

Nov '87

Participant Satisfaction with the
Mammography Screening Service

Prepared by: Jill Cockburn & Les Irwig
Department of Public Health
University of Sydney.

There are reasons why the measurement of participant satisfaction is essential for Mammography Screening Projects.

The first reason involves evaluation of the projects. Ongoing evaluation of health services, especially those which are being implemented in a new environment, is essential to ensure that participants are being offered the best possible service. The degree of satisfaction expressed by participants is a reflection of the standard and quality of the service given. If people are dissatisfied with certain aspects of a service, then it reflects a need for improvement in the delivery system. The monitoring of participant satisfaction, therefore, should be an integral component of any quality-assurance programme.

The second reason for incorporating measures of participant satisfaction, is that it will allow an examination of patterns of attendance which may be contingent on the reported satisfaction-dissatisfaction of participants. Dissatisfaction with medical care has been claimed to lead to delay in seeking medical treatment (1,2) and non-adherence to treatment instructions (3). These issues become particularly important in the case of mammography screening where the success of the overall outcome of such projects (i.e., reduction in morbidity and mortality from breast cancer) is critically dependent on high attendance rates at both initial and repeat screening. However, the relationship between satisfaction and attendance at mammography screening has not previously been examined.

Another area where the satisfaction of participants may affect attendance patterns is through the process by which information about the service is disseminated by the participants to their friends and family. This social network is expected to be a powerful technique for encouraging women to attend the service. It stands to reason that women who are more satisfied would be more willing to recommend the service to their social contacts. However, the actual effect of satisfaction on the social network process still needs to be determined.

Given the importance of satisfaction in health service research, it is imperative that its measurement is methodologically rigorous. Two issues which should be considered in the development of an adequate instrument for the measurement of satisfaction are firstly, the treatment of satisfaction as a multidimensional concept and secondly, the psychometric properties of the resulting instrument.

The Dimensions of Satisfaction: Satisfaction is not a unidimensional concept - studies have demonstrated that several different aspects of health care delivery, e.g. accessibility of services, provider conduct, and the physical environment, contribute to the judgment of satisfaction (4,5). In addition, people may report different levels of satisfaction with the different aspects of care (5). Therefore, satisfaction with each dimension must be measured separately in order to adequately interpret satisfaction ratings.

Psychometric Properties: Two measurement issues which must be considered in the development of any questionnaire are the validity and reliability of the instrument. The validity of a questionnaire refers to its ability to measure what it is purported to be measuring (7). The issue of validity is crucial to the measurement of satisfaction, because one of the assumptions underlying the development of a satisfaction questionnaire is

that people may have different attitudes toward various dimensions of care and that the level of satisfaction can be measured quantitatively for each dimension. The distinction between dimensions and scores derived for each dimension is only meaningful if the statements within the content area are true reflectors of that area (8). Reliability refers to the extent to which scores on the scales of a questionnaire are affected by measurement error (9). An indication of adequate reliability is essential, therefore, to ensure that questionnaire responses are not being affected by factors not related to the perceptions being measured. Consideration of the issues of validity and reliability are necessary to enable accurate information on actual levels of satisfaction to be collected.

The aims of the proposed series of studies, therefore, are:-

1. To develop an instrument based on sound psychometric principles which will measure participant satisfaction with different aspects of mammography screening services. The resulting standardized instrument could be used by all pilot studies as part of national evaluation.
2. To monitor the satisfaction of participants with both the RPA mobile mammography unit and the assessment centre at Rachel Forster Hospital.
3. To determine whether the degree of satisfaction of participants at initial screening predicts return for repeat screening at 3 yearly intervals.
4. To determine whether satisfaction is related to
 - i) willingness to recommend the service to friends and family
 - ii) increased attendance amongst friends/family

Method

Study 1 Instrument Development

1. Dimensions of Satisfaction: Information on the key characteristics which shape satisfaction with mammography screening services will come from three sources. First, the literature relating to patient satisfaction with medical care will be reviewed to determine areas of overlap. Second, the ideas of the research team and clinical personnel involved in the service will be utilized. Finally, 40 women attending both private and public breast clinics will be interviewed and asked to give their views on the relative importance of particular aspects of service. These interviews will be taperecorded.
2. Development of Items: The development of statements to reflect perceptions in the dimensions outlined in 1) will come from previous scales, the ideas of the researchers and clinical workers and the tape recordings of interviews of women attending breast clinics.
3. Pilot testing of Instrument: It is planned that the first month of operation of the service will involve screening of RPAH employees, in order to test systems procedures before public screening commences. The pilot form of the draft instrument will be given to 40 women after they have participated in screening during this initial one month trial period.

An interviewer will stay with the participant as she completes the questionnaire in order to determine areas of difficulty in understanding particular items. After pilot testing, redundant and ambiguous items will be discarded, and the setting and layout of the questionnaire finalized.

4. Construct validity: The questionnaire will be administered to a sufficient number of women so as to achieve a subject-item ratio of 10:1. This has been recommended as an adequate sample size for factor analysis (10), which will be used to assess construct validity. The solution from factor analysis will be compared to the prior theoretical grouping of items. The rationale for this will be that if the factor-based scales are in accordance with hypothesised groups, then confirmatory evidence is given for the theoretical constructs being measured (11).
5. Reliability: The internal consistency of items contributing to each factor-based scale will be estimated using Cronbach's alpha (12).
6. Discriminant Validity: In order to establish discriminant validity it is necessary to show that respondent's perceptions of the proposed dimensions are independent and that the relationship between specific items and satisfaction dimensions are as hypothesised. In order to determine discriminant validity, reliability of difference scores between scales will be calculated (13). This analysis involves a comparison of the intercorrelations between scales and the estimated reliability of each scale, to determine whether derived scales are independent or simply alternate measures of the same construct.

These procedures will result in a standardized instrument which can be used in all pilot studies as part of the national evaluation.

Study 2

Monitoring Satisfaction

In order to monitor the satisfaction of participants at both the mobile mammography service and Rachel Forster Hospital, measurements will be made during the 1st month of service to the public, and after 6 months, 12 months and 24 months of operation. Regarding satisfaction with service at the mobile van, the 300 respondents from study 1 will form the sample for this assessment during the first month of service. Three hundred respondents who are attending the service for the first time during the 6th month and 100 who attend for the first time during the 12th and 24th month of operation will form the remaining samples. To examine satisfaction with service at the assessment centre, measurement will be obtained from 100 women who attend the centre for the first time at each of the specified time periods. This design will allow satisfaction with the various aspects of the service to be monitored over time. It is expected that satisfaction with various components of care may be greater in 6-12 month attenders than attenders in the first month as staff become more experienced and operations running more smoothly. The reported levels of satisfaction at 24 month should be similar or higher than 12 month levels. Satisfaction with the different aspects of care will be examined separately. Two-way and three-way analyses of variance will be used to compare the rating of satisfaction at the different time periods. Any deviation from the expected pattern will indicate deficiencies and areas where intervention is needed to improve the quality of service provision. In this study and studies 3 and 4, sociodemographic data will also be collected to adjust for any confounding.

Study 3

Behavioural Consequences of Dissatisfaction

All participants will be invited to attend for repeat screening 3 years after initial attendance. The following design will be used to test whether 'Satisfaction-dissatisfaction' predicts:

- a) non-attendance at repeat screening
- b) increased efforts to encourage participation at repeat screening.

The 300 participants at the Mobile Mammography Screening unit from study 1, will form the cohort for this study. When these women are invited for repeat screening, 3 years after initial attendance, records will be kept of:

- i) whether the woman returns for screening
- ii) time between invitation and presentation for screening.
- iii) number of reminders which have to be given before presentation at screening.

Women will be divided into three groups on the basis of this information. The three groups will be 'attenders', 'non-attenders' and 'reluctant attenders'. The level of satisfaction/dissatisfaction for the three groups will be compared. Analyses of variance will be used to test for differences between the groups.

Study 4

A number of experimental designs are under consideration for examining the effects of satisfaction on the dissemination of information about the service . In the first, 100 women who attend the mobile mammography unit, in addition to completing the satisfaction questionnaire, will also be asked to supply the names and addresses of friends, colleagues or family members who are in the appropriate age group and therefore eligible for screening. These women will be sent a letter of invitation from the screening service. It is hypothesised that women on the higher end of the 'satisfaction-dissatisfaction' continuum will supply more names and there will be a higher attendance rate among the women recommended by this group than from those recommended by women at the lower end of the satisfaction-dissatisfaction continuum.

A second design involves a less reactive process. Pamphlets which will be especially numbered, will be displayed at the reception desk, under a sign which invites women to take pamphlets and pass them to other women in the appropriate age groups. The number of pamphlets taken by 100 consecutive women will be monitored. Women who make appointments and attend the service subsequent to this procedure, will be asked whether they have received any of the specially numbered pamphlets. Records will be kept of pamphlets distributed and pamphlets which are able to be traced. It is hypothesised that women on the higher end of the 'satisfaction-dissatisfaction' continuum will take more pamphlets, and result in more women attending the service, than women at the lower end of the satisfaction-dissatisfaction continuum.

References

1. Ware JE and Davies AR. Behavioral consequences of consumer dissatisfaction with medical care. Evaluation and Program Planning 1983; 6: 291-7.
2. Berkanovic E and Marcus AC. Satisfaction with health services: Some policy implications. Med Care 1976; 14: 873-9.
3. Linn MW, Linn B and Stein SR. Satisfaction with ambulatory care and compliance in older patients. Med Care 1982; 20: 606-14.
4. Peuchansky DBA and Thomas JW. The concept of access: Definition and relationship to consumer satisfaction. Med Care 1981; 14:127-40.
5. Ware JE, Snyder MK, Wright RW and Davies AR. Defining and measuring patient satisfaction with medical care. Evaluation and Program Planning 1983; 6: 335-47.
6. Ware JE and Snyder MK. Dimensions of patients' attitudes regarding doctors and medical care service. Med Care 1975; 8: 669-82.
7. Bennett AE and Ritchie K. Questionnaires in Medicine. Oxfordshire: Oxford University Press, 1975.
8. Stamps PL and Finklestein JB. Statistical analysis of an attitude scale to measure patient satisfaction with medical care. Med Care 1981; 14: 1108-35.
9. Nunnally JC. Psychometric Theory. New York: McGraw Hill, 1978.
10. Comrey AL. Common methodological problems in factor analytic studies. J Cons Clin Psyc 1978; 46: 648-59.
11. Ware JE, Wright WR, Snyder MK and Chu GC. Consumer perceptions of health care services: Implications for academic medicine. J Med Ed 1975; 50: 839-48.
12. Cronbach LJ. Essentials of psychological testing. New York: Harper and Row, 1970.
13. Cohen J and Cohen P. Applied multiple regression-correlation analyses for the behavioural sciences. New Jersey: Lawrence Erlbaum Associates, 1975.

PRETESTING OF POSTERS, RADIO MESSAGES AND PAMPHLETS
FOR THE MAMMOGRAPHY SCREENING PROJECT

J. Cockburn, L.M. Irwig,
Department of Public Health,
University of Sydney.

METHOD

Interviews took place at three shopping centres - Markettown at Leichhardt, Strathfield Plaza and Birkenhead Point. Three interviewers were present at each shopping centre. At each centre, interviewers approached women, checked that they were between the ages of 45 and 70 and asked them if they would be willing to review some health educational material for a new health service which would soon start operating in the Royal Prince Alfred Hospital Area. If women agreed (consent rate = 30%), they were either shown the three posters displayed on a poster board, given the pamphlet message to read or asked to listen to a tape of the 2 radio messages. Each of these three sets of material was evaluated by about 90 women. The interviewer conducted a structured interview which assessed women's reactions to the material to which they had been exposed. For posters and radio messages, women were first asked about which of the options they found best on several dimensions (e.g. most likely to influence them, most appealing) qualities of the most favoured option were then assessed using 5-point scales for several dimensions (eg confusing-clear, interesting-boring).

Copies of the posters, pamphlet message and a typescript of the radio messages are attached. Copies of the questionnaires used are available on request.

RESULTS

1. POSTERS (See attached copies of posters A,B,C)

1.1 QUANTITATIVE DATA

EYECATCHING: Women were asked to judge which poster they thought was most eye-catching and which least eye-catching. Each poster was equally likely to be judged most eye-catching (39% for A, 28% for B, 33% for C) as it was to be judged least eye-catching (41% for A, 26% for B, 33% for C).

BREAST XRAY MESSAGE PERCEIVED AT FIRST LOOK: = 64% of women immediately perceived the message that the posters were asking women to go for a breast check/Xray. The majority of the remaining 35% of women thought the posters were aimed at a general "life be in it" campaign, promoting healthy lifestyles generally, but not particularly breast x-ray.

GETTING THE MESSAGE ACROSS IN THE MOST EFFECTIVE WAY: All women were told that the posters were aimed at encouraging women to have breast x-rays. They were then asked which poster got the message across in the most effective way. Of women who expressed a preference, poster C (woman and child) was judged by 42% to be the most effective, compared to 36% for A and 21% for B.

AIMED AT SOMEONE LIKE YOU: No clear pattern emerged. Though poster C (woman and child) was regarded by most people as being most like them (39%), it also is seen by a substantial proportion as being least like them (44%). A similar pattern is true for poster A (bowling lady) (30% and 45% respectively). For poster B (Husband and wife) 32% said it was most like them and 12% said it was least like them.

MOST AND LEAST MOTIVATING: Women were asked which poster would be most likely to motivate them to have a mammogram and which would be least likely. Though poster C (woman and child) was seen as most motivating (45%), a substantial proportion saw it as least motivating (37%). Similarly, though many women saw Poster A (bowling lady) as least motivating (47%), many saw it as most

motivating (27%). For Poster B, 285 saw it as most and 16% as least motivating. Therefore none of the posters stood out as being particularly more motivating than any of the others.

AFTER THESE RATINGS WERE COMPLETED, WOMEN WERE ASKED TO RATE THE POSTER THEY FOUND MOST MOTIVATING

APPROPRIATENESS OF PICTURE: Women were asked to judge whether the picture on their most favoured poster was appropriate for the message it was trying to get across. The bowling lady picture (Poster A) was NOT seen as being particularly appropriate, being rated highly appropriate by 28% (Rating 1) of those who selected the poster compared to 54% for Poster B and 49% for poster C.

CONFUSION: The majority of women found their chosen poster very clear or clear (rating 1 and 2) (88% for A and B, 69% for C).

INTEREST: None of the posters was seen as particularly interesting. In fact, about 10% of people thought they were very boring (rating 5) and only about 35% rated them very interesting (Rating 1).

USEFULNESS: The majority of women saw their chosen poster as very useful for them (Rating 5) (50-60%), though a substantial minority (about 20%) saw the posters as not being at all useful (Rating 1).

1.2 QUALITATIVE DATA

Comments from Interviewers.

Women seemed to be getting the different concepts suggested by the posters ie, Poster A (bowling lady) was saying you should have an x-ray so that you can do things for yourself; Poster B (man and woman) was saying "do this and you will have more life to enjoy things with your husband as part of your life", and Poster C (woman and child) - responsibility to keep up health for others. However the women did not feel that any of the posters, especially Poster C got these messages across particularly well.

Comments from Women

Many women were confused as to what the posters were all about - were they promoting "health" in general, or "living together in harmony" or what?

POSTER A BOWLING LADY:

- . too old, too much near retiring age
- . bowls concept not well liked - "retiring age stereotype"
- . thumbs up OK , but bowling, retired stereotype not liked.

POSTER B COUPLE:

- . "they look like a couple of stuffed corpses at a retirement village"
- . concept of husband and wife liked by 55yr olds - however thought it would be better if the couple were doing something

POSTER C WOMAN AND CHILD:

- . concept liked by some women but there were problems with the graphic- thought the woman was too young or too old.

OTHER COMMENTS

Age of Women in Poster.

. seen as too old (even by women in the older age groups)

Breast Xray Vs Breast Check

. though people said that they prefer breast check to breast xray - in the initial stages of testing women thought that two separate services were being offered - ie, either a clinical examination or a breast X-ray. Therefore, we can't make any conclusions about which term women prefer.

Black on White Vs White on Black

. easier to read black print on a white background

Free Service

. women liked the idea of free being emphasised.

Symptoms

. needs to be emphasised that this is for all women not only those with symptoms.

CONCLUSION

No poster stood out as an overwhelming leader in terms of appropriateness, clarity, interest or usefulness. There was a substantial proportion of women who, even when rating their most favoured poster found it to be much less than ideal in getting across messages. Qualitative comments point to some design features for an improved poster.

2 RADIO MESSAGES

2.1 QUANTITATIVE DATA

For those women who expressed a preference for one message over the other, message B was found more appealing by 62%, more likely to influence them to attend by 59% and easier to understand by 67%.

After comparing the two messages, women were asked to listen again to what was overall their most favoured message and to rate it on a number of dimensions. Message A was favoured by 42% and B by the remaining 58%.

For message A, 62% thought the message was the correct length (rating 3) while 51% thought so for message B. Almost all other opinions were that the messages was too short. Six percent thought the message was poorly done, (rating 4 and 5) in the case of A, compared to 20% for B. Less than 1/3 of women rated their favoured message as very interesting (rating 1). For A, 22% regarded the message as insufficiently informative (rating 1 and 2), compared to 42% for message B.

2.2 QUALITATIVE DATA

Comments from Interviewers:

Interviewers commented that it was hard to get the women to choose between the two messages with many women claiming they didn't like either. Women therefore found it hard to rate the tapes on the stated dimensions.

Comments from Women:

MESSAGE 1 - Man

Likes: Stressed the importance, made it seem more necessary, more informative
Dislikes: The male voice; "do it for me" rather than do it for themselves.

MESSAGE 2 - Woman

Likes: Woman's voice, more positive reaction, good idea for women to tell other women; seemed more accepting of the normal course of events that a female should do it.

Dislikes: Seemed much too flippant and frivolous for what seemed to be an important subject; the tone of the message made it seem unimportant.

CONCLUSION: Although message B appealed to more women, neither message was seen as particularly interesting and informative. The length seems acceptable. A major reason that women chose message B over A was not so much that they liked the message of announcement B (seen as too flippant), but that it was spoken by a woman. Women liked the idea that a woman was telling other women to have it done. Other information that women would like included - where to go, what is involved, is this for all women or only those with symptoms?. Some women indicated that they would like a more factual, direct approach.

3. PAMPHLETS

The pamphlet message was well received by the 84 women who gave their opinion. Over 80% of women found it easy to understand, believable, encouraging and informative (rating 5 for each scale). Sixty seven percent thought the pamphlet message very interesting (rating 1), and 60% thought it well done (Rating 1), 80% regarded it as being of appropriate length (Rating 3) with the others regarding it as somewhat too long (rating 4).

CONCLUSION

The pamphlet message is very acceptable.

4. NAMES FOR THE SERVICE

Potential names for the service were presented to respondents to all the 3 evaluations given above. The results were :-

	Most appealing	Least appealing
Breastscan	37%	4%
Femscreen	8%	33%
Mamscan	4%	29%
Scanvan	9%	24%
Mammography Screening Program	7%	5%
Rachel Forster Breast Screening Project	8%	2%
Breast X-ray program	<u>26%</u>	<u>2%</u>
TOTAL	100%	100%

CONCLUSION

Breastscan and Breast X-ray program were the most appealing names.

5. NAMES OF WOMEN TO PROMOTE THE SERVICE

The following names were presented. The percentage of positive responses to these names is shown. Any other names volunteered by women were each only mentioned by a very small percentage of women.

<u>Names</u>	<u>% Positive response</u>
Maggie Tabberer	27
Anne Deveson	22
Ita Buttrose	21
Lorrae Desmond	10
Rowena Wallace	10
Pat McDonald	4
Hazel Phillips	4
Mum Shirl	<u>3</u>
TOTAL	100

RADIO MESSAGE (Typescript)

Message A
(Male Voice)

Y'know, a lot of women don't like talking about it; I know that. It's terribly important. I'm talking about breast x-ray. It's so easy. After all, life's for living. Someone will tell you where the van is this week. If you wouldn't do it for yourself, how about doing it for me, eh?

Message B
(Female voice)

I think that's marvellous! By the way, this week I'm going to have a breast x-ray. There wouldn't be life without it. And it's so easy. When are you going?

11 November, 1987
L. IRWIG,

Evaluation of the Mammography Project

Attached is an outline of the research/evaluation requirements for the Mammography project.

Please note that the document deals only with research/evaluation and only touches on promotional, clinical and general organization issues where these have evaluation implications. There are obviously other areas of these fields which still require major decisions and development.

Distribution:

Steering Committee members

Jill Cockburn
Paul Glasziou

Evaluation requirement 1

Pretest promotional material

Output:

% of women and intermediaries in the target age range who find the material acceptable, comprehensible etc.

Input:

Interview of intercept sample of women and intermediaries

Stage:

Protocol and draft questionnaire written. Testing has since been extended to include evaluation of the impact of alternative posters, pamphlets and public service announcements on an intercept sample of women. Pamphlets will be pretested on GP's and pharmacists as intermediaries.

Time scale:

Interview 7-11 December

Related management issues

(and responsibility)

Draft promotional material must be available by 4 December (Epidemiology and Promotion WP). A decision about final choice of material will have to be made rapidly on the basis of our report on pretesting.

Database implications:

Nil

Analysis time

Short report available by 8 January

Evaluation requirement 2

Effect of general promotional campaign

Output:

- . Graphing of project - initiated promotion and media-monitoring over time
- . Media reach/penetration
- . Simultaneous graphing by date of phone calls and appointments made and non-appointment attendances
- . Delay between "contact" and appointment date
- . % callers who do not attend for initial or subsequent prompted appointments.
- . % "saturation" of appointment times for each of the following 16 weeks
- ? The above by age and postcode.

Input:

- Media monitoring
- Dates and details of type of promotion
- Identifying info (and age, postcode) of callers
- Dates of calls
- Dates of appointment
- Whether appointment kept; if not if person recontacted, new appointment made and that appointment kept.
- Special studies of
 - media reach and penetration
 - samples of attenders to find out how they heard of the service.

Stage:

Print Media monitoring ordered. Electronic media monitoring to be done through the NSW State Cancer Council. Routine data collection has been considered by the computer working party. Special studies not yet planned.

Time scale:

Must be operational by February '88.

Related management issues
(and responsibility)

Decisions about the timing type and sequencing of promotions (Mary, health promotion staff, Epi & Promo WP)

Database implications:

High. Much of the information will be available from the manual appointment system.

Analysis time:

Routine info should be available weekly as from February 88.

Evaluation requirement 3

Incremental effect of individualized or small-group invitations.

Output:

- . % who call in and/or attend over each of the successive 12 weeks in groups who did or did not receive various interventions. Wherever possible, randomized trials will be done on an individual or group basis.
- . Sociodemographic, knowledge and attitudinal characteristics of attenders and non-attenders and exploration of possible methods of obtaining their attendance.

Input:

- . Number of women who call in/attend from the groups being compared. This requires identifying women who call in or attend as being in one or other of the groups. The list of study subjects must be cross-checked against call-in/attendance records using name, Date of birth and address, or (for mailbox drops) address only.
- . Interview of samples of attenders and non-attenders.

Stage:

Draft protocol written. Use of medicare and electoral registers explored.

Time scale:

Must be ready April 88 as a strategy that can be brought into play when necessary. Initial trials will be small in scale (several hundred)

Related management issues
(and responsibility)

- . Decisions about individualized options (Mailbox drop, registers, and about the action required by potential screenees (call by phone, fixed appointments, individual arrival at Van, block booking for groups).
- . Preparation of options. Creation of registers - G.P's, community organizations, electoral register, Medicare.
(Responsibility: Mary)
- . Decisions about timing of implementation of options
(Mary, health promotion staff, Epi & Promo WP)

Database implications:

Identifiability of whether people (who phone in or come) are on our study group list. The appointment system must contain the necessary info to allow linkage.

Analysis time:

Weekly returns after initiation of each study.

Evaluation requirement 4

Monitoring of satisfaction with Service.

Output:

- Distribution of satisfaction scale results among attenders over time.
- Specific suggestions about improving services
- Similar for attenders at assessment centre.

Input:

Sample survey of several hundred attenders initially and then about 100 every 3 months (?) using satisfaction scales. Numbers at the assessment centre will be about 100 initially and then ? less frequently than for attenders.

Stage:

Draft protocol available.

Time scale:

1st sample should be done in Feb/March.

Related management issues:

Staff aware of evaluation and regard it as contributory to their ongoing service provision (Mary).

Database implications:

Nil: Sample surveys only

Analysis time:

Short report available within 4 weeks of each survey.

Evaluation requirement 5

Monitoring characteristics of attenders and non-attenders.

Output:

- . Distribution of age, ethnic group, income and education of attenders compared to the target population.
- . ? Distribution of risk factors for breast cancer in attenders and the target population.

Input:

- . Age will be routinely available on the data base.
- . Sample surveys of attenders, collecting core information using the same techniques used by the ABS and comparing to ABS published data should be done for ? 100 people and repeated every month. Some surveys can be done simultaneously with satisfaction assessment.
- . Studies of the distribution of other risk factors in attenders and non-attenders will require interviewing a random sample of non-attenders. Because of expense, I suggest restricting this sort of investigation to attenders and non-attenders in response to individualized/small group strategies.

Stage:

Nil developed

Time scale:

Should be initiated in March '88.

Related management issues:
(and responsibilities)

Integration of fieldwork into the operation of the van
(Responsibility: Mary, Jill and Les)

Database implications:

Nil: On sample surveys only

Analysis time:

Short report within 4 weeks of survey dates.

Evaluation requirement 6

Monitoring waiting times and missed appointments

Output:

Distribution of waiting times between:-

- phone-call/initial contact and appointment
- Appointment and negative report
- " " "positive" report
- "Positive" report and appointment for assessment
- Assessment and notification of result/referral
- % of missed appointments, action taken, response.

Input:

Dates and attendances/misses on data base

Stage:

Under consideration by Computer Working Party, Jill and Les.

Time scale:

Must be available February '88.

Related management issues:
(and responsibility)

Blend with project management/reporting procedures
(Mary, Computer WP)

Database implications:

Should largely be obtainable from the manual
appointment system.

Analysis time:

Monthly report of distribution of people who entered
the system in the previous month.

Evaluation requirement 7

Monitoring quality of Radiological reading

Output:

- Tables showing inter-reader repeatability for all features and probabilities recorded.
- One way frequency distribution for the following outcomes and their cross-tabulation against individual-reader features/probabilities:-
 - . joint decisions on the need for further assessment
 - . findings on clinical, repeat mammographic ultrasound, cytological and biopsy results.
 - . Final diagnosis, including size, stage and type of cancers.
 - . Number of interval cancers in successive years compared with expected incidence. Mammographic detectability of interval cancers.

(The above can also be done by age-group and initial symptoms).

Input:

Data from mammographic screening forms and forms for all the other assessment investigations.

Stage:

Draft protocols written (Paul and Les). Initial clinical, Mammography and pathology forms are in draft form. The others are still to be developed.

Time scale:

Screening forms/procedures must be finalized and piloted before February. Other forms should also ideally be ready by then, but because numbers are smaller, a manual system can be used for several months.

Related management issues
(and responsibility)

- Finalization of:-
- screening forms (Mary, Clinical WP)
- letters (Mary)
- Organization of form entry, letter-sending/Computing (Mary, Computer WP)

- Setting up the system to detect interval cancers and cancers in non-attenders (Mary)

Database implications:

High. Overlaps with "Phase I" of Database development.

Analysis time:

- Monthly one-way frequency distributions
- Monthly tables of inter-reader agreement/decisions.
- Cross-tabulations of radiology and findings on assessment every ? 3 months.

Evaluation requirement 8

Quality control of assessment procedure.

Output:

- Benign/Malignant ratio of open biopsies.
- % of interval cancers "missed" on assessment.

Input:

Results of open biopsy. Tracing attendance and screening/assessment results of other cancers which arise in the area to determine if and why they were "missed"

Stage:

Nil done

Time scale:

Procedures to identify Cancers should be in place March 1988.

Related management issues:
(and responsibility)

Set up procedures with surgeons and Cancer registry.
(Mary)

Database implications:

Minor and late

Analysis time:

Long-term (first tabular results end '88, though individual review should be ongoing)

Evaluation requirement 9

Change in Community knowledge and perceptions about breast cancer and screening and psychological morbidity about breast cancer in the general population. (impact study)

Output:

Change in score of knowledge, perception and morbidity scales over a 12 - 15 month period.

Input:

Repeat interview samples of 300 people in the RPA area and 300 elsewhere in Sydney using longitudinal and cross-sectional samples.

Stage:

Protocol and draft questionnaire written

Time scale:

Initial interview November '87, 2nd interview late '88 or early '89 (dependent of funds).

Related management issues:
(and responsibility)

Nil

Database implications:

Nil

Analysis time:

Initial sample analysis by April '88.

Evaluation requirement 10 (prepared by Jane Hall)

Economic Appraisal of mammography service

- (1) Costs and outcomes of the screening service in total and disaggregated into recruitment; screening; follow-up of abnormal tests; invitation to re-screen; treatment.
- (2) Utility weightings for early treated breast cancer.

Output

- (1) Cost per case breast cancer detected
 - (i) Cost (recruitment) per woman attending
 - (ii) Cost (screening) per woman screened
 - (iii) Cost (abnormal follow-up) per woman investigated
 - (iv) Cost (re-screening) per woman attending after screening interval
 - (v) Cost (treatment) per case treated
- (i)-(iv) are components of cost per case detected.

Costs of training; research; evaluation; monitoring and quality assurance.

- (2) Utility weightings for a possible health states following early/late detection and treatment.

Input

- (1) Ongoing cost data recorded in spread sheet format
- (i) **recruitment:** all activities associated with advertising, promotion (including development of material) identifying individuals, and sending invitations.
 - (ii) **screening:** all screening including repeat screens for technical reasons, and notification of results.
 - (iii) **follow-up:** all further investigation including diagnostic mammography, whether public or private sector, until positive/negative histological diagnosis.
 - (iv) **re-screening:** maintaining a register and contacting women for re-screening after the determined interval.
 - (v) **treatment:** all treatment of positive cases.
- PLUS activity survey of project
- PLUS survey of sample of women attending.
- (2) Survey of women, probably sample of women attending and others.

Stage:

Document on Economic Appraisal Proposal available

Time scale:

Requirement (1) is based in part on routine data collection on attendance (to be in place February '88). Requirement (2) requires special surveys during 1988.

Related management issues:

(amnd responsibility)

Outcomes for requirement (1) will be available from the database. Cost assessments require separate data collection (Jane Hall)

Database implications:

High. 'Outcome' covered by previous sections of this document.

Analysis time:

Preliminary results based on the first 12 months data.