening Program reflect:

- requirements imposed at a national level in the Second Phase Commonwealth/State Agreement, which has now been superceded by the Public Health Outcomes Funding Agreement. The Second Phase Agreement specified performance measures for states/territories, but did not specify performance targets to be reached;
- requirements at a state level drawn from the proposal by the successful tenderer; and
- performance targets specified at a state level for most of the performance measures specified in the Commonwealth/State agreement.

These contract requirements divide into two categories: required activities set out as clauses of the contract between the Program Manager and NSW Health, and performance targets. Attachments One and Two detail:

- the extent to which and how the activities and objectives specified in the contract have been undertaken and achieved; and
- assessment against each performance target.

This information has been drawn from Business Plan, Annual Reports and quarterly progress reports of the Program.

It is important to note that in a number of cases the requirements set out in the contract are extremely detailed and specific. While this helps to ensure accountability for Department resources, there is a risk that this level of detail commits the Program Manager to undertake specified activities rather than taking an approach of ongoing assessment of the best strategies. For example, the Taskforce structure is specified in the contract, whereas it may have been more appropriate to leave these details open rather than committing the Program to use resources in this way.

PTR Contract

Reflecting the different role of the PTR, the contract for this component of the program is more focussed on procedural issues. The contract also specifies outcome targets for the PTR. Attachment Three provides an assessment of the Register's performance against these targets.

Screening Performance

The key outcome measure for assessment of the performance of the program is the increase in screening rates. Table One provides the most recent data on screening rates in NSW.

As can be seen, neither the overall screening target nor the target for women aged 50-69 have been achieved. However, there is evidence that screening rates in NSW have improved substantially over the period of the program. The estimates of biennialised 12 monthly screening rates have increased from 57.2% in September 1997 to 61.3% in September 1998 for the 20-60 year age group, and 51.7% to 56.9% for the 50-69 year age group.[9]

In terms of assessment of the NSWCSP against the key outcome measures, four issues should be noted. First, the performance targets specified in the PHOFA differ from those which were specified in the contract with NSW Health. The contract specifies an overall target screening rate by 1999 of 75% for women aged 20-69, 60% for women aged 50-69 and 60% for rural women. The PHOFA, which came into effect in 1997/98 specified lower targets, of 64% for women aged 20-69 and 58% for women aged 50-69. This created an anomaly, whereby the contract requirements required a higher level of performance from the Program than is required for the State overall.

Second, as is clear from the discussion of recent data on screening rates below, the contract requirements have not proved meaningful, because they were set in the absence of useful baseline data. In fact the best available data (HIC data) suggest that the baseline screening rate for NSW was approximately 58% (NSW Cervical Screening Program, 1997). This baseline estimate is confirmed by data from the first twelve months of the screening program. The estimated 2 yearly baseline screening rate at September 1997 was 57.2% for women aged 50-69

[9] Although a biennialised screening rate is a less stable estimate of the percentage of the population screened, over the relatively short time period of the program it provides a more useful indication of the trend in screening rates. The NSW Cervical Screening Program uses a factor of 1.6-1.74 in estimating a biennialised screening rate from 12 monthly screening data (verbal advice from the Program was that the current factor used is 1.6; the factor used in

(NSW Cervical Screening Program, 1999), confirming other evidence that a baseline estimate of around 57%-58% was reasonably stable (NSW Cervical Screening Program, 1997; 1999). Given this low baseline screening rate and its relative stability, an increase in screening rates to 75% over a 3-4 year period was probably unrealistic, especially given the context for cervical screening in which the program has limited capacity to influence the decisions of general practitioners. The PHOFA requirements provide a more realistic target increase in screening, and in practice the program has informally adopted these targets.

Third, the gap between proposed targets and performance underscores the need for a clear process for establishing program performance targets. Ideally there should be consistency in the way that AHS level targets are set and the way that state targets are set. Both should be established on the basis of assessment of the current position (baseline), trends, resources available and possible strategies. This would allow a more thorough assessment of what targets can be achieved within the resources the State devotes to the program. While this was not possible for the current contract, because the PTR data were not available, there is now sufficient experience within the program to set meaningful targets.

Fourth, it is important to establish what is a realistic screening target for the program. The Victorian program provides a useful comparison point, as the Victorian register has been in operation since 1989, and there is an even longer history of some components of an organised approach to cervical screening within Victoria. In 1996-97 the participation rate for Victorian women aged 20-69 years was 68% (AIHW, 1998). This provides a more realistic long term target for the screening program.

TABLE 1: NUMBER AND PROPORTION OF WOMEN SCREENED BY AHS TWENTY-FOUR MONTH PERIOD ENDING DECEMBER 1998

	20-49		50-69		20-69	
	No. Screened	% screened	No. screened	% screened	No. screened	% Screened
Metropolitan AHS						
Central Coast	34,091	65.5	10,019	57.1	44,110	63.4
Central Sydney	66,813	56.2	15,227	45	82,040	53.7
Hunter	64,289	61.6	16,578	56.2	80,867	60.4
Illawarra	40,468	60.7	11,467	49	51,935	57.7
Northern Sydney	111,176	65.4	33,700	59.6	144,876	63.9
South Eastern Sydney	109,020	62.4	27,995	58.3	137,015	61.5
South Western Sydney	91,529	56.5	19,800	48.2	111,329	54.9
Wentworth	37,532	55.4	7,941	53	45,473	55
Western Sydney	77,458	54.1	19,304	51.7	96,762	53.6
Subtotal	632,376	59.7	162,031	53.6	794,407	58.3
Rural AHS						
Far West	3,920	42	1,147	41.9	5,067	42
Greater Murray	27,784	56.4	7,508	45	35,292	53.5
Macquarie	11,635	59.1	3,331	52	14,966	57.4
Mid North Coast	27,278	64.1	9,808	65.1	37,806	64.4
Mid Western	19,449	62.9	5,448	57.7	24,897	61.7
New England	21,685	64.3	6,771	58.7	28,456	62.9
Northern Rivers	28,521	60.8	8,772	54.1	37,293	59.1
Southern	18,399	54.8	6,157	55.4	24,556	54.9
Subtotal	158,671	59.7	48,942	54.9	207,613	58.5
AHS not available	**11,702**		**2,354**		**14,056**	
NSW Total		**60.6**	**213,327**	**54.5**	**1,016,076**	**59.2**

Source: Cervical Screening Program Coordination Unit

Qualitative Assessment by Area Coordinators

As part of this review, AHS Cervical Screening Coordinators were interviewed to ascertain their views on the performance and functionality of the current program structure. A copy of the questions asked, and the results of those interviews are contained in Attachment 4.

Generally, the majority of coordinators feel that the program is achieving its targets, and largely feel supported by the current program structure. One or two coordinators, did however feel that the current program coordination lacked expertise in establishing statewide resources. Furthermore there was some feeling that Area coordinators would benefit more by being given the freedom to develop their own promotional resources, and not have to rely on those produced centrally.

The relationship between Area coordinators and the AHS within which they sit varied considerably. Several coordinators reported that they did not feel that they were being given the proper acknowledgement by the AHS as to the importance of the program. In contrast, a number of coordinators reported that they had good working relationships with other AHS staff and often called on the expertise of other units, particularly for health promotion advice. All coordinators reported good support from their AHS in terms of the availability of resources.

There was some evidence to suggest that the AHS coordinator position is more effective when it is situated within the Public Health Unit or Population Health component of the Area structure. This generally resulted in greater support in terms of public health expertise.

Most coordinators reported that their major achievements had been in establishing strong and successful relationships with their local divisions of general practice, and with local community groups - particularly NESB and ATSI women. In a number of AHS this coordination extended to cross promotional activities with local BreastScreen NSW SAS units. However, although greater integration of these programs may deliver better screening results for both, some coordinators felt that their efforts to achieve closer relationships are frustrated by the state coordination units for both programs.

ASSESSMENT OF COSTS AND EFFECTS

It is not possible to make a methodologically sound assessment of the cost-effectiveness of the program, or of components of the program. The lack of baseline data (including accurate information on underlying trends in screening rates) make it impossible to assess the marginal gain in screening performance resulting from program inputs. Further, the program consists of multiple inputs, making it impossible to separately assess the relative efficiency of different strategies or activities.

However, with these caveats, we have drawn on three sources of information to make a broad assessment of costs and effects, and of the marginal cost per additional woman screened: using financial information provided by the Progam; screening performance data provided by the Program and the *Report on the costs and effects of the NSW Cervical Screening Program*, prepared for the NSW Cervical Screening Program by Alan Shiell (Shiell, 1998).

Summary of the Findings of the Report on the Costs and Effects of the NSW Cervical Screening Program

- The focus of this report was on the activities of the Program rather than the Program and the PTR.

- Shiell (1998) notes the difficulty of evaluating in the short term the effects of the organisational development approach taken by the program. Many of the activities that have been undertaken in this triennium of the program are longer term investments in capacity building. Thus, the evaluation focussed on intermediate measures of outcome, based on qualitative interviews with key stakeholders and a formal evaluation of capacity building undertaken as a separate consultancy.

- Costs and effects were reported against the five key challenges, with some program costs also attributed to Program Support. In 1996/97, the highest expenditure (32.7% of total budget) was on Program Support. In 1997/98, the highest expenditure (40.8%) was on key challenge 2 (recruiting women at risk), reflecting the fact that a significant proportion of Area Coordinator costs are attributed to this key challenge. Key challenges 3 (supporting compliance with national standards for laboratories; 1.9% and 2.2%) and 5 (operations-oriented research, evaluation and monitoring; 6.1% and 8.4%) have attracted the lowest expenditure by the program over the past 2 years.

- Intermediate measures of program effects under key challenge 1 (engaging stakeholder collaboration) were reported in two measures of capacity building (Shiell, 1998, Table 5).The first instrument is designed to measure inter-organisational collaboration at the AHS level. While there is considerable variability across the AHS on this measure, the results suggest that whether an AHS is urban or rural is a strong covariate (with urban AHS

generally performing better). Shiell concludes that the measure shows high scores across the program but no comparison point is provided to validate this conclusion. The second instrument, which measures the strength of collaboration with partner agencies shows greater variability in responses by AHS.

- Further evidence of the effectiveness of the collaborative networks developed by the program was drawn from qualitative interviews with key stakeholders, showing strong support for the organisational development approach, and generally favourable views of program activities. However, a potential weakness of this measure is that the stakeholders interviewed were Taskforce members, who are more likely to have been responsive to program initiatives and activities and supportive of this approach.

- Measures of program effects for key challenges 2-5 were largely based on data provided by the program, which is discussed in Attachments 1-2 of this paper. However, some specific evaluations of components of the program, such as the radio campaign and the GP educational seminars are summarised. The main conclusion from these evaluations is that while the intermediate measures of outcome are positive, the effect on screening rates is yet to be seen.

- Shiell (1998) notes that assessment of the cost-effectiveness of the program requires careful definition of the baseline case (no program), and in particular, that in the absence of the program, many program costs would be picked up by other agencies. On the basis of a sensitivity analysis (varying the increases in screening rates achieved and the resources which would be freed up if the program discontinued) he concludes that the likely costs per additional woman screened is less than $20.

- The overall conclusion of the report is that "resources allocated to [the program] have been used effectively and efficiently" (Shiell, 1998, p.29).

Costs and Cost-Effectiveness

Table 2 presents total program expenditure over the period 1995/96-1997/98. Total expenditure on the program to 1997/98 has been $8.616 million. The total allocation to the Program for 1998/99 is $1.197m for the PTR and $2.428 million for the NSW Cervical Screening Program, bringing total resource costs for the current contract phase to $12.24 million. However, for the purposes of the assessment of costs and effects in this report, only expenditure to 1997/98 has been included.

TABLE 2: PROGRAM EXPENDITURE

Source of Expenditure	**1996/97** $	***1997/98*** $	***Total*** $
Program Coordination Unit	1,521,041	1,758,057	3,279,098
AHS Level	1,192,462	1,125,162	2,317,624
WHN Cytology	101,717	227,758	329,475
Pap Test Register	1,506,607	1,182,900	2,689,507
Total	**4,321,827**	**4,293,877**	**8,615,704**

Source: *Cervical Screening Program Coordination Unit; Pap Test Register*
Notes: *Expenditure for 1996/97 includes funds allocated and expended in 95/96.*

These cost data can be combined with recent data on screening rates to provide some preliminary estimates of the cost-effectiveness of the program.

Table 3 presents number of women screened in 12 month reporting periods and biennialised 12 month screening rates since the commencement of the PTR (12 month screening data is not yet available for December 1998).

TABLE 3: 12 MONTH REPORTING PERIOD
NUMBER AND PERCENTAGE OF WOMEN SCREENED

Age Group	Sep 97	Dec 97	Mar 98	Jun 98	Sep 98	Dec 98
	12 monthly number of women screened					
20-49	448,505	446,845	447,959	459,468	477,736	480,436
50-69	116,318	118,239	119,255	121,888	128,011	129,572
20-69	564,823	565,084	567,214	581,356	605,747	610,008
	12 monthly screening rates (biennialised)					
	Sep 97	**Dec 97**	**Mar 98**	**Jun 98**	**Sep 98**	
20-49	58.8	58.6	58.7	60.2	62.6	
50-69	51.7	52.5	53	54.1	56.9	
20-69	57.2	57.2	57.4	58.9	61.3	

Source: *Cervical Screening Program Coordination Unit; Pap Test Register*
Notes: *Expenditure for 1996/97 includes funds allocated and expended in 95/96.*

These data show that there has been a consistent increase in the number of women screened in each 12 month reporting period since PTR data have been available. If the 12 months to September 1997 is used as a baseline, the increase in the number of women screened per 12 month period is 45,185 to December 1998. This can be extrapolated to approximately 78,622 additional women being screened over a 2 year period (using a factor of 1.74 to estimate biennial screening data from annual data, as recommended by NSWCSP).[10] This can be used to estimate a cost per additional woman screened for the period 1996/97-1997/98 of $109.58 if total program resources (PTR and NSW Cervical Screening Program) are included, and $75.75 if only NSW Cervical Screening Program resources are included. This estimate is considerably higher than the estimate provided by Shiell (1998).[11]

[10] Verbal advice from the NSW CSP is that a factor of 1.6 is appropriate for biennialising annual data. However, in the most recent screening rate publication a factor of 1.74 is used. A factor of 1.6 results in a higher estimate of cost per woman screened. For example, if both NSWCSP and PTR resources are included, the cost per additional woman screened is $119.17.

[11] This estimate of cost per additional woman screened has also been undertaken using the 12 months to September 1997 as a baseline and the 12 months to September 1998 as a comparison. This removes any seasonal effect, but uses a shorter time period for assessment of the impact of the program. The result are broadly similar: the cost per additional woman screened is $121.81 if total program resources are included, and $84.21 if only NSW CSP resources are included.

A number of points should be noted in interpreting this cost per additional woman screened:

- It would be reasonable to argue that the increase in screening rates to date can be attributed to activities of the Program rather than the Program and the PTR, on the basis that the register's reminder function did not commence until September 1998. Thus, the estimate of $75.75 per additional woman screened may be more valid.

- Caution should be applied in interpreting this estimate because of the use of September 1997 data as a baseline, which underestimates the effects of the Program, and because of the use of biennialised annual screening data (which are less stable than 2 yearly screening rates).

- These estimates do not take into account any increase in screening rates which would have occurred in the absence of the program. However, as noted before, previous estimates indicate the baseline level of screening was fairly stable.

- These estimates do not include the costs of taking and reading Pap smears or following up women with screen detected abnormalities. Estimates from other sources suggest these costs are in the order of $90 per woman screened (AHTAC Report). However, not all these costs are borne by the NSW health system.

- These estimates do not take into account program costs that would be borne by other agencies in the absence of the program. Therefore they overstate the cost per additional woman screened. It is difficult to estimate what net program costs would be.

- Where program activities are directed at improving the screening pathway or increasing the quality of screening, they should ideally be excluded from the estimate of cost per additional woman screened. If costs associated with key challenges 3 and 4 as estimated in Shiell (1998) are excluded, the cost per additional woman screened for the program is $95 (including PTR costs) or $61 (excluding PTR costs). However, key challenge 4 includes GP based strategies which are aimed at recruitment as well as quality improvement. An alternative interpretation of this issue is that program costs aimed at improving the screening pathway should be offset by savings elsewhere in the health system.

Given these caveats, it might be reasonable to guess that the cost per additional woman screened over the period of the program is $60-$80 (assuming that the main costs which would be absorbed by other agencies are those related to training and recruitment initiatives). Whether this represents good value for money depends on the alternative uses of these resources. However, it is clear that the NSW health system has made a very substantial investment in prevention of cervical cancer, and it is important to assess the value of continuing investment at this level.

Another approach to assessing the relative value for money of the program overall, is to consider the potential cost per additional woman screened under best assumptions about improvements in screening rates. Given that Victoria has achieved a screening rate of 68%, an optimisitic assessment of the improvements in screening rates from the program would be a screening rate of 70-75% of the target population. Using an estimate of the baseline level of screening of 57%, an increase in screening rates to 75% corresponds to an additional 309,000 women being recruited to 2 yearly screening as a result of the program. Assuming that the current level of resource allocation is maintained, and that this screening level could be achieved in an additional 2 screening rounds (4 years), the total allocation over the life of the program would be approximately $28 million. This corresponds to expenditure of approximately $91 per additional woman recruited to 2 yearly screening. It is difficult to estimate what this means in terms of additional cancers detected and prevented. However, it is important to recognise that important benefits of the program in terms of recruiting under and un-screened women.

COSTS, FINANCIAL MANAGEMENT AND RESOURCE ALLOCATION

The 1996/97 and 1997/98 Annual Reports indicate that there was substantial variation between budget projections/allocations and final expenditure across the full range of categories. Although overall variation between planned and actual total expenditure was only $17247 within a $3 million budget, the variation within specific categories were often greater than $100,000. The differences between planned and actual expenditure can be attributed to four factors:

- The categories used in the Annual Report are generated from those used in the financial reporting systems at AHS level. These categories are not always meaningful at a program planning level, and planned items of expenditure may be recorded in a different category when they occur.

- The variation between planned and actual expenditure in 1996/97 reflected the lag time in establishing activities. Over 1995/96 - 1996/97 the Program underspent its budget by $1.15 million.

- Some differences between planned and actual expenditure reflect a decision to allocate available resources to these components of the program. The largest budget over-run, of $445,162 for Area Program Implementation can partly be attributed to a decision to allocate $340,000 forward funding to AHS to increase security of employment for Area Coordinators.

- The Program Management argues that retaining some flexibility within the budget is important to allow the Program to be responsive to emerging issues (such as the need to invest marketing resources to support a new policy initiative).

However, a more serious concern is that this variation reflects the lack of sound priority setting mechanisms or financial planning within the Program. The Program has had sufficient resources to allow for substantial shifts of funding between different program activities. More generally, within the Program, there does not appear to be a strong link between the strategic planning and business planning processes and financial planning. There is no explicit process for assessing the relative value of allocating resources to different program activities, or to strategies proposed by the Taskforces. In a more constrained funding environment, this apparent lack of financial planning could lead to serious budgetary problems. In addition, it leaves open the question of how the program or the Department can assess value for money from different program activities.

The apparent flexibility of resource allocation within the Program in part reflects the multi-faceted portfolio approach taken by the program (an approach for which there is support within the health promotion literature). However, with such an approach it is critical that there are clear mechanisms for making a prospective judgement about the likely value of different strategies (in

terms of effectiveness and likely cost-effectiveness), and for ensuring that both expenditure and outcome data are available to assess decisions retrospectively.

Table 4 shows the shares of program resources which have been allocated at the AHS level to cover salaries and projects in the past two years, as reported in the Program's Annual Reports. Overall, approximately 39% of program resources have been allocated to AHS level expenditure, and the allocated share has been relatively stable over the 2 years.

A more important issue is whether this balance of expenditure at AHS and program coordination levels is appropriate. It is reasonable to argue that many of the functions of the program (particularly marketing, and some aspects of training and quality assurance) are more appropriately targeted at the state-wide level. Further there may be economies of scale from centralising some functions that could be undertaken at either level. However, given that AHS have the responsibility at a population health level to increase screening rates, the relative share of program resources allocated at this level is low, particularly when it is recognised that expenditure on GP projects is allocated to Divisions of General Practice.

TABLE 4: ALLOCATION OF PROGRAM RESOURCES

Source of Expenditure	1996/97 $	1997/98 $
Program Coordination Unit	1,521,041	1,758,057
	(54.03)	(56.5)
AHS Level	1,192,462	1,125,162
	(42.4)	(36.2)
WHN Cytology	101,717	227,758
	(3.6)	(7.3)
Total	**2815220**	**3110977**

Source: *Cervical Screening Program Coordination Unit*

Notes: *Expenditure for 1996/97 includes funds allocated and expended in 95/96.*
1996/97 AHS level expenditure includes GP projects
Alternative methods of calculating AHS level expenditure from program data have yielded a discrepancy of $54,624
Numbers in parentheses indicate proportion of total expenditure.

Table 5 shows the allocation of program resources across the AHS to June 1998. This includes funding for Area Coordinators and for projects. It does not include expenditure by the AHS in addition to resources provided by the Program, nor does it include any differences in the level of non-financial support given to the AHS (for example, time spent by Program staff providing advice on project evaluation or strategic plan development). The approach the program has taken has been to provide each AHS with the same resources, $40,000 per annum for an Area Coordinator, and a once off payment of $50,000 for GP and community based projects. Project funds were not allocated on a competitive basis, but AHS had to provide a project plan to the Program. Some AHS have received additional project funds, because they have been involved in statewide projects. In addition to these funds, the Program covers the costs of Coordinators' Workshops.

This approach to allocation of resources to AHS is at odds with the Department's approach to resource distribution policies more generally, and it does not reflect differences in population size or need. Per capita allocation to AHS varies from $0.57 per woman in the target population to $10.77. There are good arguments for recognising the fixed costs of program effort at the AHS level, and that there is a minimum level of resources that must be provided for AHS level program activities to be sustainable. However, given that a considerable component of the Coordinators' activities would be dependent upon population size and socio-demographic profile, this inequity in allocation creates a significant impediment to AHS meeting program targets. Further, as can be seen in Table 5, the Program's approach has generally resulted in higher per capita allocation going to those AHS which have achieved the highest screening rates.

It is also important to note that, as at July 1998, most AHS had unexpended funds from the program (even allowing for the provision of forward funding for the 1998-99 financial year). This partly reflects some delays in establishing projects or coordinator positions.

As the program develops and matures there is an argument for increasing the allocation of program resources at the AHS level. However, it is important that an equitable basis be established for allocating resources. This would be best achieved by using an RDF approach, but the formula for allocation would need to be modified to recognise that there is a minimum level of expenditure necessary within an AHS to allow the coordination functions to operate effectively. Based on the current experience, a minimum of a half time position and supporting project funding (approximately $20000 per annum) is necessary within all AHS. This could be achieved with a moderate increase in the allocation of funds to AHS, although there would be considerable variation from current allocations across AHS.

TABLE 5: FUNDING TO AREA HEALTH SERVICES
JULY 1996 TO JULY 1998

	Allocation *$*	**Target Population 20-69**	**Allocation** *$ per woman*	**2 Year Screening Rate - Dec 98** *%*
Metropolitan AHS				
Central Coast	140,000	69,611	2.01	63.4
Central Sydney	130,000	152,725	0.85	53.7
Hunter	140,000	133,852	1.05	60.4
Illawarra	175,000	90,041	1.94	57.7
Northern Sydney	130,000	226,562	0.57	63.9
South Eastern Sydney	130,000	222,689	0.58	61.5
South Western Sydney	170,000	202,930	0.84	54.9
Wentworth	138,000	82,703	1.67	55
Western Sydney	140,000	180,601	0.78	53.6
Subtotal	1,153,000	1,361,713	0.85	58.3
Rural AHS				
Far West	130,000	12,073	10.77	42
Greater Murray	130,000	65,984	1.97	53.5
Macquarie	140,000	26,085	5.37	57.4
Mid North Coast	140,000	57,607	2.43	64.4
Mid Western	140,000	40,361	3.47	61.7
New England	140,000	45,230	3.1	62.9
Northern Rivers	150,000	63,086	2.38	59.1
Southern	140,000	44,715	3.13	54.9
Subtotal	1,110,000	355,141	3.13	58.5
NSW Total	**2,263,000**	**1,325,571**	**1.71**	**59.2**

Source: *Cervical Screening Program Coordination Unit*
Notes: *Screening rates for the Far West Region are not reliable because of data problems*

It should be noted that these data on screening rates have only recently been available to the Program, and have provided evidence that suggests program activities should be targeted more towards urban women, particularly in AHS with populations with lower socio-economic status and higher representation of non-English speaking background women. This issue has been noted by the Program Management, and is likely to be reflected in future planning.

From the Department's perspective, a further issue is the level of additional expenditure to the Program at the AHS level. There is considerable variation in the level of support that AHS provide to coordinators. For example, in some AHS there are additional personnel involved in cervical screening activities, the level of supervision and support from other AHS functions varies, and the AHS vary in the extent to which they charge other expenditure (eg travel) back to the cost code for the program (that is, project money is expended on program support activities). The key issue here is that any AHS support to the program which is not charged back to the program cost code within the AHS is in addition to the overall funding allocated by NSW Health to cervical screening. While this is not likely to be a substantial amount overall, the opportunity cost of these additional expenditures on cervical screening should be recognised. This again raises the question of whether sufficient program resources are allocated at the AHS level.

Related to this is the question of how program resources should be allocated to AHS. As outlined above, the current arrangement is that the Program has a contract with each AHS which specifies the activities the coordinator must undertake, and some performance targets. This contract covers the funding for the coordinator positions, but not funding for projects. While the contract ensures that there is accountability by the AHS back to the program for expenditure of program funds, the structure of the program means that the AHS has responsibility for meeting performance targets but limited capacity to decide how resources are expended at the AHS level. There is an argument for resources to be allocated to the AHS directly, rather than through the Program, in line with other health system resource allocation. However, it should be recognised that in the case of cervical screening, where the program has no responsibility for service delivery, such an arrangement could reduce the ability of the program to coordinate and guide program strategies and activities at the AHS level.

Thus, four issues emerge from this assessment of financial management and resource allocation:

- The need for a clearer priority setting and resource allocation process within the program;
- The issue of whether additional program resources should be allocated at the AHS level;
- The issue of how the flow of funds should occur; and
- The need to recognise differences in population size and need in allocation of program resources at the AHS level.

PROGRAM ADVICE AND EXPERTISE

There are five key areas in which the Program (and, in turn, NSW Health) is dependent upon the provision of expert advice:

- data management and program evaluation;
- development of recruitment strategies (including recruitment targeted at general practitioners);
- quality of Pap smear collection and reading;
- screening, follow-up and treatment pathway; and
- cervical screening policy (for example, new technologies, changes in screening requirements).

Expert advice to the Program is provided through three main avenues:

- Staff employed by the Program and by the PTR have skills and expertise in these areas, particularly data management and program evaluation, the screening pathway and cervical screening policy.
- The State Advisory Committee (SAC) is intended to provide advice to the Department of Health in regard to Program operation and policy, strategic directions, plans and strategies. The membership of the SAC includes expert representation from the full range of program stakeholders.
- In line with the requirements of its contract, the Program has established Task-Forces in specific program areas, including recruitment, general practice, gynaecology, medico-legal and laboratories. The Terms of Reference of these Task-Forces reflect their role in providing expert input and policy advice to the program.

However, there are some weaknesses which can be identified in this structure. A key role for the program is health promotion, but health promotion expertise is under-represented in this structure (although this is not so relevant at the AHS level, where the coordinators generally sit within or have strong links with health promotion). This is particularly important given the capacity building approach the program has taken, but it is also important at the level of advice on particular marketing or other health promotion strategies. The Recruitment Task-Force, which primarily has a health promotion focus has only limited representation from health promotion experts. In addition, many of the possible strategies which are relevant at the general

practice level are health promotion strategies, but there is no health promotion input to the GP Task-Force. This reflects a more general potential weakness in the Task-Force structure of relatively little cross-representation on the Task-Forces (particularly the GP Task-Force).

A further issue is the capacity of the Task-Forces to fulfil their role of providing expert advice when they meet relatively infrequently, and rely on the good will of volunteer members. In general, the Task-Forces, particularly their chairpersons, provide very high level (and nationally recognised) expertise in their areas and are extremely enthusiastic. In addition, the Task-Force Chairpersons have reported to the review team that the support from the program for their work was extremely high, and their perception of being able to implement proposals was very good. Nonetheless, the maximum number of meetings of any Task-Force in a 12 month period has been 5, and this provides for constrained input to the Program's strategies. Thus, it is appropriate for the Committee structure for the program to be reviewed. It may be more effective for the Program to contract expert advice in specific areas, to increase the level of input, and reduce reliance on volunteers and on specific individuals.

A related issue which has emerged from consultation with stakeholders, including individuals on the State Advisory Committee (SAC) has been a lack of clarity about the role of the SAC. Two separate perceptions have emerged, perhaps reflecting the experiences and perspectives of different stakeholders:

- a perception that the SAC has not adopted a clear role in practice for providing advice to the Program; and

- a perception that the SAC has become too involved in direct program management.

Finally, it should be noted that, particularly in relation to data management, research and evaluation functions, liaison with consumers and liaison with laboratories the expertise of the program is spread across the separate units of the PTR and the Program Coordination Unit. This is particularly important in relation to data management and evaluation where expert advice is provided to the two components of the program through different avenues. The level of liaison on specific projects and activities between the PTR and the Program has increased over the period of the contract, and there are a number of examples of working collaboratively. However, it is important to consider how to ensure the program overall is able to benefit fully from the expertise available.

RECOMMENDATIONS

1. The PTR should remain under contract to the Cancer Council;

2. The Department, in conjunction with the PTR and the Cervical Screening Program Manager should investigate how to align more formally the functions of the PTR and the program overall.

3. The relationship between screening targets determined by the Department for AHS, and those determined by the program manager for Area coordinators, should be made explicit. Screening targets for each AHS should be based on the those set by the program.

4. Revise the current screening targets to be more realistic. These should be in line with the PHOFA targets, and ultimately experience in Victoria should be used as a guide to a long term target.

5. The Cervical Screening Program should establish stronger links between strategic, business and financial planning processes. This should include explicit and sound priority setting.

6. There is a need for greater input of health economics advice to the program, particularly to assist with priority setting and assessments of value for money from different program activities.

7. The allocation of resources at the AHS level needs to be examined, both in terms of the total funding provided to AHS and the distribution of these funds.

8. As program emphasis shifts from establishing infrastructure to maintenance of program activities, the share of funds to AHS should increase.

9. Given the new structure of the PHOFA, there is a strong case for assessing the benefits of allocating these resources to cervical screening relative to opportunity costs (foregone benefits in other public health programs). This is particularly the case given that there is evidence that the cost per additional woman screened in the program is high.

10. Funding to AHS for Area coordinators should be allocated on an appropriate RDF basis, but with a minimum level of funding (at least one half FTE). The RDF should be set through collaboration by the Program Manager and the Department.

11. The program manager should develop formal links to AHS Public Health Division through its Committee Structures, including representation on the Management Committee, and on Task Forces where appropriate. This should also include representation from health promotion and marketing expertise from within the public health system.

12. The role of the SAC in program advice should be clarified and communicated to the program.

ATTACHMENT 1

Cervical Screening Program Assessment of Performance Against Targets in State Agreement

Target 1a

Increase overall percentage of women aged 20-69 screened in a 2 year period to 75% by 1999

Target 1b

Increase the percentage of women aged 50-69 screened in a 2 year period to 60% by 1999

No specific target was set for screening rates in the initial funding agreement for the National Cervical Screening Program between NSW Health and the Commonwealth. However, in the PHOFA Agreement, which came into effect in 1997/98, the targets specified were 64% for women aged 20-69 and 58% for women aged 50-69. As the initial targets of 75% and 60% for the NSW Cervical Screening Program were set with only limited baseline information, it is more realistic to assess Program performance against the PHOFA targets.

Table One (see p. 117) presents screening performance data for the 24 month period ending December 1998. As can be seen, neither the overall screening target nor the target for women aged 50-69 have been achieved. However, there is evidence that screening rates in NSW have improved substantially over the period of the program. The estimates of biennialised 12 monthly screening rates have increased from 57.2% in September 1997 to 61.3% in September 1998 for the 20-60 year age group, and 51.7% to 56.9% for the 50-69 year age group.[12]

It is important to establish what is a realistic screening target for the program. The Victorian program provides a useful comparison point, as the Victorian register has been in operation since 1989, and there is an even longer history of some components of an organised approach to cervical screening within Victoria. In 1996-97 the participation rate for Victorian women aged 20-69 years was 68% (AIHW, 1998). This provides a more realistic long term target for the screening program.

Target 2

Increase the percentage of women in rural/remote areas who have been screened in a 2 year period to 60% by 1999

Performance against this target is reported in the Program's Annual Report. Screening rates for rural women aged 20-69 years were 56.3% for the 24 month reporting period ending July 1998, compared with an overall screening rate of 58%. For women aged 50-69 years the screening rate for rural women for the same period was 46.8%, compared with 50.5% for NSW overall (NSW CSP Annual Report for 1997-98, Table 3). Further information about this target is provided in Table One which shows that the screening rates in predominantly rural and remote AHS are comparable with those in predominantly metropolitan AHS, although there is considerable variation within rural AHS.

In addition, the Program is now able to provide each AHS with detailed data on screening rates by local government area, which allows the AHS coordinator to identify geographic areas with low screening rates and target strategies. In rural and remote NSW where local government

[12] Although a biennialised screening rate is a less stable estimate of the percentage of the population screened, over the relatively short time period of the program it provides a more useful indication of the trend in screening rates. The NSW Cervical Screening Program uses a factor of 1.6 in estimating a biennialised screening rate from 12 monthly screening data.

areas tend to correspond closely with local communities, this provides strong potential to improve screening rates among rural and remote women. These data have recently been provided to the AHS coordinators.

Target 3
Increase the percentage of technically satisfactory smears to 80% by 1999.

The Program is achieving well in excess of this target, as shown in the 1997-98 Annual Report. The proportion of Pap smears reported as technically unsatisfactory in the twelve month reporting period ending June 1998 was 2.25% of all Pap smears, and did not exceed 2.5% for any five year age group.

Target 4a
Increase the proportion of cytology reports of CIN2 which are confirmed as CIN 2 or worse on further investigation.
Target 4b
Increase the proportion of cytology reports which are confirmed as CIN3 or worse on further investigation.

The table below summarises the distribution of histological findings performed within 6 months of cytology reports of CIN2 or worse in the 20-69 year age group for the 12 month reporting period January 1997- December 1997. The majority of cytology reports of CIN2 or worse are confirmed. Improvements against this target will be able to be measured as more data become available.

DISTRIBUTION OF HISTOLOGICAL FINDINGS PERFORMED WITHIN 6 MONTHS OF CYTOLOGY REPORTS OF CIN2 OR WORSE, JAN 1997- DECEMBER 1997.

Category at Histological FInding	**Number**	**Percentage of total cytology reports of CIN2 or worse**
Negative	153	6.7
Other non-specific histologic abnormalities *	40	1.8
Low grade: HPV alone	109	4.8
Low grade: HPV ± CIN1	253	11.1
Ungraded Dysplasia	54	2.4
CIN2, CIN3 ± HPV	1565	68.6
Microinvasive Cancer	9	0.4
Cervical Cancer	97	4.3

Source: NSW CSP

Notes: Eligible cytology reports for this table include both squamous and endocervical evidence of CIN2 or worse. Cytology cases where the squamous or endocervical component was inconclusive have been excluded. Both squamous and endocervical findings on histology have been taken into account

** includes morphologic abonomalities and cellular atypia not consistent with a dysplasia*

Target 5

Increase the percentage of pathology laboratories using uniform reporting criteria to 100% by 1999

This target is being addressed through the NPAAC requirements for Cervical Cytology, which require that laboratory reports and recommendations are consistent with NHMRC guidelines. As noted in their Annual Report, the NSW Cervical Screening Program is working with laboratories to assist them in meeting these requirements. These requirements are to be introduced in 1999.

Target 6

Increase the percentage of laboratory reports and recommendations consistent with NHMRC management protocols for screen detected abnormalities to 100% by 1999

Progress against this target cannot be measured given existing data from the PTR, which provides information on the percentage of results which have any recommendation. However, this target will also be addressed through the NPAAC requirements for Cervical Cytology.

Target 7

Reduce the number of women with High Grade Epithelial abnormalities who are lost to follow-up in NSW to a negligible number by 1999

Target 8

Increase the percentage of women with screen detected abnormalities who have a record of further investigations

These targets are addressed through procedures of the Pap Test Register and throught a specific joint initiative of the PTR and the Program, whereby a working party was established to determine the size of the problem. The working party examined 4 months of data, and established that of 2257 women with a high grade abnormality who were aware of their result, 15 had not attended for follow-up care, and an additional 17 were still being tracked (State Advisory Committee Meeting, September 1998).

Target 9
Increase the percentage of women advised of their smear results in an acceptable manner
This target has been addressed through the GP Task Force.

Target 10
Measure and increase the percentage of health practitioners and laboratory personnel undertaking regular quality assurance activities
This target has been addressed through the laboratories Quality Assurance Task Force and through Practice Assessment Activity projects for general practitioners being undertaken by some AHS Coordinators in conjunction with GP Divisions. However, the Practice Assessment Activity is not a statewide project (Annual Report).

Target 11
Increase effective recruitment strategies targeting underscreened women, particularly ATSI and NESB women.
This target has largely been addressed through the recruitment activities of AHS Coordinators and AHS projects. All AHS have identified specific strategies for recruitment of Aboriginal and Torres Strait Islander women, and 13 have specific strategies for women of non-English speaking background.

Target 12
Provide data according to the national minimum data set
Progress towards this target has been documented in the Annual Reports of the NSW Cervical Screening Program. Performance against the Program Performance Indicators for the National Cervical Screening Program has been reported as the data have become available from the Pap Test Register.

ATTACHMENT 2

ASSESSMENT OF THE PROGRAM'S ACHIEVMENT OF RESPONSIBILITIES AS OUTLINED IN AGREEMENT

Objective	Enacted Via	Status	Comments
Coordination and Management			
Promote broad understanding of G&T by establishing SPCU and REU to coordinate, support, monitor effectiveness, liaise with AHS, peak professional groups, conusmer org's, Dept and other states	BP 1.1 BP 1.2 BP 1.3 BP 2.1 BP 2.2	• ongoing taskforces and forums • ongoing • ongoing • ongoing • ongoing	• range of areas - need more health promotion and health economics input • support AHS strategic plans and PTR information • liasion • GPs groups
Recruit staff and establish premises by June '96			• done and ongoing
Establish Area Management Committee and ensure appointment of local CSC; performance indicatorys for AHS to be negotiated with program manager			• completed for each AHS, but ongoing • specific AHS projects are all progressing eg. Caravan projects, ATSI and NESB projects
Agreed State Plan			
Consult and collaborate with Dep't and stakeholders in OA and develop strategies and protocols as appropriate	BP 1.3	• ongoing	• consult with Department
• Develop and have in operation Agreed State Strategic Plan (ASSP) specifying objectives, strategies and budget projections for each year of agreement • Dep't to be satisfied with financial viability • ASSP must set out community consultation, education, recruitment and access strategies for special needs groups			• not clear that this has been done
Implement programs, policies, strategies and services in accordance with ASSP			
Provide funding for and otherwise support services for special needs groups			• this is being done through AHS projects and at a State level for some such as NESB women, lesbian project

			etc.
Convene expert taskforces to review available evidence on screening and treatment performance and progress to date & develop recommendations • recruitment • laboratories • general practice • gynaecology • nurses • medico-legal • aboriginal health workers	BP 1.1 BP 2.2 BP 4.1	• ongoing taskforces and forums • ongoing support • ongoing	• need more health promotion and health economics input • SAC and other taskforces • QA taskforces with laboratories, PTR, GPs, women's health nurses and others • not all taskforces have been established
Communication networks			
Develop effective communication networks to facilitate ownership and collaboration at HS and professional levels to achieve G&T Submit communication plan by July 96	BP 2.4	• scheduled for 1998/99	• number of different strategies to improve communication with women and practitioners • posted home page on the WWW for women and GP information
Disseminate ASSP to AHS and CSC to develop and support loacl recruitment and str. plans in consultation with stakeholders	BP 1.2	• develop AHS strategic plan	• ongoing
Recruitment			
Develop draft recruitment plan by Aug '96		• completed	• updated June 1998
Plan to address • provision of accurate data on screening rates to underscreened groups • develop and implement strategies to encourage women to participate • promotional tools for GPs and nurses to maximise recruitment • dissemination of effective recruitment strategies • dissemination of info to develop health professional skills • development and supply of a recruitment manual outlining available evidence on effective strategies	BP 2.5 BP 2.3 BP 2.1 BP 2.4	• scheduled for 1998 and ongoing • 1998/99 ongoing • ongoing • ongoing	• range of projects to ATSI, NESB and GP • try to reach hard to reach women by implementing state plan • SAS, recruitment taskforces etc. • information to GPs and others
Assist in development of Health Service Strategic Plans (HSSP) by Sept 96 to improve screening of underscreened women Local plans to be based on review of screening utilisation data to be included in Area Performance	BP 2.5	• scheduled 1998 and ongoing	• inform process

Agreements			
Develop a General Practice Recruitment Plan by Sept 96 (in consultation with AMA, RACGP, Divisions)			
SPCU to organise statewide and regional workshops to review effective strategies for recruitment	BP 2.3	• ongoing	
Support strategies shown to be effective (currently being evaluated) for disabled, boarding house, caravan park, ATSI and NESB women	BP 2.3	• 1998/99	• try to get hard to reach women • implement caravan park strategy
Evaluate opportunistic screening by same language health professionals			
Evaluation, monitoring and research			
Undertake ongoing monitoring and evaluation of program	BP 2.4	• due February 1999	• evaluate all projects • need more evaluation of recruitment projects
Operations research and evaluation to include • situation analysis • ongoing development and evaluation of vocational training workshops for GP trainees, other health practitioners and nurses • undertaking analysis of C-E, quality and medico-legal aspects of PAPNET etc • undertake evaluation of women's satisfaction with screening and barriers to participation	BP 5.2 BP 5.3 BP 5.4	• February 1999 and ongoing • economic evaluation completed • recruitment manual complete 1997 - evaluation is ongoing • some aspects complete, the remainder to be complete by June 1999	• evaluation of specific projects/ seminars etc. • review and advice to coordinators • specific AHS based strategies from needs assessment
Undertake specific research and evaluation projects in relevant communities if needed	BP 2.4	• February 1999	• evaluate all projects
Provide accurate info on screening rates for targeted statewide recruitment plan	BP 5.1	• ongoing, some to end 1999	• accessing specific groups
Conduct workshops for Divisions of GPs, nurses, and health services on interpreting and using data	BP 2.2	• ongoing	• regular meetings and advice
Monitor availability of follow-up diagnostic and treatment services and facilities		• gynaecology taskforce looking at extending the availability of colposcopy	
Develop and submit evaluation plan by September 97	BP 5.2	• done - to be implemented	

Quality management and standards setting			
Encourage compliance with standards and QA mechanisms	BP 3.1	• ongoing/as required	• taskforces, SAC, publications etc
Provide appropriate support services for maintaining QA in cervical cytology	BP 3.1	• ongoing/ as required	• taskforces/ SAC
Disseminate best prac guidelines for all elements of treatment pathway; Encourage skills development and reskilling	BP 3.1 BP 4.1	• ongoing/ as required • AHS, gynaecologists, GPs, PTR etc - some are complete	• taskforces, SAC • focuses on supply side
Support promotion of women's awareness of and professional compliance with PHA 1991; liaise with PTR, shared responsibility for welcome letters	BP 4.2	• 1998 complete	• medico-legal issues etc.
Encourage effective QI systems for laboratories	BP 3.1	• completed August 1998	• information and data to be supplied in conjunction with the PTR
OTHER			
• work with BreastScreen NSW on the recruitment of women through collaborative projects	BP 2.3	• ongoing in 1998/99	• number of areas of joint recruitment activity

Notes: *all Strategies and actions drawn from the Business Plan (BP) for 1997/98 to 1998/99.*
Several elements have been dropped from the business plan as specific items with regard to quality assurance - specifically item numbers 3.2 and 3.3.

ATTACHMENT 3

NSW Pap Test Register Assessment of Performance against Outcome Targets

Target 1
All women recorded in the Register whose last test was reported as normal and hwo have not opted off the Register after their last test will be sent a reminder to have another Pap Test after 27 months
The reminder letter component of the Follow-Up module commenced in October 1998 and is now fully implemented. The Register is currently sending approximately 5000 reminder letters per week to women who are overdue for a screening test. The Register and the Program are now collaborating to investigate the benefits and costs of processing returned letters.

Target 2
All women with an unsatisfactory or abnormal Pap Test, where the register has not received a subsequent cytology or histology result within the time specified in the reminder and follow-up procedures will have been followed up by the Register.
This is incorporated in the follow-up module which commenced operation in September 1997. In the PTR Annual Report for 1997-98 it was reported that reminder letters to providers for unsatisfactory results and all categories of cervical abnormality were up to date. Reminder letters to women with unsatisfactory and low grade abnormality results were also up to date. However, generation of letters to women with high grade abnormalities was behind schedule. A fast-tracking strategy was implemented which has resulted in reminder letters to women at 6 and 12 months now being up to date, and it is anticipated that this can be maintained (PTR Progress Report, March 1999).

Target 3
The number of records relating to women who have opted off the Register will have been recorded and an analysis prepared of the impact of the "opt off" facility on the function of the Register
The overall opt-off rate for NSW is 2.7%. This is higher than in other states. Analysis of the distribution of de-identified results for women who opt off the register and of underlying causes of the higher opt-off rate has been undertaken.

Target 4
Subject to completion of error correction, all test results of women who have not opted off the Register will have been made available in the data base within 5 working days of receipt of the result.
Where tests require manual matching (approximately 30%) there have periodically been matching backlogs which have meant that test results were not available in the data base within 5 working days. However, strategies in place at the Register and laboratories are minimising this problem.

Target 5
All women's previous cancer histories (if available) will have been made available at the time of the most recent Pap test or cervical biopsy to cervical cancer test providers within 15

minutes of a request for information and laboratories within 4 hours of receipt of advice of a new test to be reported on or a request for information
Systems have been set up to ensure that this occurs except in exceptional circumstances.

Target 6
As far as possible 95% of Pap test results will have been received by the Register within 15 working days and 100% within 20 working days
As at March 1999, the Register estimated it received 90% of tests within 20 days of the test, an improvement from 1997. Only 0.1% of cytology tests are received 30 days after the test was taken. The Register is developing reports to monitor progress towards this target (PTR Progress Report, March 1999)

Target 7
Relevant professional and consumer bodies will have current information corncerning the Register function and roles.
This target has been achieved through the development and dissemination of a wide range of communication aids, including Register kits and brochures, and specific resources for NESB and ATSI women.

Target 8
Laboratories will have been provided with regular statistical reports showing their de-identified results profiles against other laboratories to assist in continuous quality improvement
Progress towards this target has been achieved through a joint project with the NSW Cervical Screening Program, which has been developed in consultation with the Program's Laboratories Taskforce. This project will assist laboratories in meeting accreditation requirements.

Target 9
All enquiries received from women by telephone will have been responded to within 24 hours of receipt and all enquiries received in writing within 5 days of receipt
This target has been achieved through the Register's dedicated telephone information service and information officers.

Target 10
Data will have been reported on in accordance with the requirements of the Agreement
Progress towards this target has been achieved as the data have become available.

Target 11
Copies of all Register procedures and protocols will have been provided to the Department and the Program Manager
This target has been achieved.

ATTACHMENT 4

Questions for Area Cervical Screening Coordinators

1. Could you outline what you see as your role as cervical screening coordinator for the AHS?

2. What are the main activities you undertake?

3. What have been the key achievements of the AHS in relation to screening, and how has the availability of funding from the program (for positions and projects) contributed to this?

4. What barriers, if any, do you perceive to effectively undertaking your role?

5. How effective has collaboration with stakeholders been in your AHS? What activities towards collaboration and networking have been undertaken? How important have these been in your role? Have there been any significant barriers to collaboration or any particular problems to overcome?

6. How has the AHS used the project funding? How much discretion have you had over the expenditure of these resources? What financial resources over and above the funding provided by the program does the Area allocate to coordination of cervical screening?

7. How many people are employed by the Area in the cervical screening program? Are all these positions funded from grants from the NSW cervical screening program?

8. Where does the position of cervical screening coordinator sit within the AHS structure? Who provides supervision? How much input and/or support is provided for the coordinator from other Area services (for example, from the public health unit)?

9. How much interaction do you have with the NSW cervical screening program? What support does the program provide?

10. How much interaction do you have with women's health nurses providing pap smears in your AHS?

11. Could you outline the level of interaction you have with other women's health services in the AHS, particularly breast screening?

12. To what extent do you think your role in areas such as recruitment and quality assurance overlaps with breast screening services? Do you think there is scope for working together, or for combining some breast screening and cervical screening functions at the AHS level?

QUALITATIVE ASSESSMENT OF PROGRAM BY AHS CERVICAL COORDINATORS

Aspect	**Detail**	**Frequency**
Roles and Functions - applies to questions 1, 2 ,3 and 4		
Implement strategic plan	Collaboration with WHN and community groups	6
	Implement and coordinate Program projects for ATSI, NESB and other groups	9
	Facilitate and coordinate relationships with women and GPs	9
	Collaborative projects with ATSI	3
	Education and dissemination of information on cervical screening	5
	Increase profile of cervical screening	4
	Development of strategic plan	4
	Interface between AHS and community	1
	Advocate a health promoting way of working	1
	Adopted a well women approach	2
	Project and business planning	2
Achievements	Good relationships with local GP division	7
	Built good relationships with ATSI community and projects	7
	Projects completed or near completion	5
	Overcome bad relationship between AHS and GP division	2
	Ability to build strong collaborative relationships	5
	Upwards trend in screening rates	3
	Good recruitment plan	2
	Increasing focus on cervical screening within AHS	3
	Community projects	2
	Developing an Action-Research Approach	1
	Good links with BreastScreen services	2
	Developing strong links with Family Planning and other service providers	2

Barriers	Lack of time	5
	Cultural barriers – especially NESB	3
	Bad relationship between AHS and Division of GP (overcome somewhat)	3
	Some frustration due to multiple lines of accountability (bureaucracy)	3
	Difficult to get funds through AHS, poor financial information	
	Lack of female GPs in some districts in AHS	5
	Size of the AHS, diversity of population covered	1
	Large number of GP divisions	4
	Culture of GP divisions	3
	AHS structure (including where placed; sector structure; CSC being a low-level position	5
	Lack of support from AHS	4
	Changing GP attitudes	1
	Not enough Women's Health Nurses	7
	Poor opinion of the AHS by service providers	4
	Lack of support from CSP	1
	Refused funds by CSP	1
	CSP have little understanding of evidence based practice or of health services practice	1

Funding -applies to questions 3 and 6

Source	All project funding comes from the program	10
	Area tops up the salary for the coordinator	3
	Area provides salary for project officers	1
	Area provides resources in form of support, research expertise, computers, equipment, housing, some goods and services etc.	11
Resources	Have specific cost centres for projects	4
	Has good capacity to direct how resources are spent	5
Accountability	AHS has to sign off on expenditures	5
	Not a problem so far	6
	Would rather receive funds that CSP spends on state resources and use these for activity, rather than receive CSP resources.	1

Collaboration – applies to question 5

Community	Country Women's Association	1
	NESB and ATSI Community Groups and Health Workers	7
	Women's Health Nurses - strong	9
General Practice	Very important and strong collaboration	9
	Good whilst project was on, not so good now	1
AHS	Public health unit - could have more	11
	Health promotion staff – good collaboration and support, especially in terms of research expertise and support.	7
	Sexual health clinics	1
	Excellent support from Public health unit	2
	Encountered difficulty in collaborating within AHS	1
	BreastScreen Services	6

Structure – applies to questions 7 and 8

Employees	Coordinator (part time)	12
	Coordinator (full time)	3
	Project Officer (part time)	4
	Several project officers (part time)	4
	Project Officer (full time)	1
Salaries	Coordinator salary paid by dedicated grant and topped up by AHS	3
	Project officer salaries paid out of project funds	8
	Project officer also topped up by AHS	1
	Coordinator salary topped up by project funds	3
Reporting	Supervised by Women's health Coordinator	4
	Also report to Health Outcomes Council	1
	Report to program on quarterly basis	all
	Supervised by Drug and Alcohol Manager	1
	Supervised from within Community Health	4
	Supervised by Public Health Unit	1
	Health Promotion	1
	Division of Population Health (via women's health)	1

	Own discrete dept. reports to Director of Services Planning and Development	1

Program and Service Interaction – applies to questions 9, 10 and 11

Program	Regular contact – close interaction	8
	General advice and direction, trouble shooting, advocacy, research expertise, resources, data etc.	8
	Little good interaction with CSP	2
	Feel unsupported by CSP	1
	CSP provides resources for use in education etc.	4
	CSP provides trouble shooting advice	1
	Delay in receiving specific local resources from program.	3
	High level of support	2
	CSP not very useful; poor marketing, weak research and evaluation	2
	CSP doesn't always understand rural issues	1
	Workshops very useful	6
AHS	Close interaction with health promotion unit, public health unit.	6
	Close interaction with local breast screening services – share resources and some functions	6
	Good interaction with Women's Health Nurses	9
	Good relationship with Women's Health coordinator	1
	Plan to work with Men's Health program in some areas	1

Relationship with BreastScreen NSW – applies to question 12

Overall	Good working relationship – recognise there are areas of overlap in targets and recruitment therefore work together on those	8
	Establishing combined service delivery	1
	Have inter-agency committee	1
	Work very closely with the current breast screen services	6
	Poor relationship with breast screening services	3
	One sided interaction with breast screening (all effort from CSC)	2
	Collaboration with breast screen aided by public health unit links with breast cancer & screening services	1
	Work together on a project by project basis	4
	Same target group	2

	Poor relationship, easier to work without them	1
Scope to better integrate	Limited by human resources available	1
	Limited by current funding arrangements	2
	Could integrate marketing and recruitment	4
	Would like to see more integration	5
	Will not always overlap in activities due to difference in target populations	4
	Limited in capacity to integrate because BS is fully booked therefore not focussing on recruitment	1
	BreastScreen more focussed on easy to reach	1
	Could better pool education and information resources	1

Notes: All AHSs Cervical Coordinators were interviewed except for the Far West AHS where the position has been vacant for many months and only recently filled.

REFERENCES

Australian Health Technology Advisory Committee (AHTAC), 1998, *Review of automated and semi-automated cervical screening devices*. Commonwealth of Australia, Canberra.

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Shiell a., 1998, *Report on the costs and effects of the NSW cervical screening program: report for the NSW cervical screening program.* Westmead Hospital, Sydney.

ISSUES PAPER 6:
PROGRAM OVERLAP AND SYNERGIES

Under the current structure the NSW Breast and Cervical Screening Programs operate independently. Although these are both national programs, program management and integration differs in each state across Australia. For example, the programs are jointly managed in Tasmania under the auspices of women's health – while in Western Australia the level of separation is such that breast screening and assessment services are provided by separate parties (see Attachment 1).

Within NSW, despite Western Sydney Area Health Service (WSAHS) holding the Department contracts for both programs, there is limited interaction between the programs (at the individual service provider level, there is some cross promotion of breast and cervical screening services). This Review has explored the potential for greater integration of the programs, and the options for how this may be organised.

Program Similarities

- Both target the 50 to 69 age group. The Cervical Screening Program is available to women between the ages of 20 and 69, but women in the 50 to 69 year age group have been specifically identified as needing higher screening rates;
- Both target women from non English speaking backgrounds (NESB) and Aboriginal and Torres Strait Islander (ATSI) women;
- Both target women in rural and remote areas;
- Recruitment efforts in both programs currently draw upon relationships with general practitioners (GPs), either as service providers themselves or as a means to inform women of services and whether they are due to be screened;
- Recruitment functions, and maintaining high participation rates, for both programs rely on maintaining an appropriate register of results and the time of screening. Program support in both programs therefore relies heavily on appropriate performance data;
- Both programs face the same medico-legal issues in terms of confidentiality and ensuring that individual records are not accessible to unauthorised persons;
- The implementation of both programs requires cooperation with Area Health Services;

- Although the respective weights differ, both programs involve the interaction of public and private service provision – more heavily weighted public service provision in BreastScreen NSW and majority private provision for the Cervical Screening Program;
- The integration of screening, assessment and treatment services is an important emerging issue for both programs.

Program Differences

- The Cervical Screening Program has a much broader target population, potentially encompassing all women over the age of 18;
- The programs differ in terms of their pathways of service delivery, which has lead to different philosophies and emphasis in their approach.
- Whilst both programs have responsibility to ensure adequate uptake by their respective target populations, BreastScreen NSW also is responsible for service delivery. The role the Cervical Screening Program performs is one of facilitation, recruitment and monitoring. The relative proportions of program budgets devoted to core functions reflects this difference between the two programs.
- The context for the Cervical Screening Program is one in which there was an existing pattern of service delivery before the program's inception. Screening was therefore taking place in the absence of uniform standards and quality assurance guidelines. This has meant that the focus of the program has necessarily been on changing practice and patterns of service delivery rather than on establishing new services. Breast screening services, on the other hand, were not taking place prior to the program commencing. This allowed well defined performance indicators and quality assurance standards to be set from its inception.

Comparison of Common Program Functions

Although it is difficult to compare the programs and make an assessment of their relative performance, how expenditure is allocated within the programs, to their various functions is shown in Table 1.

TABLE 1: PROGRAM FUNCTION EXPENDITURE 1997/98 DOLLARS PER WOMAN

	BreastScreen NSW		Cervical Screening Program	
	Target Population	*50 to 69*	*Target Population*	*50 to 69*
Recruitment	5.61	8.60	1.48	6.49
Quality	1.87	2.86	0.53	2.34
Research/evaluation	0.44	0.67	0.30	1.33
Program Support	3.00	4.60	0.72	3.18
Data Management	7.37	11.30	1.37	5.99
Total	**18.29**	**28.02**	**4.99**	**21.89**

Notes: Expenditure for BreastScreen NSW is based on the 1998/99 allocation, deflated by the CPI – year ending June 1998.
Recruitment for BreastScreen NSW includes money paid to SAS units for central recruitment functions.
Data management for Cervical Screening is expenditure by the PTR.
Target population for BreastScreen NSW is 40% of women 40 to 49, 70% of women 50 to 69 and 15% of women 70 and over. Target population for Cervical Screening is all women 18 to 69.
Sources: BreastScreen NSW data from the SCU.
Cervical Screening expenditure and population data from the 1997/98 Annual Report and SCU.

It is useful to consider whether there are benefits from integrating common functions of the two programs and what models of integration might be feasible.

Case for Integration

Successful integration of the programs has the potential to optimise the impact of the programs by using the current strengths of each as well as developing expertise in shared core functions.

Since both programs are targeting the same core group of women, and both have difficulties in reaching particular population groups, there may be benefits from combining recruitment functions. In particular, there may be benefits in terms of greater market penetration (eg a higher percentage of women reached more often), as well as more effectively (eg by using a greater variety of tools and range of strategies). Combining the recruitment functions of the two programs should minimise the current ad hoc collaborating practices and deliver economies of scale in terms of shared promotional and recruitment experiences, including staff.

An integral part of the success of these programs is that women continue to be screened at appropriate intervals to maximise the potential for the early detection of cancer. This relies on providing adequate and timely reminder notices to women and/or their service providers.

This in turn relies on appropriate records being kept on women, their screening results and timing. Record keeping and reminders are currently the responsibility of the SAS's in the case of breast screening and the PTR for cervical screening. There may be efficiencies and synergies from integrating this record keeping function and to have reminders for both programs emanating from one central location, particularly since they are targeting the same core group of women.

Currently, each program separately targets GP groups for purposes of information and recruitment, which is a potentially less productive use of both GP and recruiter time. GP information sessions, reminders and forums may be better utilised by integrating each program's efforts, thereby making such sessions a better use of GPs' time, and potentially attracting a wider audience amongst practitioners. Addressing the two areas collectively was also supported by the Cervical GP Task Force.

At a broader, systemic level, the current program structure seems to suggest that women are a collection of parts rather than whole beings. This may not be beneficial from a marketing and recruitment point of view. It may be more acceptable to women, GPs and other clinical service groups, if the philosophy of the programs is centred on the well being of women rather than separate clinical issues.

The role of expert advice in public health and health promotion is critical to the success of both programs. This includes the broad spectrum of public health expertise, including issues in marketing, evaluation, monitoring and data management and understanding of screening programs. There is considerable overlap in these areas of the two programs, and this expertise might be most efficiently provided to an integrated program.

Similarly, the need for health economics advice to both programs has been discussed earlier in this document. Combining these functions for an integrated program would be the most logical approach.

In addition there are a number of other core functions which are common to both programs, particularly planning, financial management, administration, research and evaluation, data analysis and reporting and liaison.

Closer program integration is also compatible with the more flexible funding arrangements of the PHOFA. This would not provide any impediment to closer integration of the programs, provided that the Department and the program manager(s) continue to comply with the performance indicators as specified in that contract.

Case Against Integration

Integrating is not however without its risks. The much larger size of the eligible screening population for cervical screening, coupled with differences in marketing and promotional activities required to reach younger age groups, will need to be considered if integrating marketing and recruitment functions.

Although a more highly integrated program could build on the already strong relationship between GPs and the Cervical Screening Program, there is some danger that this relationship could be weakened if attempts are made to bring BreastScreen NSW into the equation. As evidenced by SAS unit visits, GP attitudes towards BreastScreen NSW may be strained in some areas (see Issues Paper 4). Furthermore, GPs may be threatened by any greater integration of the two programs if they perceive it as an attempt by the public sector, through the BreastScreen program, to capture their screening role for cervical cancer.

From a logistical viewpoint, program integration may not be appropriate insofar as the programs are at different stages in their development and cycle. That is, the Cervical Screening Program has only just completed its first full two year cycle of screening and is commencing the first round of reminders. On the other hand, several SAS units are into their fourth full two year cycle (but have as yet not reached steady state screening rates). This may be problematic in terms of integrating some functions, such as recruitment, where one program is still focusing on increasing initial screens and the other is trying to raise its profile with harder to screen women as well as re screens.

The quality issues facing each program are quite independent and may be difficult to address adequately within an integrated structure.

Finally, there is a risk that if the record keeping functions of the programs are integrated, and the data management for breast cancer screening, the Breast Information System, is removed

from the BCI, it will greatly weaken the BCI's ability to manage service delivery, particularly in terms of planning service flows and centralised booking functions. Moreover, greater integration may not be compatible with the current legislative requirements which require the Pap Test Register and its functions to sit under one contract with the Department. This precludes having one contract to cover the Pap Test Register (PTR) as well as the Cervical Screening Program and BreastScreen NSW.

POTENTIAL MODELS

There are potentially many forms that the coordination and management of these programs may take, but perhaps the four most practical are:

1. Separate: maintain separate program management as per the current arrangements.

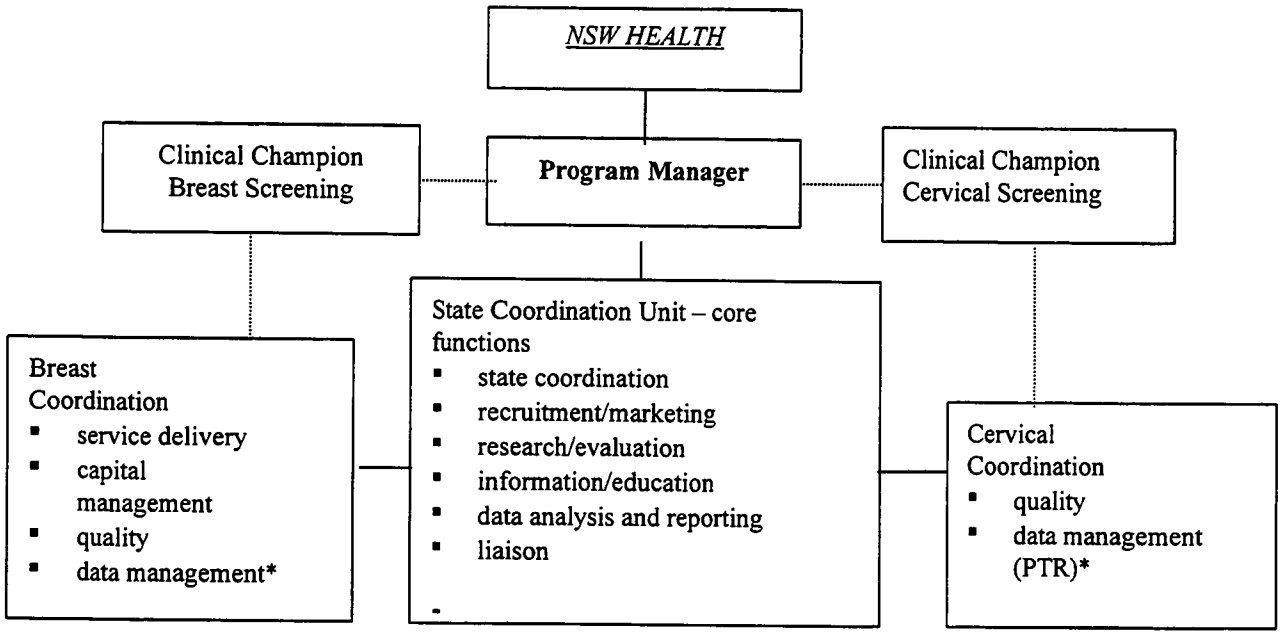
2. Separate Consultative: core functions of the programs would be managed and performed separately, however the programs would be required to consult more directly on at least a biennial basis on recruitment strategies, strategic directions, research and emerging issues. This consultative process, involving other interested community groups, could be facilitated by the Department under a Women's Screening Services Taskforce.

3. Integrated Peripheral: the central funding, management and service delivery functions of the programs would be managed separately, however there would be greater integration and coordination of certain program functions. The functions most likely to be integrated in this case are recruitment and marketing, although it may include others. This would be structured such that there would remain, for all intents and purposes, two program managers. Coordinated functions could be performed by either a combined working party or by contracting the services to the program with the strongest advantage in that area.

4. Integrated: under this structure there would be one program manager responsible for the core functions of the program (see Figure 1 below). The program manager would be advised by 'clinical champions' in each of breast and cervical screening. Data management and analysis functions could be performed by a separate party, potentially the PTR, which would act as the Cancer Register. The PTR would sit outside the program manager and would be governed under direct contract from the Department. This option recognises that, under the current structure, the PTR has developed a high level of expertise in data management and could potentially improve this aspect of both programs.

The Department would liaise with one program manager, and all non clinical service delivery functions would be performed by that manager. It is unclear, however, what role the BCI would have under such a structure. Potentially, it could serve as the clinical champion for breast screening.

FIGURE 1: INTEGRATED PROGRAM MANAGEMENT



Note: * Data management functions could be combined.

Assessment of Options to Integrate

Any program integration must consider the compatibility of the philosophy of current program managers with respect to program charters and cancer services. As discussed earlier in the review, the current BreastScreen NSW program manager is committed to a clinical pathways approach to breast cancer – screening is one part of a continuum of services related to breast health and breast cancer treatment. This approach has led to efforts within that program to better integrate breast screening, diagnostic and follow up services. In contrast, existing integration of diagnostic and treatment services in the case of cervical cancer means that the Cervical Screening Program's function has focussed on the screening pathway. Differences in underlying ideology, and the perception of program roles, may therefore limit the capacity to integrate the programs at any level.

During the consultation and analysis of this review, it has become apparent that greater integration of the programs may potentially benefit both programs, and more importantly the female population they serve. This rules out models 1 and 2 above. What is not clear is the extent of that integration – that is the choice between models 3 and 4.

Ultimately this choice will depend on the more detailed assessment of current program functions, their resource implications and on the ability of current program managers to agree on potential synergies and benefits. This may include wider community consultation, involving GPs, pathologists, consumer groups and the Department to ensure that current goodwill and program reputation is not compromised through greater program integration.

However, in terms of refining accountability and management structures, while remaining within the current institutional guidelines, model 4 is the preferred model. The introduction of this model would be facilitated by allowing both programs to complete another full screening cycle, within which time the form and scope for integration could be investigated. This would be completed with a view to the current contractual arrangements being collapsed into one contract between the Department and the Program Manager for the administration and delivery of a 'Women's Health (BreastScreen NSW and the Cervical Screening) Program'.

The PTR would remain under contract to the Cancer Council, with the Department being the drawer of that contract. Expanding the PTR functions to include management of BreastScreen NSW data, or at the least, input into the analysis of that data should be investigated.

RECOMMENDATIONS

1. Resource information and functions for both programs be compared to determine areas where integration of program functions would either increase screening rates, for given resource utilisation, or reduce resource utilisation, for given screening rates.

2. Analysis of resource utilisation be used to inform the final structure of shared functions to be carried out by the State Coordination Unit under the single contract structure proposed in Model 4.

3. The single contract structure be implemented in the 2000/01 financial year.

4. The PTR remain under contract to the Cancer Council and investigate the option for it to operate as the chief data manager for the joint program structure.

5. Staff employed under the joint contract be made, for administrative purposes, employees of the holder of the single contract – in this case WSAHS.

6. Regardless of which model of integration is adopted, immediate steps should be taken to address methods to combine the recruitment and marketing functions of the programs.

ATTACHMENT 1: State Program Information

	Structure	Program Management	Breast Screen		Cervical Screen		Cross Border Issues	Scope for Amalgamation
			Delivery	Funding	Delivery	Funding		
ACT	Dept funds ACT Community Care to manage both programs.	Joint program management, incorporating recruitment, data administration and other functions.	Provided by BS ACT: 1 SAS and 1 relocatable unit	Dept purchases services from BS ACT.	Cervical screening provided by women's health nurses and GPs.		BS ACT contracted to provide breast screen services to women in south west and eastern corners of NSW.	Feel there are synergies in recruitment and service delivery, and potentially data management.
Vic.	Department funds both – directly manages Cervical, but oversees both.	Programs both coordinated through department. Breastcreen bookings and register taken centrally at cervical register.	36 screening units throughout the State – coordinated outside of the Department	Unclear	Cervical screening provided by GPs, obstetricians, gynaecologists, and women's health nurses.	Private funded through MBS – not clear on public (those in community health care centres or by women's health nurses).	Some screening of NSW women and of Victorian women in NSW – especially by South Western SAS in NSW.	- no information forthcoming
Qld	Managed within Dept in the Women's Cancer Screening Services business unit.	Program manager is separate from purchaser of services. Programs are separate – not joint program.	11 SAS units – concentrated in South Eastern corner of state 4 mobile units, 4 relocatables and 4 satellite units	Funding on the same basis as other states - $70 per urban woman and $90 for rural. No incentive monies are paid.	No service delivery. Major responsibility is the register	Bulk of funds used for the register, women's health nurses network and projects. Less funding than NSW.		See potential to amalgamate programs, particularly once both reach maturity. May be difficult due to high infrastructure needs for BS.

	Structure	Program Management	Breast Screen		Cervical Screen		Cross Border Issues	Scope for Amalgamation
			Delivery	Funding	Delivery	Funding		
SA	Part of Dept. Both operate as branches of the Public & Environmental Health Service	Program managers are separate.	6 fixed metro sites, 1 fixed rural site and 2 mobile vans. All assessment and screen reading done at Wayville site (main) in Adelaide.	Expansion via $1M capital works in 1999. Anticipated steady state is 65,000 screens annually.	Engage in recruitment of under screened women, reminder service and back up for pathology laboratories, quality assurance, data collection and analysis	Not discussed	None listed	Not discussed
Tas	Joint management under the Cancer Screening and Control Service (part of Dept.)	Look after management, admin, recruiting, appointments and finances. There is cross over in the work staff day for breast and for cervical.	Screening and assessment provided through private radiology clinic. All other functions performed in Dep. Includes one mobile that is contracted out.	Contract agreed price per woman screened.	GPs	Medicare	None	Programs are currently amalgamated. This provides efficiencies in terms of staff time. Philosophy that "women are not parts of the body but whole people". Joint education campaigns.

	Structure	Program Management	Breast Screen		Cervical Screen		Cross Border Issues	Scope for Amalgamation
			Delivery	Funding	Delivery	Funding		
WA	Fall within same division of the Dept. Current structure is disorganised and is under review/ change.	SCU function for BS performed by Women's Cancer Screening Services.	Screening and assessment performed by 2 separate groups – contracted out.					Were amalgamated – but see little scope to amalgamate while breast screening retains service delivery arm. Programs could amalgamate, and gain substantial efficiencies if neither involved actual service delivery and had a committed director.

Sources: information on Queensland and Tasmanian programs provided through phone interviews with the department coordinators for each of those states.
Information on WA, SA provided through e-mail correspondence with Department coordinators.
Information for the ACT provided through written correspondence with Department coordinators.
Department coordinator for Victoria was unable to supply information within the time frame required for this Review. Information on Victoria drawn from Department of Human Services, "The Victorian Cervical Screening Program. State Plan 1995-1999", [Online], Available at http://hna.ffh.vic.gov.au/phb/hdev/cancer/cervical, and from Department of Human Services, "National Program for the Early Detection of Breast Cancer. The Victorian Program", [Online], Available at http://hna.ffh.vic.gov.au/phb/hdev/cancer/breast
Information on NT was requested but was not forthcoming within the time frame required for this Review.

CHERE DISCUSSION PAPERS

1 ECONOMIC EVALUATION OF HEALTH CARE. GUIDELINES FOR COSTING
C Donaldson, J Hall. (1991)

2 ESTIMATING BENEFITS FOR ECONOMIC EVALUATION
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