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Radiographer image interpretation & reporting in screening and symptomatic mammography: a survey of current United Kingdom practice.

Lay summary of the project

Successful use of radiographers with image interpretation and reporting skills in symptomatic breast cancer clinics has potential to address medical workforce shortages and improve patient access to diagnostic breast imaging services.

Existing research shows that radiographers (people trained to perform X-ray examinations) are as accurate as radiologists (doctors) at reading (sorting into normal and abnormal) mammograms (breast X-ray images) in breast cancer screening programmes (van den Biggelaar et al 2008). Breast cancer screening programmes usually only include women who do not have signs or symptoms of breast cancer and only women in a specific age range. Other women, and men, who go to their doctor with symptoms that might be due to breast cancer, are referred to hospital 'symptomatic' breast clinics where they might have a mammogram as one of their diagnostic tests. Several universities run courses that educate and train radiographers to read, interpret (decide if a person might have cancer) and report (communicate the result to a doctor) mammograms. We do not know how many students subsequently practice in symptomatic services and if this improves service provision or enhances the patient experience.

This study proposes to survey UK breast imaging services to find out:

- how many radiographers have undertaken mammography film reading / image interpretation / reporting courses;
- how many radiographers are practising their skills in symptomatic services;
- the ways in which such services are being delivered and organised;
- if any radiographers are willing to take part in further research on this subject.

a) Principal aim of the study

This study has the following principal aims:

- to determine the extent to which radiographers in the United Kingdom (UK) participate in mammography image interpretation and reporting in symptomatic breast services;
- to ascertain what training radiographers participating in mammography film reading / image interpretation / reporting have undertaken;
- to identify a suitable population of radiographers who might be approached to participate in further research to evaluate the accuracy, acceptability and impact of mammography image interpretation and reporting in symptomatic breast services.

b) The primary research question for this project is:

To what extent do radiographers in the United Kingdom participate in mammography image interpretation and reporting in symptomatic breast services?

c) Secondary research questions for this project are:

What systems of work are currently in place for radiographers to participate in interpretation and reporting of symptomatic mammography?

What training have radiographers who undertake symptomatic mammography image interpretation and reporting had?

d) Outcomes

This project will allow the research team to describe current practice in radiographer performed mammography image interpretation and reporting (MIIR) in symptomatic breast imaging services. It will also determine the ways in which the specialist knowledge & skills of the trained MIIR workforce are being utilised in this context. Surveys will be used to quantify the current radiography MIIR workforce and describe the organisational Schemes of Work associated with its deployment in symptomatic breast imaging services. The evidence generated will be the first of its kind arising from UK practice and will extend the existing limited body of knowledge on the subject which is emerging in the Netherlands (van den Biggelaar 2009a, 2009b, 2010a, 2010b). The study findings will provide a platform for further investigation of the impact of radiographer reporting on healthcare professionals, healthcare service delivery and on service user experiences and outcomes in symptomatic breast services both in the UK and further afield. This project will help establish a robust evidence base with which to underpin safe and effective Advanced and Consultant radiography practitioner role extension and identify if there is a suitable population of practitioners to make further research on symptomatic mammography image interpretation and reporting by radiographers viable and worthwhile.

e) Review of literature and identification of current gap in knowledge

Innovation in practice is recognised by the Department of Health as a mechanism for realising health service improvement and achieving the highest quality care for patients (DH 2011). The use of non-medical personnel for interpretation of mammograms was first suggested by Hillman et al (1987) in the USA. They showed high levels of diagnostic accuracy equivalent to those of supervising radiologists for a lower (direct) cost. Studies on extending the role of radiographers into film reading (binary sorting into normal and abnormal groups) in the UK NHS breast screening programme (BSP) first appeared in 1996 (Pauli et al 1996) and have subsequently corroborated Hillman's findings of similar performance levels to radiologists (Wivell et al 2003). It has been suggested that radiographer readers help improve cancer detection rates (Duijm et al 2007, van den Biggelaar et al 2008).

There is an emergent body of evidence from van den Biggelaar's group in the Netherlands which explores the use of non-medical personnel (radiographers / breast technologists) for pre-reading (sorting abnormal from possibly abnormal) mammograms in a symptomatic, or clinical, population, in response to radiology workload constraints (van den Biggelaar et al 2009a, 2009b, 2010a, 2010b). To date, there is no published evidence related to UK symptomatic practice, or any study that has looked beyond radiographer involvement in 'film reading' (sorting) into radiographer participation in mammography interpretation (reaching a differential diagnosis and assessing risk that breast cancer is present) and reporting (communicating results to referring clinician).

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