

**Statement on the Use of Digital Mammography
in the National Breast Screening Programme
BreastScreen Aotearoa**

November 2007

1. The National Screening Unit (NSU) Digital Mammography Policy provides national direction on the use of digital mammography within the national breast screening programme, BreastScreen Aotearoa (BSA). Because digital mammography is an emerging technology, the current policy will be reviewed in 2008/09.
2. The NSU endorses the use of digital mammography for women enrolled in the national breast screening programme, BreastScreen Aotearoa (BSA). This is based on strong evidence within the medical literature^{1,2,3,4,5} that Digital Mammography achieves a diagnostic accuracy in screening that is equivalent to traditional film screen mammography. Digital mammography is used in the National Health Service Breast Screening Programme (NHSBSP) and the European breast screening programmes (e.g. Sweden and Norway).
3. To ensure a national approach to the implementation of digital mammography, the NSU strongly recommends Lead Providers cease further purchase of Film Screen Mammography (FSM) equipment and to replace it with digital mammography equipment. The complete implementation of digital mammography is expected nationally within the next five to seven years, as existing FSM equipment comes to the end of its useful life.
4. Lead Providers and their subcontractors are required to adhere to the existing BSA National Policy and Quality Standards (NP&QS) and the Interim Digital Mammography Standards, where relevant. Further requirements are:
 - All sites using Full Field Digital Mammography must have BSA site accreditation

¹ Skaane P, Young K, Skjennald A. Population-based mammography screening: comparison of screen-film and full-field digital mammography with soft-copy reading- Oslo I study. *Radiology* 2003; 229:877-884.

² Skaane P, Skjennald A. Screen-film versus full-field digital mammography with soft-copy reading: randomised trial in a population based screening program- the Oslo II Study. *Radiology* 2004; 232:197-204.

³ Lewin JM, D'Orsi CJ, Hendrick RE, et al. Comparison of full-field digital mammography with screen-film mammography for cancer detection: results of 4,945 paired examinations. *Radiology* 2001; 218:873-880.

⁴ Lewin JM, D'Orsi CJ, Hendrick RE, et al. Clinical comparison of full-field digital mammography with screen-film mammography for detection of breast cancer: *AJR Am J Roentgenol* 2002; 179:671-677.

⁵ Pisano ED, Gatsonis C, Hendrick E, et al. Diagnostic Performance of Digital versus Film Mammography for Breast-Cancer Screening. *N Engl J Med*. 2005.

- All equipment must comply with the latest DICOM Standard⁶
- All digital mammography images must use lossless compression. Lossy image compression is not permitted for BSA mammograms
- Radiologist workstation monitors for reading mammograms must have a minimum of 5 megapixel quality (2500 x 2000 pixel), 600 cd/m² luminance monitor (either CRT or LCD)
- MRT workstation monitors for checking image quality must be a minimum of 2-3 megapixel quality
- All images used within BSA will comply with Default Display Protocols (DDP) to standardise displayed images
- PACS must integrate with existing PACS used within BSA. The use of DVDs is not recommended as a permanent archiving system. A Picture Archiving and Communication System (PACS) should be integrated with digital mammography systems
- PACS must integrate with the Radiology Information System (RIS) so that the information entered into the RIS forms the modality worklist, reading lists, reporting and assessment lists
- The following digital mammography equipment can be used at this time and are limited to: Sectra Microdose, Siemens Mammomat Novation, GE Senographe 2000D, GE DS, GE Senographe Essential and the Fuji Profect CR System for Mammography. CR and other DM vendor equipment will be considered on a case by case basis
- Where prior films are available, at least one mammography episode i.e. one of the woman's mammography film sets must be digitised and available for reading for comparison
- All primary reading of digitally acquired examinations within BSA must be conducted through soft copy reading. The printing of hard copy films for primary reading is **not** permitted within the programme
- BreastScreen Aotearoa Providers must comply with the BSA interim Digital Mammography Quality Standards (DMQS) requirements for digital mammography as well as complying with vendor specific quality control (QC) standards and equipment testing requirements.

5. An evaluation of the Fuji Profect computerised radiography system has demonstrated that it meets BSA image quality standards. CR imaging has long been established in general radiography and the use of Fuji CR for mammography may provide an affordable and immediate option for both small and large breast screening services in transition to digital mammography.

⁶ DICOM Strategic Document, Version 5.1, December, 2005. <http://medical.nema.org/dicom/geninfo/Strategy.pdf>.