

## **PRIORITY BRIEFING**

The purpose of this briefing paper is to aid Stakeholders in prioritising topics to be taken further by PenCLAHRC as the basis for a specific evaluation or implementation research project. The paper was produced in 2-3 days.

### **Can effective opportunistic case finding of skin cancer, particularly malignant melanoma, be carried out by non-medically trained personnel?**

**Question ID:** 24

**Question type:** Intervention

**Question:** Can effective opportunistic case finding of skin cancer, particularly malignant melanoma, be carried out by non-medically trained personnel?

**Population:** An intervention that enables earlier identification of suspicious lesions (before screening by a GP) will therefore be important for all age ranges. Although, skin cancer is now the most common cause of cancer in young adults aged 15-33.

**Intervention:** The intervention groups could include health professionals such as GPs (controls), practice nurses and physios plus other non-medical groups who may see the public, possibly including health trainers, beauticians, hair dressers, staff in local authority sports centres etc.

An educational programme would teach these groups how to screen for skin cancers by identifying risky features such as irregular edged moles, dark pigmentation etc. Each group could be assessed by using either pictures of skin cancers versus non-malignant skin conditions to determine whether non-medical personnel and non-health professionals could accurately screen for skin cancers. People who screen positive would then be advised to see their GP for diagnosis and possible referral to a dermatologist.

**Control:** General Practitioners- who are usually the front-line health professionals who screen for skin cancers and refer on suspicious lesions to a dermatologist would act as the control group.

**Outcome:** We hope to demonstrate that with adequate training, non-medical personnel in various different health or leisure settings can effectively identify/screen for skin cancers. This would enable earlier detection of suspicious lesions that could then be referred to a GP for a secondary care referral. If successful, training programmes could be rolled out into the wider community. It is hoped that by earlier detection and referral, the mortality rates associated with delayed referrals will reduce and wider awareness would lead to preventative strategies (such as promoting sun block and hats for children in school ) being more readily adopted.

**Skin Cancer:** The three most common skin cancers are basal cell cancer, squamous cell cancer, and melanoma, each of which is named after the type of skin cell from which it arises. Skin cancer generally develops in the epidermis (the outermost layer of skin), so a tumor is usually clearly visible. This makes

most skin cancers detectable in the early stages. Unlike many other cancers only a small minority of those afflicted will actually die of the disease. Skin cancer represents the most commonly diagnosed cancer. Melanoma is less common than basal cell carcinoma and squamous cell carcinoma, but it is the most serious. Most cases are caused by long periods of exposure to the sun.

### **The Health Problem:**

Thousands more Britains die from malignant melanoma (8,100 in the last 5 years) compared with Australia (4,900 in the same time period) despite Australia having almost 2000 more diagnoses of malignant melanoma each year. It is thought that increased awareness has led to earlier diagnosis and treatment so that 90% of malignant melanomas in Australia are curable. Generally, the earlier a tumour is diagnosed the thinner it will be and the better the prognosis. In Australia, skin cancer incidence is falling in those born since 1950 whereas in the UK it is increasing with figures that have quadrupled since 1970. In the UK there are 9,500 new cases of melanoma each year, and 2,300 deaths. It is the most common cancer in the young population (20 – 39 age group). Cornwall and South Devon have the highest prevalence in the UK with over 500 new cases diagnosed each year. It has been estimated that the lifetime risk of developing malignant melanoma is 1 in 91 for men and 1 in 77 for women in the UK. On average, about 20 years of life are lost for each melanoma death. Cancer Research UK state that 'at the moment there is no general screening programme in the UK for malignant melanoma, to examine everyone for abnormal moles. This would take up a great deal of time and money and it would mean that many people would have unnecessary surgery. It does not make sense to screen people who are not at risk of malignant melanoma. So in the UK education programmes have been created to raise awareness of melanoma.

### **Guidelines:**

The most recent guidelines from the British Association of Dermatologists (BAD)(2010) suggest that people with an eight times or higher risk of developing skin cancer (e.g. those with fair skin, with a family history of skin cancer or having many moles) should be closely monitored and/or counselled by a specialist. Little is written regarding guidelines for early diagnosis, particularly outside of primary care.

NICE guidance (2010) mention little about malignant melanoma specifically, and more generally does not supply recommendations for improved identification of this skin cancer. However, it does report that hospital doctors were statistically better at identifying malignant melanomas than GPs.

Cancer Research UK have made a commitment to increase investment in symptom awareness and early diagnosis and lead the National Cancer Research Institute (NCRI) initiative in this area.

### **NHS Priority:** **Regional**

## **SW SHA Priorities framework 2008-11**

- Cancer patients will receive earlier diagnosis

### **Local**

- Strategic outcome 4 of C&IOS PCT is to reduce the number of deaths from cancer by improving prevention, early diagnosis, treatment and long term cancer care for all.
- All localities in the peninsula aim to help people live longer to raise the life expectancy to match the best levels in Europe.
- There are health inequalities with regards to skin cancers in Britain, with the south west peninsula having the highest rates of skin cancer in the UK. The C&IOS Transforming Community Services agenda has highlighted promoting health and wellbeing and reducing health inequalities as the first of six key areas. Thus, a project that can reduce the numbers of skin cancer deaths in the Peninsula meets many of the health priorities set locally.

### **Existing Research:**

#### **Published research**

No research was found that directly investigated the question at the centre of this priority briefing regarding the use of personnel other than GPs to conduct opportunistic melanoma case finding. Two studies were found that looked at using nurses to screen for melanoma<sup>2,3</sup> and one study investigated the use of a new education tool that might have the ability to teach anybody how to check and monitor their moles and identify melanoma<sup>1</sup>. The studies that investigated the use of nurses for screening began from a similar stance as the question of this briefing i.e. can people other than GPs screen for melanoma in opportunistic settings? The results suggest that nurses may be a viable alternative to GPs but the main message is that further research needs to be conducted as the variability in the sensitivity and specificity of detecting significant skin lesions and making referrals would need to be improved. The study investigating the education tool also suggests further research on the tool is needed but it may be useful in a study that is aiming to enable a variety of people to accurately identify melanoma for referral.

#### **Ongoing research**

No on-going research was identified in this area of skin cancer research.

#### **Feasibility:**

Campaigns and networking already exists between Dr Caroline Court - Consultant in Public Health Medicine, C&IOS PCT, Jo Pope - Skin cancer specialist nurse RCHT and Caroline Macrae - Sunsafe co-ordinator, Health promotion dept, C&IOS PCT. Expertise in skin cancers and teaching is therefore available. Contacts have already been made between the skin cancer specialist nurse and practice nurses to determine whether screening for skin cancer

could/should become part of their role.

Dr Alison Curnow (Lead for Clinical Photobiology in Cornwall) has seen the submission; she is in full support of the submission and very happy/keen to help if this topic is prioritised.

Dr David Mole (Specialist in Dental Public Health) has also added support for a collaboration with dentists across the south west as a potential primary care setting in which to undertake opportunistic screening for lesions in the head and neck region since roughly half the population attend a dental practice in any given year and the staff are well placed to undertake these examinations.

### **References:**

1) Chao, L. W., M. Y. Enokihara, et al. (2003). "Telemedicine model for training non-medical persons in the early recognition of melanoma." J Telemed Telecare **9 Suppl 1**: S4-7.

A Web-based educational model, called JUTE, was developed for the early diagnosis of melanoma. It was compared with a control Website composed of information available on the Internet for teaching undergraduate medical students. The JUTE model was designed to allow the student linear navigation of the main topics that were assumed to be important in learning to make a diagnosis. The rate of success in correctly deciding to refer pigmented lesions to a dermatologist was compared among 34 new medical students who were randomly divided into two groups. There was no significant difference between the JUTE and control groups in the pre-test. When comparing the pre- and post-tests, the number of correct decisions increased significantly only in the JUTE group. In the JUTE group there was a slight but significant improvement when comparing decisions about thin melanoma before and after the training. The educational approach chosen for the JUTE Website appears to be useful for teaching the early recognition of melanoma and could be used for larger educational campaigns of skin cancer prevention.

2) Katris, P., R. J. Donovan, et al. (1998). "Nurses screening for skin cancer: an observation study." Aust N Z J Public Health **22**(3 Suppl): 381-3.

Skin cancer rates in Australia are the highest in the world and it is an important cause of mortality and morbidity. Screening is a method of control for skin cancer/melanoma through early diagnosis and prompt referral and treatment. To date, there have been no controlled trials evaluating the impact of screening on morbidity and mortality, and hence insufficient evidence to recommend for or against routine screening for skin cancer/melanoma by primary care providers. Australian health authorities have called for studies that investigate the viability of using trained observers apart from medical practitioners--such as nurses, pharmacists and physiotherapists--in opportunistic screening for skin cancer in populations that have a high prevalence of these skin cancers, largely on the basis of cost arguments. We conducted a double blind observation screening study comparing the performance of nurses to those plastic surgeons participating in a skin cancer screening program. The role of the nurse in this

program was not to diagnose skin cancer, but to not miss lesions that required further specialist examination. Measurements were recorded for 256 screenees. Plastic surgeons issued 77 (30%) individual referrals for lesions suspicious of being skin cancer. Nurse observations noted 73 (95%) of these 77 cases. The case for the pre-screening of large populations for skin/cancer by trained nurses warrants further attention.

3) Oliveria, S. A., K. S. Nehal, et al. (2001). "Using nurse practitioners for skin cancer screening: a pilot study." Am J Prev Med **21**(3): 214-7.

**BACKGROUND:** Skin cancer screening has the potential to detect early precancerous lesions and may ultimately be important in reducing melanoma mortality. The purpose of this study was to evaluate the ability of trained nurse practitioners to accurately identify suspicious lesions in a clinical setting.

**METHODS:** We identified five nurse practitioners who had no previous experience in evaluating skin lesions. Each nurse practitioner participated in a training program for skin cancer detection consisting of a workshop, clinical apprenticeship, and didactic lectures. **RESULTS:** Evaluation of nurse practitioner competency involved three assessments. First, the nurse practitioner's ability to distinguish benign and malignant lesions was assessed using clinical color slides. The sensitivity of all five nurse practitioners to refer benign and malignant lesions for dermatologic follow-up based on the slides was 100%, whereas the specificity ranged from 53% to 100%. Second, each nurse practitioner evaluated approximately 25 different patients along with a single dermatologist. The nurse practitioner's ability to correctly refer patients with suspicious lesions for dermatologic follow-up was determined based on the dermatologist's assessment of need for referral. Results suggested a referral sensitivity and specificity ranging from 67% to 100% and 62% to 100%, respectively. In the final clinical assessment, 30 patients were independently examined by two dermatologists and four nurse practitioners. Using the consensus clinical diagnosis of the dermatologists as the gold standard, the nurse practitioner's sensitivity for detecting significant skin cancer lesions ranged from 50% to 100% and the detection specificity was 99% to 100%. **CONCLUSIONS:** These preliminary results have important implications for skin cancer screening efforts and suggest that nurse practitioners can be trained to accurately identify and triage suspicious lesions.