

International Breast Cancer Screening Network (IBSN)

Biennial Meeting

Crowne Plaza Ottawa ♦ May 10–11, 2006

ABSTRACTS

- TITLE:** The Monastery Center for Disease Prevention, Panagia Philanthropini
- AUTHOR:** CS Anthony
- WORK AFFILIATION:** Panagia Philanthropini
- ADDRESS:** Ormylia 63071, Greece
- BACKGROUND:** The Monastery Center for Disease Prevention, Panagia Philanthropini, located in Ormylia, Greece, operates a Breast Care Screening Intervention program designed to increase breast screening among the poorest of economically disadvantaged women. The Center has received support from the European Union and the Susan G. Komen Breast Cancer Foundation, among other foundations. The community-based activity has a developing education component that targets adult women descendents of native Greek, Albanian, and immigrants from former Soviet Union Satellite Nations.
- OBJECTIVE:** Novel approaches outside the traditional purview of medicine enhance management of clinically detected abnormalities among poor and minority women. Community- and church-based support targeting poor and minority women with limited access to diagnostic follow-up and treatment is used to minimize the number of patients that “seep through the cracks” of the treatment for breast cancer. Social infrastructures, screening staff, church pastoral workers, center volunteers, and close family and friends are recruited to encourage women to go for further assessment or treatment.
- METHODS:** Women especially stricken by poverty are given special care in arranging appointments and transportation to the appropriate site.
- Creative thinking, texts in immigrant languages, and enhanced love and care that acknowledge patient concerns, express partnership, and validate emotional needs are effective. Anxiety is greatly reduced and further exploration of needs made possible.
- For a positive or suspicious mammogram, the usual result pathways are employed. Minority poor or rural women may still interact in a similar manner as women with social advantage. When this does not occur, steps are taken by the screening staff in a compassionate manner to reach out to the patient and family.
- RESULTS:** Tested positive minority patients who require further diagnostic evaluation have the same level of care as the Greek natives. This is the case for both the 5-year survival rate of >95% and the return rates for preventive screening, which is >93%.

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ABSTRACTS

- TITLE:** Impact of the Screening Program on Mortality from Breast Cancer in Navarre, Spain, in the Period 1991–2003
- AUTHORS:** N Ascunce, N Egues, A Barcos, C Moreno, E Ardanaz, M Ederra, J Castiella
- WORK AFFILIATION:** Instituto de Salud Pública
- ADDRESS:** Breast Cancer Screening Programma, Leyre 15, 31003 Pamplona, Spain
- KEYWORDS:** breast cancer, screening, evaluation, mortality
- OBJECTIVE:** To evaluate the impact on mortality from breast cancer in the population of Navarre in the first 12 years of the region's Breast Cancer Screening Programme (BCSP).
- SOURCES:** Mortality Register of Navarre 1975–2003, mortality statistics for Spain 1991–2002 (latest data published), Cancer Register of Navarre 1973–2001, database of the BCSP.
- METHODS:** The annual and triennial age-adjusted mortality rates of the European population were calculated together with total mortality and mortality in the 30–44, 45–49, 50–69, and 70–74 age groups and women over 75 years of age.
- A joinpoint regression analysis was made to identify the points where a statistically significant change has occurred in the mortality rate trend. In order to rule out the effect of prevalent tumours, deaths in the period 1991–2001 due to tumours diagnosed before 1991 (the first year the Programme was carried out) were identified and excluded, together with those in the period 1980–1990 corresponding to cancers diagnosed before 1980.
- *RESULTS:** An increase in the mortality rate from breast cancer is observed until the period 1993–95, and it starts to fall in the following years. The rate drop between the last period (2002–03) in comparison with the first (1987–89) was 34%. This fall reaches –51% in the group that is largely affected by the programme (age 50–69). Eliminating the prevalent cases, this drop becomes more pronounced.
- Joinpoint regression analysis: The evolution of the aggregate mortality rate from breast cancer shows two different patterns: the first up to 1994 with a non-significant increase in mortality of +1.21% per annum, followed by a period of statistically significant falls with an annual percentage change of –5.31 up to 2003, –9.08 in the age group 50–69.

(*) Provisional data

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- TITLE:** Interval Cancers in the UK NHS Breast Screening Programme (NHSBSP)
- AUTHORS:** RL Bennett, SM Moss, J Melia
- WORK AFFILIATION:** Department of Health Cancer Screening Evaluation Unit (CSEU), Section of Epidemiology, Institute of Cancer Research
- ADDRESS:** Cotswold Road, Sutton, Surrey, SM2 5NG, UK
- KEYWORDS:** breast neoplasms, mass screening, interval cancers, ascertainment
- BACKGROUND:** Monitoring of the UK NHSBSP has been ongoing since it commenced in 1988. Early publications of regional interval cancer rates were higher than expected; however, data on interval cancers were not available at a national level. Since 1998, the CSEU has been taking forward national collation of individual-based data on interval cancers in collaboration with Regional Quality Assurance Reference Centres (QARCs).
- OBJECTIVE:** To establish and analyse a national database of individual-based interval cancer data.
- METHOD:** Initially, a national database was established. Regional collation of interval cancers and regular exchange of data between the QARC and the cancer registry was considered the gold standard for case ascertainment. The database was used as a framework with which to investigate interval cancer data quality including completeness both of specific data items and of case ascertainment. More recently, data collection has concentrated on interval cancers in specific cohorts of women, with a spreadsheet being developed to enable standardisation in the recording of data items across the regions. Regions have been surveyed frequently in order to record changes in ascertainment.
- RESULTS:** Regional participation has increased since the project began, with 9 out of 11 regions in England, Wales, and Northern Ireland supplying data in 2001 and 10 participating in the most recent round of data collection in 2005. Initially, many regions did not routinely exchange data with their cancer registries or maintain a regional database of interval cancers. Data quality is improving both in terms of the completeness of specific data items and in methods of ascertainment. Of the regions participating in the 2005 data collection exercise, seven received downloads from their cancer registries, and the remaining four were in the process of establishing links with their cancer registries. We anticipate that current interval cancer rates will reflect recent improvements in the Programme and changes in background incidence.

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- TITLE:** The Nova Scotia Breast Screening Program and Core Biopsy: 15 Years of Follow-up
- AUTHORS:** JS Caines, JL PayneI, SE Iles, GH Schaller, ER Woods, PJ Barnes, RF MacIntosh
- WORK AFFILIATION:** Nova Scotia Breast Screening Program
- ADDRESS:** Department of Diagnostic Imaging, Queen Elizabeth II Health Sciences Centre, Victoria General Site, Rm 3–3212 Dickson Building, 1278 Tower Road, Halifax, NS B3H 2Y9, Canada
- KEYWORDS:** breast screening, needle core breast biopsy
- BACKGROUND:** The Nova Scotia Breast Screening Program (NSBSP) was established in 1991 and introduced needle core breast biopsy for investigation of abnormalities found as a result of screening, at the outset of the program. In the period 1991–2005, over 5,000 core biopsies were performed. Although there is evidence that the use of core biopsy can help reduce the amount of benign surgery, little is known of the potential for false negative results on core biopsy.
- OBJECTIVES:** The purpose of this study is to describe trends in the use of core biopsy and surgery and to attempt to quantify the degree of false negatives on core biopsy among women taking part in the NSBSP.
- METHODS:** The study population will be defined as all women who were screened as part of the NBSP in the period 1991–2005. Time trends in both core biopsy and surgery will be described in the following terms: the core biopsy rate per 1,000 screens; the benign-to-malignant ratio on core; the benign-to-malignant ratio on surgery, both with and without the presence of a core biopsy being performed; and the number of surgeries performed per 1,000 screens. The potential for false negative results associated with core biopsy will be evaluated at three different stages: benign core results with malignant surgery during initial work-up; malignancy in the same breast area resulting from abnormalities found at either the 6- or 12-month post-negative core biopsy follow-up; and malignancy in the same breast area more than 12 months following the initial negative core result.
- DISCUSSION:** These analyses will contribute to the evaluation of clinical guidelines for follow-up of women with negative core biopsy results.

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- TITLE:** The Contribution of Clinical Breast Examination on Prognostic Measures of Effectiveness in a Breast Screening Program
- AUTHORS:** AM Chiarelli, V Majpruz, FP O'Malley, V Mai
- WORK AFFILIATION:** Division of Preventive Oncology, Cancer Care Ontario
- ADDRESS:** 620 University Avenue, Toronto, Ontario M5G 2L7, Canada
- KEYWORDS:** clinical breast examination, prognostic measures, breast screening program
- BACKGROUND:** Results of several randomized controlled trials and cohort studies of population screening programs have found that clinical breast examination (CBE) contributes minimally to the detection of breast cancer over mammography. However, the contribution of CBE to the prognosis of women with breast cancer is uncertain. As screening centres within Ontario provide mammography with or without a CBE, the Ontario Breast Screening Program (OBSP) provides a unique opportunity to evaluate the contribution of CBE on prognostic measures of effectiveness within a breast screening program.
- OBJECTIVE:** The purpose of this study is to compare cancer detection rates and prognostic features of breast cancers among women who attend OBSP screening centres that provide mammography with and without a CBE.
- METHODS:** The study cohort was identified from women 50 to 69 years of age who had at least one screen at the OBSP between January 1, 2002 and December 31, 2003. These women were followed prospectively to their next screening visit or breast cancer diagnosis to determine cancer detection rates and prognostic features of breast cancer. Pathological information on breast cancers was obtained either by the regional staff during the recall process or through record linkage with the Ontario Cancer Registry.
- RESULTS:** During the study period, 76 of the 106 OBSP screening centres provided CBE in addition to mammography. There were 237,871 women screened at OBSP centres that provided CBE with mammography with a cancer detection rate (invasive and in situ) of 5.6 per 1,000. In comparison, 51,341 women were screened at centres that provided mammography without a CBE with a cancer detection rate of 4.5 per 1,000. Further analyses of comparisons of prognostic features such as histological subtype, stage, pathologic tumor size and nodal status, histological grade, and hormone receptor status will be presented.

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ABSTRACTS

- TITLE:** Evaluation of Effectiveness of Screening Mammography on Breast Cancer Incidence and Mortality Among Women 50–69 Years of Age in Ontario
- AUTHORS:** AM Chiarelli, N Chong, M Sloan, N Malek, LF Paszat, E Holowaty, V Mai
- WORK AFFILIATION:** Scientist, Division of Preventive Oncology, Cancer Care Ontario
- ADDRESS:** 620 University Avenue, Toronto, Ontario M5G 2L7, Canada
- KEYWORDS:** effectiveness, mammography, breast cancer incidence, breast cancer mortality
- BACKGROUND:** Based on the evidence of randomized controlled trials, organized breast screening was recommended in Canada in 1988 for women aged 50–69. As there has been a sharp increase in the use of screening mammograms since this time as well as a reduction in mortality from breast cancer, it is important to evaluate whether the benefits observed in the randomized controlled trials can be achieved in a population setting. In Ontario, women obtain screening mammograms in both a provincial screening program (Ontario Breast Screening Program (OBSP)) and an opportunistic setting (Ontario Health Insurance Plan (OHIP)) fee-for-service basis.
- OBJECTIVE:** The purpose of this study is to determine the association between use of screening mammography and incidence of invasive breast cancer and mortality from any cause for women diagnosed with invasive breast cancer.
- METHODS:** This study employs a retrospective cohort design. A cohort of eligible women (N=789,640) aged 50 to 63 on January 1, 1995 registered for health care benefits through OHIP was identified without a prior history of invasive breast cancer. The cohort was linked to the Ontario Cancer Registry and to the all cause mortality file to identify all invasive breast cancers (N=18,791) and deaths from all causes (N=53,133) up to December 31, 2003. This cohort of women is currently being linked to health records of women who received screening mammograms both within a provincial screening program (OBSP) and within an opportunistic setting (OHIP fee-for-service). All of the linkages have been conducted using a probabilistic record linkage methodology.
- ANALYSIS:** Age-specific breast cancer incidence and mortality rates will be calculated by type of mammography service. Analyses of comparisons of rates between women who had a screening mammogram within or outside of a provincial screening program and women receiving no screening mammography services will be presented.

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TITLE: Breast Cancer Screening Practice in Turkey

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KEYWORDS: breast cancer screening, Turkey

In spite of the increasing public awareness of breast cancer among women, breast cancer screening programs are relatively new for Turkey. The first systematic breast cancer screening program was realized during 1999–2000 at Narlidere district of Izmir, for the 50–64 age group residing in that region. All eligible women were registered by using records of three health centers of the district; they were invited via personal communication and/or phone calls. All participants were given breast self-examination, were examined by a trained M.D., and were screened by mammography. The compliance rate was 1% (1,605 women), and 5 cancer cases were detected.

The programme was a good example for collaboration of governmental bodies and civil society. After realizing that the main lack for community-based breast cancer programmes was absence of mammography centers, the Ministry of Health implemented a European Union-supported project to establish 11 Cancer Screening and Education Centers in 11 provinces of Turkey during 2003–04. After founding those new centers and training their staff, new teams at three of them (Ankara, Balikesir, and Erzurum) began to implement breast screening programmes in 2005. Additionally, the Ministry of Health delivered a regulation to determine standards of a breast cancer screening programme in reference to age group of eligible participants and screening procedures.

The results of the first Narlidere screening programme and interim results of ongoing screening programmes will be explained. Also, specific problems dealing with launching a national programme (e.g., administrative and physical infrastructure, human resources) in a country with limited resources will be discussed.

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- TITLE:** Multi-Cultural Outreach Cancer Education and Screening Project
- AUTHORS:** K Watters, K Decker
- WORK AFFILIATION:** CancerCare Manitoba, Manitoba Breast Screening Program
- ADDRESS:** 25 Sherbrook Street, Unit 5, Winnipeg, Manitoba R3C 2B1, Canada
- KEYWORDS:** multi-cultural, cancer, screening
- OBJECTIVES:** The goal of this project was to improve breast and cervical cancer screening rates among women from five immigrant communities in Manitoba. The project objectives were as follows: Increase the number of women 50 to 69 years of age attending breast screening from the Chinese, Vietnamese, Spanish, Filipino, and Portuguese communities; increase the number of women having Pap tests from the Chinese, Vietnamese, Spanish, Filipino, and Portuguese communities; increase the awareness about breast and cervical cancer to all women in these communities; and determine whether or not underserved women have been reached.
- METHODS:** This poster describes the project process that involved 11 community partners and the following project activities: the establishment of an advisory committee in each cultural community to provide direction on project activities; hiring and training of five facilitators, one in each cultural community; expanding community capacity by training additional support persons from each community; translation of needed resources; arranging events, presentations, or meetings in each cultural community; coordinating follow-up group trips for Pap tests and screening mammograms for underserved women; and evaluation of the project.
- RESULTS:** The project addressed several barriers related to culture, access, transportation, and language, and resulted in improved awareness of breast and cervical cancer screening/prevention and related services available among community leaders and women in each cultural community. The project resulted in approximately 50 combined cervical and breast cancer community presentations/meetings. Follow-up group trips removed the transportation barrier for women who have not previously participated in cancer screening programs.
- Tools to measure achievement of objectives including evaluation forms were designed for each phase of the project. Abnormalities and/or cancers detected in group trip participants will be reported. Quantitative data and qualitative observations on community event and group trip attendance will be presented.
- CONCLUSION:** Directly addressing cultural barriers to screening by involving each community in improved screening awareness and attendance.

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TITLE: The Current Status of the Breast Cancer Screening Program in Korea

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WORK AFFILIATION: Department of Preventive Medicine, College of Medicine, The Catholic University of Korea

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Breast cancer has the second highest incidence in females, 21.7 per 100,000 in Korea. Age-specific incidence rates rise until 50 years of age and then decrease. The mortality rate of breast cancer has increased by more than 100% from 1983 (2.6/100,000) to 2002 (5.3/100,000).

The national breast cancer screening program started in the year 2002 in Korea. About 50% of the entire population are covered by the program, free of charge.

The program recommends biannual breast cancer screening for females over 40 years of age with mammogram as the screening tool. If the mammogram is positive, needle aspiration biopsy is requested. This evokes the discussion of whether the program will provide only the mammogram or provide the second (ultrasonography) and third (needle aspiration biopsy and pathology) examination altogether. For the age group of 40s, annual screening instead of biannual should be discussed. One more aspect to be discussed is whether the modality of mammography combining clinical physical examination may be more effective than mammography alone as a screening tool.

Clinical image quality research results performed in the year 2002 showed that the rate of poor quality was 37%. And Clinical Phantom Image Quality research results showed that the rate of poor quality was 43%. This caused the launching of the related regulations (Mammography Quality Standards Act) in the year 2003. The actual implementation for quality control was started in the year 2004.

The screening rate of the program is under 20%.

Improving quality of the screening program is very important in reducing harm caused by the program. The related indices are participation rate, recall rate, cancer detection rate, mammography sensitivity, repeat test rate, benign biopsy rate, interval cancer, and time intervals related to the screening program. Discussions on setting standards appropriate for the current status in Korea are currently under way.

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ABSTRACTS

- TITLE:** The Incidence and Stage Distribution of Invasive Breast Cancer in Norway Before and After Introduction of the Norwegian Breast Cancer Screening Program
- AUTHORS:** S Hofvind, R Sørum
- WORK AFFILIATION:** Department of Screening-Based Research, The Cancer Registry of Norway
- ADDRESS:** Montebello, 0310 Oslo, Norway
- BACKGROUND:** The Norwegian Breast Cancer Screening Program (NBCSP) started in four counties in 1995–96 and has gradually expanded to be nationwide (19 counties) in February 2004. The target group is close to 500,000 women aged 50–69. The women are invited to biennial screening. An increased incidence is expected to follow an introduction of a screening program, in addition to diagnosing cancers in an earlier stage of the disease as would be expected without screening.
- OBJECTIVE:** To describe the incidence and stage distribution before, during, and after start-up of the NBCSP will be described for two groups: Akershus, Hordaland, Oslo, and Rogaland, which started the NBCSP in 1995–95 and in Agder, Telemark, Troms, and Finnmark, which started in 1999–2000.
- METHOD:** The description is based on figures from the population based cancer database at the Cancer Registry of Norway, thus no consideration about attendance in the NBCSP is taken.
- RESULTS:** In the period before the screening started, the incidence rate per 100,000 women-years increased by age: approximately 35 in women younger than 50 years, 175 in women aged 50–69 years, 225 in women 70–74 years, and 300 in women 75 years or older. About a 30% increased incidence was observed in women aged 50–69 years in the period corresponding to the first screening first round. The incidences were relatively stable in the other age groups in the same period. In the subsequent period, after the first screening round, the incidence decreased to about half the increase in women aged 50–69 years. A decrease in incidence was also observed in women aged 70–74 years. The incidences in the other age groups were relatively stable. The pattern was similar in the two groups, with a shift of 4 years, which represent the start up periods for the two groups.
- The distribution of Stadium I, II, and III+IV were relatively stable from 1980 until the start-up of the NBCSP. The increased incidence described above is mainly in Stadium I and II. Less or no changes were seen in age groups outside the target group. After the period corresponding to the prevalent screening round, the rate of Stadium I cancers was decreasing to about two-thirds of the observed increase in women aged 50–69 years.

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ABSTRACTS

- TITLE:** A Technical Solution for Data Collection and Performance Evaluation of Mammography Screening in Czech Republic
- AUTHORS:** D Klimes, A Svobodník
- WORK AFFILIATION:** Centre of Biostatistics and Analyses, Faculty of Medicine and Faculty of Science, Masaryk University
- ADDRESS:** Kamenice 126/3, 625 00 Brno, Czech Republic
- KEYWORDS:** mammography screening, data collection, databases, performance evaluation
- BACKGROUND:** Czech Republic is a central European country with approximately 10 million citizens. The mammography screening program was started in September 2002. This program is designed for all women in the 45 to 69 age group, which consists of roughly 1,500,000 women according to demographic data. Mammography examinations are provided free by health insurance companies every 2 years. There are 54 accredited mammography screening centers. The Centre of Biostatistic and Analyzes was delegated as the national centre of data collection and data quality assessment.
- METHODS:** A technical solution was created with minimal funding to enable the immediate start of data collection. This solution involves the following components: a local database application for participating mammography centers, a data interface for data import to central processing, a central database, and software tools for data validation. A Windows application named MaSc was created specifically for the local collection of mammography screening data. The GNU application Interbase/Firebird was used as a database server. To enable the uniform importing of data to the central database by participating centers with differing local applications, a data standard was defined. The central database was created using an ORACLE 9i platform. The data model of the central database enables the assessment of basic quality markers such as recall rate and cancer detection rate. The data conforming to the defined standard is imported annually from the individual centers by a two-step process. The first step involves raw data, and in the second step validated data is imported.
- RESULTS:** We are presenting a comprehensive technical solution with all the advantages and disadvantages learned during the 3 years of its development. The central database now contains data of more than 600,000 examined women and histological findings of more than 3,000 detected carcinomas.

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ABSTRACTS

- TITLE:** Recalls and Detection in Mammography Screening Among Ordinary Attendees and Reminders
- AUTHORS:** S Hofvind
- WORK AFFILIATION:** Department of Screening-Based Research, The Cancer Registry of Norway
- ADDRESS:** Montebello, 0310 Oslo, Norway
- BACKGROUND:** The major benefits of breast screening by mammography are the early detection of breast cancer and the subsequent reduction in mortality from the disease. Process indicators as well as detection rate reflect the provision and quality of the activities consulting the screening process, thus they are important to follow closely.
- OBJECTIVE:** This study was aimed to analyse recall rate, positive predictive value (PPV) and detection rate among women invited to biennial screening in the Norwegian Breast Cancer Screening Program (NBCSP). All the analyses are stratified in respect to attendance; attendance as a result of an ordinary invitation or as a result of a reminder. All women who do not attend the NBCSP as a result of an ordinary invitation get a reminder 3–8 weeks after the scheduled time.
- METHODS:** This study is based on women residing in Akershus, Hordaland, Oslo, and Rogaland. Women aged 50–69 years were invited to biennial screening in the NBCSP during 1995–96 and 2003. The period represents the four screening rounds in the four counties.
- RESULTS:** An ordinary invitation was sent to 669,978, whereas 498,313 (74.4%) attended. Reminders increased the attendance rate to 78.0%. The recall rate due to positive mammography was 3.4% (17,125/498,313) in ordinary invited and 4.2% (1,213/28,714, $p=0.028$) in reminders. The detection rate was 0.57% (2,850/498,313) and 0.71% (205/28,714, $p=0.002$) in ordinary attendees and reminders, respectively. The positive predictive value due to positive mammography was 16.2%, both for ordinary attendees (2,778/17,125) and reminders (1971,213).

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- TITLE:** Sensitivity of Mammography Screening in Comparison to Clinical Breast Examination: Analysis of Interval Cancers from Miyagi Cancer Registry, Japan
- AUTHORS:** N Ohuchi, Y Nishino, A Suzuki, K Ohnuki, I Tsuji
- WORK AFFILIATION:** Graduate School of Medicine, Tohoku University
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- KEYWORDS:** breast cancer screening, interval cancer, mammography
- BACKGROUND:** Clinical breast examination (CBE) was initiated as screening modality in Japan, resulting in no effectiveness for mortality reduction. In 2000, mammography was introduced nationwide, as the Miyagi trial helped to shape the planned national screening program.
- OBJECTIVE:** This study was initiated to compare sensitivity between mammography screening and CBE screening in aspects of performance parameters.
- METHODS:** Interval breast cancers were recorded through the Miyagi Cancer Registry, Sendai, Japan. The data covered the screenees were enrolled from 1995 to 1998.
- RESULTS:** The sensitivity of CBE for women at ages 40–49 and 50–69 were 67% and 72%, respectively. The sensitivity of mammography combined with CBE for women at ages 40–49 and 50–69 were 85% and 92%, respectively. More detailed analysis was carried out for interval cancers derived from the screenees receiving mammography and CBE. The sensitivity of CBE at ages 40–49 and 50–69 were 42% and 56%, whereas the sensitivity of mammography for each age group were 70% and 85%, respectively. When we focused on asymptomatic women, the sensitivity decreased; CBE at 40–49 and 50–69 were 26% and 48%, mammography at 40–49 and 50–69 were 65% and 84%, respectively.
- CONCLUSION:** The sensitivity using interval cancers through regional cancer registry demonstrates higher sensitivity of mammography screening than CBE for Japanese women aged 40 and over. Quality control should be required for mammography screening when targeted to women ages 40–49.

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ABSTRACTS

- TITLE:** Factors and Outcomes Associated with Annual and Biennial Screening Intervals in Canadian Organized Breast Cancer Screening Programs
- AUTHORS:** J Onysko (on behalf of the Canadian Breast Cancer Screening Initiative's Quality Determinants Working Group)
- WORK AFFILIATION:** Public Health Agency of Canada
- ADDRESS:** Centre for Chronic Disease Prevention and Control, 120 Colonnade Road, Ottawa, Ontario K1A 1B4, Canada
- KEYWORDS:** screening intervals, performance measures, breast cancer risk factors, radiologist recommendations
- BACKGROUND:** While national guidelines recommend that women aged 50–69 receive a screening mammogram every 2 years, all programs screen some women on an annual basis for a variety of reasons based on breast cancer risk factors and client preferences/behaviour. The effectiveness of these screening interval variations has not been fully evaluated in Canadian program settings.
- OBJECTIVE:** To examine factors associated with annual vs. biennial screening intervals and their corresponding outcomes.
- METHODS:** Predictors of screening intervals, including client factors, breast cancer risk factors, and associated radiologist recommendations were examined prospectively in a sample of 235,949 Canadian women aged 50 to 69 who participated in one of five programs between 1998 and 2002. Proportions and relative risks were estimated to examine outcomes including cancer detection rate, and non-compliant and interval cancer rates.
- RESULTS:** Among screening episodes preceded by a normal screen, women with annual or biennial screening interval recommendations, who returned for screening annually had cancer detection rates of 3.7 and 2.9, respectively, while those returning biennially had cancer detection rates of 5.0 and 4.2, respectively. Among screening episodes preceded by an abnormal screen, women with an annual vs. biennial screening interval recommendation, who returned for screening annually, had cancer detection rates of 6.5 and 4.2, respectively, while those returning biennially had rates of 12.8 and 7.7, respectively. Variations in screening intervals based on breast cancer risk factors, client factors, and radiologist recommendations have implications for the evaluation of program performance.

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- TITLE:** Managing and Taming Wait Times and Participation Rates in a Small Population and Large Geographical Environment: A Proactive Approach
- AUTHOR:** G Schaller
- WORK AFFILIATION:** Nova Scotia Breast Screening Program
- ADDRESS:** 6226 Jubilee Road, Halifax, Nova Scotia B3H 2G2, Canada
- KEYWORDS:** wait times, participation rates, diagnostic intervals
- BACKGROUND:** The Canadian Breast Cancer Screening Database shows that all programs have failed to meet the Participation Rate and Diagnostic Interval performance indicator targets. Multiple factors impact on Participation Rates. Statistical anomalies are introduced when patients are wrongly classified. More difficult to detect is the disincentive to program participation resulting from a screening capacity shortfall causing prolonged screening wait times. Diagnostic Intervals will be influenced by capacity and the degree to which the elements of that capacity are integrated and coordinated. We will examine the roles of Central Mammography Booking (CMB), Patient Navigation, Database Development, and Geographic Information Systems (GIS) in the Nova Scotia Breast Screening Program and the impact they have had, or will likely have, on these performance indicators.
- METHOD:** The NSBSP outcome data for the period 1991–2004 were revised with particular attention to Participation Rates and Diagnostic Intervals that were correlated with the introduction and evolution of CMB, Patient Navigation, and Database Development. The likely impact of GIS application was also assessed.
- RESULTS:** Diagnostic Intervals and Participation Rates have shown improvement in each region subsequent to the introduction of CMB in 2000 and of Patient Navigation in 1991 with steady expansion until 1999 when a full-time Patient Navigator position was established. Improved database management has had a positive impact on program Participation Rates. The NSBSP clientele has a large rural component that is dependent on the three mobile units deployed by the program. It is possible that they are not being used to full capacity to reach their appropriate target clients due to overlap with fixed **acaclities**, too frequent moves, and unpredictably variable schedules. The GIS developed by the Center for Surveillance Coordination promises to be able to address these issues and enable the NSBSP to optimize mobile screening capacity with the promise of an improvement in the Participation Rate.

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ABSTRACTS

- TITLE:** Mammography Screening for Breast Cancer in the Czech Republic: Results of Analysis of 467,696 Women and 2,147 Breast Cancer Cases
- AUTHORS:** A Svobodník, J Daneš, H Bartoková, M Skovajsová, D Klimeš
- WORK AFFILIATION:** Masaryk University in Brno, Center of Biostatistics and Analyses
- ADDRESS:** Kamenice 126/3, Brno 627 00, Czech Republic
- KEYWORDS:** screening, breast cancer, evaluation of performance
- OBJECTIVE:** As the efficiency of screening on reduction of breast cancer mortality was confirmed in several clinical trials, screening has been adopted in most European countries. In the Czech Republic, nationwide screening has started in September 2002. First official results are presented.
- METHODS:** Data from a total of 57 independent screening centers were analyzed. To assure high quality of data, a thorough central system of data collection and validation was used. The system is based on (a) obligatory structure of data collected by individual centers, (b) establishment of an independent data center, and (c) development of user-friendly software for data management.
- RESULTS:** Czech National Mammography Screening Database contains detailed data of 467,696 women. A total of 2,147 breast cancer cases were detected, hence the cancer detection rate was 46 cases per 10,000 women. The distribution of tumor sizes detected in screening was: T is 7%, T1 71%, T2 20%, T3 1%, and T4 1%. Before screening was implemented, the percentage of breast cancers ≤ 2 cm was 39 % (National Cancer Registry, 2002) in comparison to 78% of tumors ≤ 2 cm detected in screening.
- CONCLUSION:** As mammography screening is an enormously demanding project from both financial and organizational perspectives, exact evaluation of its costs and benefits should be conducted. The sophisticated system of screening data management and validation is an important motivational factor for all screening centers from the quality control perspective. Substantial quality control procedures are crucial when a chaotic system of cancer prevention is transformed into a regular service screening program.

International Breast Cancer Screening Network (IBSN)

Biennial Meeting

Crowne Plaza Ottawa ♦ May 10–11, 2006

ABSTRACTS

- TITLE:** Women's Patterns of Participation in Mammography Screening in Denmark
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- WORK AFFILIATION:** Department of Epidemiology, Institute of Public Health, University of Copenhagen, Denmark
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- KEYWORDS:** attendance, breast cancer, mammography, protective effect, screening
- BACKGROUND:** A high participation rate is recognised as an important parameter for the success of a mammography screening programme. In the European guidelines for quality assurance in mammography screening, attendance rates over 70% are considered acceptable, while rates over 75% are desirable. The rationale behind this is that the aim of breast cancer screening programmes is to reduce overall breast cancer mortality in the target population. This can be achieved only if the individual women are sufficiently 'protected' by the programme. Participation rate is in this perspective a proxy measure for an underlying 'protection rate'.
- OBJECTIVE:** The objective of the study is to analyse individual women's participation patterns in mammography screening in Denmark. The study is set in the capital of Copenhagen and the county of Fyn representing around 95,000 women aged 50–69.
- METHOD:** The Central Population Register (CPR) was used to define the total target group and supply information on migrations and deaths. Invitation and participation data came from the mammography screening programmes in Copenhagen (1991–1999) and Fyn (1993–2001), containing personal identification numbers, data on invitation dates, and participation and examination dates for each screening round.
- RESULTS:** In Copenhagen the coverage went from 70.5% in the first round to 63.1% in the fourth round, and the equivalent data for Fyn is 84.6% in the first round and 82.8% in the fourth round. Of the women eligible for at least three invitation rounds, 52.6% in Copenhagen and 76.4% in Fyn were faithful users, i.e., had participated in all screenings they were invited to. The study showed that the proportion of women making full use of the programme over time was lower than the programme participation rate for individual invitation rounds, indicating that the programme participation rates tend to overestimate the protection of targeted women provided by the programme.

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ABSTRACTS

- TITLE:** Mature Results of Magnetic Resonance Imaging (MRI), Mammography and Ultrasound Surveillance for BRCA1 and BRCA2 (BRCA) Mutation Carriers at a Single Experienced Centre.
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- KEYWORDS:** BRCA1, BRCA2, surveillance, MRI, mammography
- BACKGROUND:** Most women with BRCA mutations choose surveillance over prophylactic mastectomy, despite an 85% lifetime breast cancer risk. In multicentre studies of very high-risk women in the UK and the Netherlands, MRI was twice as sensitive as mammography for invasive cancer (IC) but mammography was more sensitive for ductal carcinoma in situ (DCIS). However, in our 1997+ study of annual MRI, mammography and ultrasound for BRCA mutation carriers ages 25 to 65, MRI was superior to mammography for both IC and DCIS. We hypothesize that this difference is due to the steep learning curve for breast MRI.
- METHODS:** All cases of DCIS ± microinvasion and IC were analyzed in two timeframes: before (period A) and after (period B) July, 2001.
- RESULTS:** In period A, 130 women had a total of 272 rounds of screening and in period B, 324 women (279 new patients) had 806 rounds. In period A there were 13 cases of DCIS or IC detected (4.8% of screens) with 1 interval cancer compared to 29 cases (3.6%) and no interval cancers for period B. Both DCIS cases in period A were detected by mammography only. All 11 DCIS cases in period B were detected by MRI, but only 1 (9.1%) by mammography; none were detected by ultrasound. In period B sensitivity for IC was 94% for MRI, 17% for mammography, and 24% for ultrasound, compared to 82%, 36% and 31% in period A. Of the 17 incident cancers in period B, 7 were DCIS and 10 were IC <1 cm and node -ve.
- DISCUSSION:** The greatly improved MRI results in period B indicate the importance of centre experience and suggest that the benefit of MRI is underestimated by previous reports. The outstanding prognosis of the incident cancers in period B strongly suggests that annual MRI surveillance of BRCA mutation carriers will reduce mortality compared to mammography alone.