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A SERVICE EVALUATION OF A NEW NURSE CONSULTANT-LED BASAL CELL CARCINOMA CLINIC

Linda Mullen, Colin Jones

ABSTRACT

Aim To evaluate a new nurse consultant-led basal cell carcinoma service at Liverpool Dermatology Outpatients Department. **Background** In 2012, a new post of Nurse Consultant in Skin Cancer was appointed for dermatology at the Royal Liverpool & Broadgreen University Hospital in order to relieve the significant pressure experienced on the skin cancer service. In addition to nurse consultant-led two-week rule clinics, there was a clear need for a quick access specialised pathway for those patients suspected of basal cell carcinoma. A dedicated nurse consultant-led case study design was used. Following Research Ethics Committee approval, data were collected from 12 consecutive new basal cell carcinoma clinics in Liverpool 2012. Information was collected on 118 patients referred by their GP with suspected basal cell carcinoma. **Findings** The study concluded that the nurse consultant-led basal cell carcinoma clinic provides a coherent, safe, specialist service, encompassing surgical assessment, management and treatment to ensure a streamlined patient-focused pathway. Management of BCC requires a patient-centred approach to care and all patients requiring treatment were offered informed choices.

KEY WORDS

Service evaluation
Basal cell carcinoma
Malignant melanoma
Squamous cell carcinoma
Nurse consultant

Introduction, background and context

Liverpool is experiencing higher than national average numbers of skin cancer cases, leading to pressure on the two-week rule skin cancer service.

The dramatic rise of skin cancer cases is partly down to the huge increase in affordable package holidays in hot climates, a boom in sun bed use

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and the fashion for a 'healthy' tan. Since the 1970s, malignant melanoma skin cancer rates in the UK have increased more rapidly than any of today's most common cancers (Cancer Research UK, 2013).

Data for 2013 shows a 24% increase in skin cancer referrals into Liverpool Dermatology Clinic compared to 2012, in keeping with the Skin Cancer Registry prediction of a year-on-year increase in skin cancer incidence. (Figure 2.)

Excessive sun bed use, particularly by young people, has contributed to the raised incidence locally. Alarming, data for Liverpool over the previous 10-year period shows a 129% increase in females diagnosed with skin cancer; which is double the national average (England = +63%) (Skin Cancer Registry, 2013).

Enhancing workforce efficiency

In 2012, a post of Nurse Consultant in Skin Cancer was appointed at the dermatology outpatients department, Broadgreen Hospital, to provide three additional nurse consultant-led two-week rule skin cancer clinics to relieve



Figure 1. Basal cell carcinoma.

the significant pressure experienced on the service.

Nurse consultants (NC) are empowered to improve service delivery using expertise in practice underpinning each of the other core functions of the role, with quality and patients' experience as a priority (Gerrish et al, 2011; Kennedy et al, 2011).

Drawing on the lead author's 12 years of experience and expert practice in skin cancer, the NC role allowed a way forward to enhance the current skin cancer service offered to Liverpool.

Literature review

The incidence of all types of skin cancer

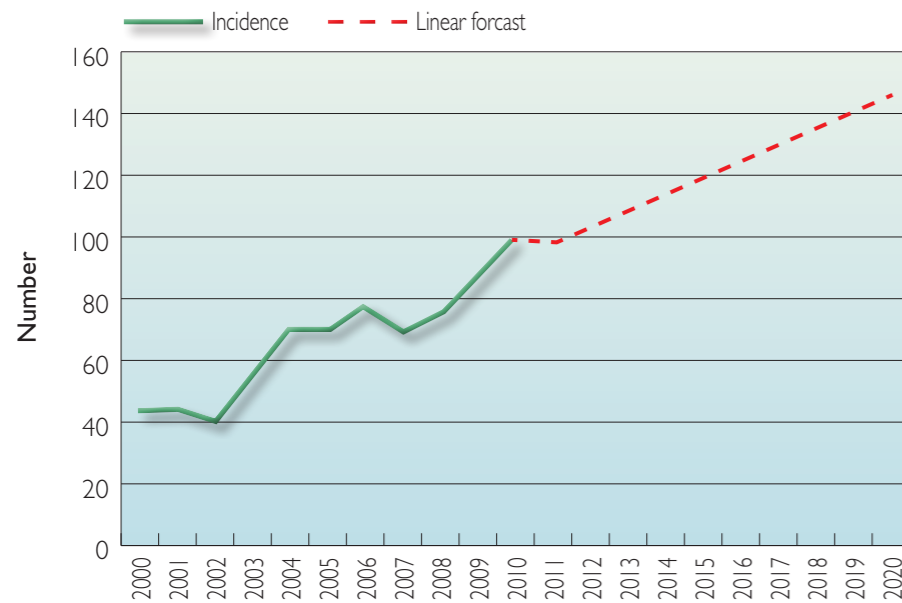


Figure 2. Skin Cancer Registry figures (2013) show a year-on-year increase in melanoma skin cancer for Liverpool. (Supplied by clinical data department, Royal Liverpool Hospital.)

continues to increase dramatically in the UK (National Cancer Intelligence Network, 2008; Cancer Research UK, 2013). However, the focus of secondary care has needed to be on the more aggressive malignant melanoma (MM) and squamous cell carcinoma (SCC) types of skin cancer, as these need to be assessed under the NHS two-week wait (DoH, 2000, NHS Cancer Plan). The inevitable consequence of this focus on the two-week rule for cancers is that resources have, over many years, been diverted away from the assessment, diagnosis and treatment of basal cell carcinoma (BCC) (Figure 1), which is the most common form of skin cancer (Cancer Research UK, 2013).

Basal cell carcinoma: the hidden epidemic?

BCC has a reputation in both primary and secondary care of being an indolent form of skin cancer. This ignores the impact that this diagnosis has on the individual, especially when they recognise that treatment can result in scarring to visible areas of the body (Caddick et al, 2012).

The incidence of BCC in the under-50s has increased dramatically. A high prevalence of fair skin in the UK and increased life expectancy mean that more people face the risk of further BCCs occurring. Following development of a BCC, patients are at significantly

increased risk of developing subsequent BCCs at other sites (Telfer, 2008). With timely recognition and treatment the outlook is usually excellent (Baxter et al, 2012). However, failure to diagnose early or to provide adequate treatment can result in tumours that are locally destructive and that can progress to destroy important anatomical structures, such as the nose, eye, ear and lip (Rubin et al, 2005).

Levell et al (2013) estimate that in the UK BCC is nearly as common as all other cancers in all other body sites combined. Significantly, Bath-Hextall et al (2007) conducted a large UK study and found that the incidence of BCC is continuing to rise on a yearly basis, particularly in ages 30-39, which may suggest a cohort effect of increasing ultraviolet exposure in successive generations.

BCCs can be notoriously difficult to diagnose, especially in primary care. They come into a 'grey' diagnostic area of suspicious lesions that the GP recognises will not require a two-week rule appointment, yet would necessitate an urgent (non two-week rule) referral. Those patients not referred through the two-week rule rapid lesion clinic faced an almost 18-week wait to see a dermatologist in a general dermatology clinic and consequently many

inappropriate referrals of BCC were coming into the two-week rule clinics. There was a clear need for a quick access specialised pathway for those patients suspected of BCC. Therefore, a dedicated nurse consultant-led BCC service was implemented by the lead author in 2012.

Method

Aim and research question

The purpose of the study is to evaluate the new nurse consultant-led BCC service.

A case study approach (Yin, 1994), using a multisource design of qualitative and quantitative data to focus on the complexity of the nurse consultant role and evaluate the impact on clinical outcome, was used. Patient testimonies are explored to validate the findings. Stevenson et al (2011) and Lalor et al (2013) support the concept that demonstrating an impact on patient outcomes is a complex and difficult task.

Sample

A purposive sample of 118 patients was selected (Hicks, 1990). In an attempt to minimise selection bias, the sample included all patients that attended the nurse consultant-led BCC clinic over 12 consecutive weekly clinics. (120 new clinic referrals booked in to the template; however, 2 patients did not attend.)

All clinical referral letters from the GP showed that the lesion in question was suspicious of a BCC. All patients attend for consultation and are treated in an outpatient setting.

Data collection

A proforma was designed to include evaluation criteria. A full skin examination was performed for each patient attending the clinic and the data were collected. For those additional lesions identified (lesion 2) by the nurse consultant, diagnosis and treatment given were also coded and added to the SPSS20 database.

Further data collected for this evaluation included: type of treatment offered and consented by each patient.

If surgery was performed, data were collected on type of surgery and the clinician who performed the surgery. Follow-up data and other outcome data were collected.

Quantitative data were collected on an individual proforma for each patient. Qualitative patient testimonies were collected by the nurse specialist telephone and follow-up clinics.

Ethical considerations

A letter of approval for the BCC Service Evaluation was granted by the Hospital Trust Research Ethics Clinical Audit department. At all times confidentiality and patient identity were protected.

Data analysis

Quantitative data were imported into the SPSS20 database and analysed using descriptive and inferential statistics, and comparison of means. Descriptive univariate analysis was conducted using frequency tables.

Bi-variate analysis and cross-tabulation was used to explore the association between two variables.

Results (Figure 3)

Waiting time for the initial appointment was approximately 6 weeks. Twelve consecutive clinics showed that 118 patients attended. Males n=57, females n=61.

Age of patients ranged from youngest, aged 25, to oldest, aged 94. The mean age was 65 years (Std Dev 14.54 years).

Patients in the 66-75 age group: n=40 (33.9%).

24.4% of patients attending were under the age of 55 years.

Primary lesions (Figure 4)

Of the 118 patient referrals to the clinic with suspected BCC, n=68 (57.6%) patients were shown to have a BCC. Pre-cancerous lesions were diagnosed in n=21 (17.8% of patients). Actinic keratosis (AK) n=16 patients and Bowen's disease n=5.

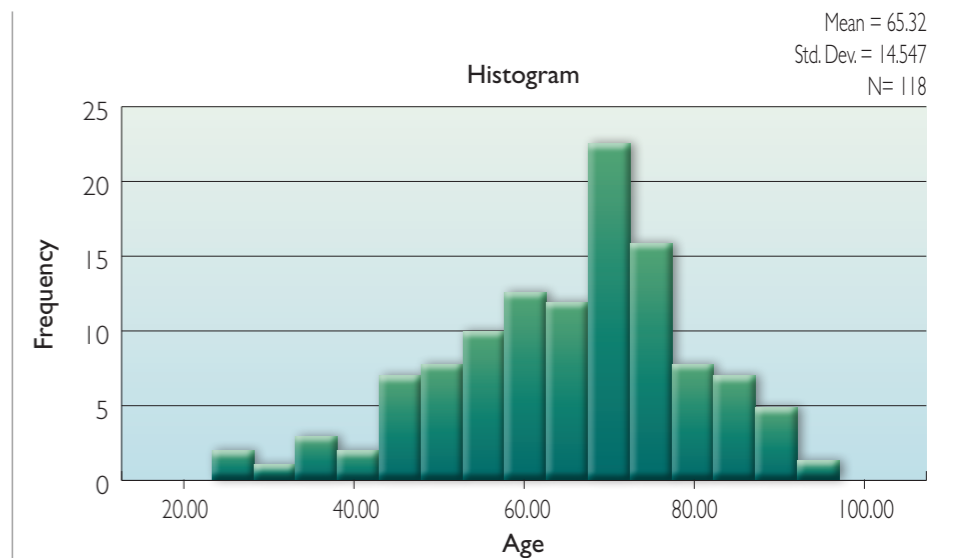


Figure 3. Histogram to show the age distribution of patients referred to the BCC clinic.

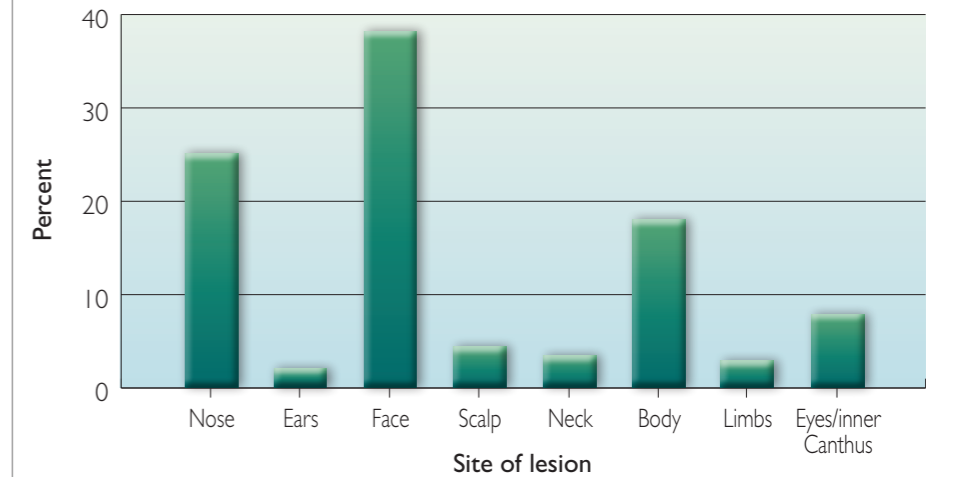


Figure 4. Bar chart showing body site of lesions referred to the BCC clinic.

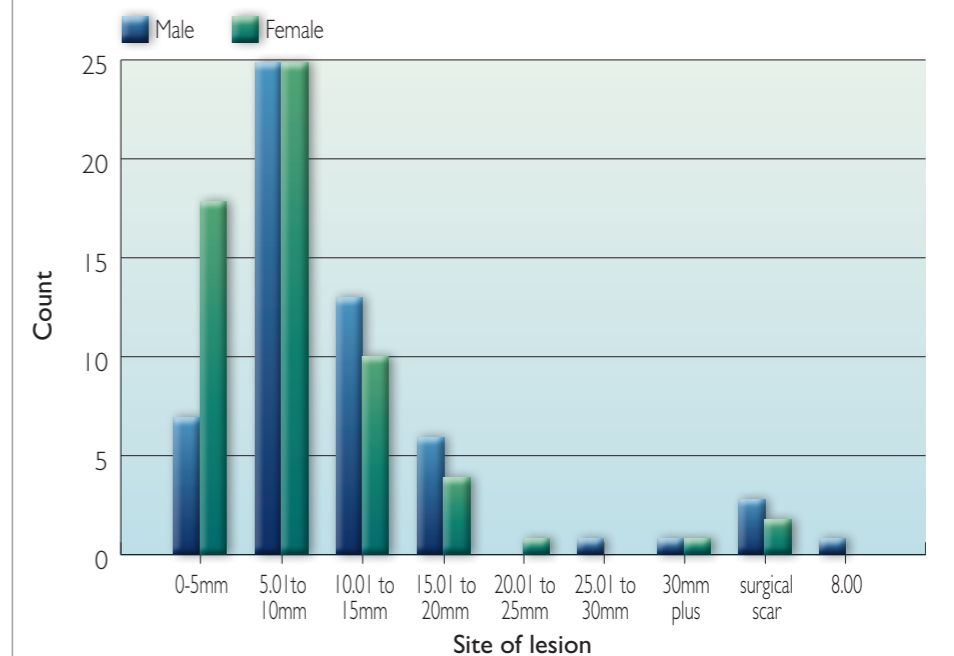


Figure 5. Bar chart comparing gender and size of lesion at consultation.

The most common site for lesions presenting was face (n=45; 38.1%) followed by lesions to the nose (n=29; 24.6%).

Size of lesions (Figure 5)

A higher number of woman were referred to the clinic with lesions smaller than 5mm (n=18), compared to males (n=7).

Invasive cancers found

The evaluation showed that 4 patient referrals into the BCC clinic were found to have invasive skin cancers and a Rapid Lesion Access — two-week rule clinic would have been a more appropriate method of referral.

n=1 malignant melanoma skin cancer and n=3 (2.5%) squamous cell carcinoma.

Further unsuspected lesions identified

A full skin examination was carried out on each patient. Further examination found lesions not previously mentioned by the patient. Additional unsuspected lesions were found in 29.1% of patients.

It was found that 15.4 % of patients had further BCCs, one of which was a large BCC to the back and this required referral to the plastic surgeons.

One patient was found to have a malignant melanoma and one patient had a squamous cell carcinoma.

Therefore, including primary lesion and incidental finding, 3 patients were diagnosed with invasive malignant melanoma skin cancer and 3 patients were found to have squamous cell carcinomas.

Local GP surgery service

Referrals into the BCC clinic also included patients that had had skin surgery under the care of the local GP surgery service. Data were collected on 7 referrals to show that:

- ▶▶ 1 patient had a BCC completely excised by the GP;
- ▶▶ 3 (2.5%) patient referrals showed scars of incompletely excised BCC;
- ▶▶ 3 (2.5%) patients had punch biopsy-proven BCCs.

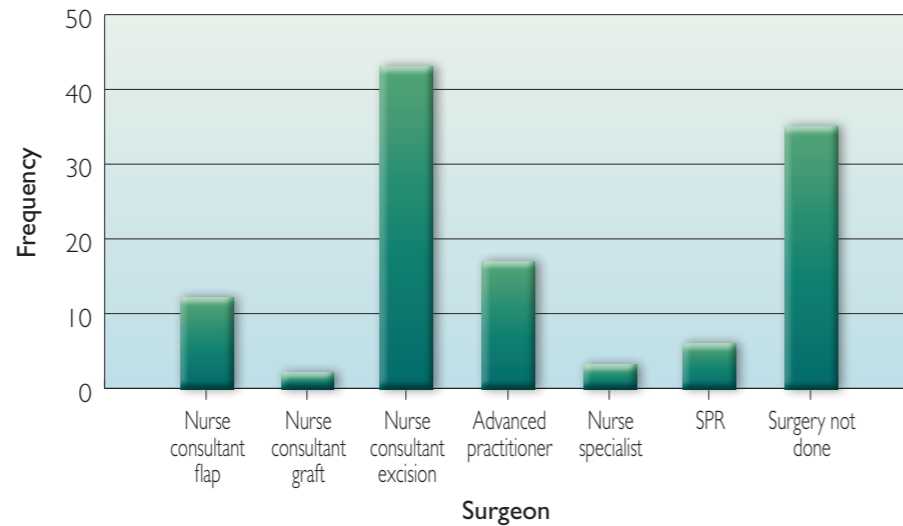


Figure 6. Bar chart showing procedures performed by each clinician.

Figure 7.

Table to show treatment given to patients.

		Treatment of lesion			
	Valid	Frequency	Percent	Valid Percent	Cumulative Percent
	surgery	66	55.9	55.9	55.9
	punch	10	8.5	8.5	64.4
	curettage	7	5.9	5.9	70.3
	cryotherapy	10	8.5	8.5	78.8
	aldara/efudix	9	7.6	7.6	86.4
	none	16	13.6	13.6	100.0
	Total	118	100.0	100.0	

Treatments (Figures 6, 7 and 8)

Data showed that n=83 (70.3%) of the 118 patients required surgical treatment of a lesion.

Of all the patients who required a surgical procedure, the nurse consultant operated on n=57 (68.7%) of these patients.

Those patients not requiring skin surgery (n=35, 29.7%) were coded as cryotherapy, Aldara/Efudix topical treatment or no treatment given.

Surgical outcome

Only one patient (n=1) who had surgery for excision of skin cancer showed a close lateral excision margin, and this patient opted for observational follow-up in the specialist nurse clinic.

All other patients who had surgery showed complete excision of the skin cancer with no further treatment required in line with British Association of Dermatologists Guidelines (BAD, 2008) and these patients were discharged from our care where appropriate.

Follow-up arrangements

Outcome and follow-up arrangements of other patients who were diagnosed with skin cancer and required treatment showed that only a small number were referred to another Trust for specialist treatment: oculoplastic surgery (n=3, 2.5%), plastic surgery (n=3, 2.5%), radiotherapy n=2 (1.7%).

Two patients out of the 118 were referred to a dermatologist within

Figure 8.

Table showing the surgeon, number, site and surgery performed.

		Site of lesion								
	Surgeon	nose	ear	face	scalp	neck	body	limbs	eye canthus	Total
	Nurse Consultant flap	5	0	6	0	0	1	0	0	12
	Nurse Consultant graft	2	0	0	0	0	0	0	0	2
	Nurse Consultant excision	14	0	15	2	2	6	1	3	43
	Nurse Practitioner	0	0	8	1	0	7	1	0	17
	Specialist Registrar	0	0	3	0	0	3	0	0	6
	Surgery not done	8	2	12	1	2	3	1	6	35
	Total	29	2	45	5	4	21	3	9	118

the department for incidental severe psoriasis. (n=2, 1.7%).

In the 12 clinics evaluated, 83.3% of patients seen were discharged by a nurse specialist-led follow-up clinic or telephone clinic follow-up after treatment. 16.2% required further follow-up appointments for management of topical treatment or further monitoring of chronic pre-cancerous conditions with the CNS or nurse consultant. One patient died soon after the initial referral from an unrelated condition and no treatment was carried out.

In summary, a streamlined service was provided for 89% (n=105) of patients totally within our own Liverpool Dermatology outpatients department. The remaining patients were referred onto other specialist services in other Trusts outside Liverpool.

Patient satisfaction feedback

Qualitative findings from the study reveal a key theme being that the nurse consultant role is not fully understood. Notwithstanding this, patient comments illustrate that a comprehensive service is being delivered.

Many patients commented positively regarding the lead author's role and findings highlight that the patients are pleasantly surprised that the care given

from initial consultation to diagnosis and subsequent treatment is delivered entirely by a nurse consultant within this dedicated clinic.

Examples of patient testimonies

"...I felt very reassured throughout and I am very happy with the scar"

"...found a more serious skin cancer; I was treated very quickly"

"...this is a much better service than last time, [when] I waited months and was then told by the doctor that she couldn't do the operation, so then I had to wait another 2 months to go on a different list for the operation"

"...I felt confident about the treatments given... everything was explained carefully"

Discussion

This section reviews the findings of the study in the context of present literature. Unusual or unexpected findings will be discussed and theoretical propositions will be made from the data.

This study found that more than double the number of females compared to males presented with lesions smaller than 5mm. One explanation could be that females in this group have a higher health self-awareness leading to early detection. Females may access GP services

more readily than males. This is a valuable process as early detection improves outcome. Delay in diagnosis can lead to an increase in the size of lesions, which may decrease the response to treatment, making more complex procedures necessary. This has major implications for patient safety. Optimising early diagnosis and management is essential (NICE, 2006).

This evidence can be used to support health education and promote early detection in males.

Benefits of the service

This evaluation has demonstrated that the nurse consultant-led basal cell carcinoma clinic provides a safe, specialist service, encompassing surgical assessment, management and treatment to ensure a streamlined patient-focused pathway. Managing BCC requires a holistic approach to care and all patients requiring treatment were offered informed choices for treatment.

Safety and equity of access to care for patients is essential (NICE, 2006).

Findings show that the BCC clinic has a high turnover of patients, with 83.3% of patients seen in the study discharged after assessment and treatment, and follow-up and information provided by nurse specialists supporting this service.

The service has shown to be efficient and cost-effective. The patient caseload and care delivered are equivalent to a medical consultant, yet the funding required is less. This service offers an extra lesions clinic, which therefore reduces pressure on the expensive two-week rule service and that also reduces the risk of patients with a suspected BCC waiting for a general routine appointment.

Urgent cases identified in the BCC clinic, some of which are incidental findings, are escalated through the service if necessary. Cases of high-risk BCCs are also discussed at our multidisciplinary skin cancer meeting.

Four patients who were referred with suspected BCC were actually diagnosed with invasive skin cancers. This demonstrates the difficulty of diagnostic uncertainty in primary care and hence the need for an urgent specialist service dedicated to lesion assessment. As with all aspects of the nurse consultant role, the BCC clinic provides an excellent training base for lesion recognition, surgery and dermoscopy training for GPs and Trust staff and also provides health education to patients.

The role has evolved in response to the needs of the population, organisation and of the healthcare team. Mitchell et al (2010) also found evidence of personal investment of knowledge and time spent engaging with other disciplines with the intention of improving service delivery and, by so doing, patient outcomes.

Organisational influence has a major impact on the role of the nurse consultant regardless of their field of speciality. Woodward et al (2005) and Stevenson et al (2011) found that achievement was dependent on support for the role.

In addition to the weekly BCC clinic, the lead author also has responsibility for her own patient caseload in three nurse consultant-led two-week rule clinics per week and three surgical lists.

The lead author is therefore in an ideal position to recognise the importance of integrating the BCC clinic into the existing cancer service. Unfortunately, this BCC clinic is run autonomously by the nurse consultant without support and cross-cover from other clinicians. There is a definite need to integrate this clinic into the medical consultants' clinics and hence ensure its sustainability.

Limitation of the study

The case study, with its emphasis on multiple sources of evidence, may be criticised for demonstrating a less robust research approach. Sample size was restricted to 118, however the reader is reminded that there was no intention to make any generalisations from the study. The intention of the study was to

evaluate service and to generate future research questions.

Conclusion and recommendations

The evaluation of this new basal cell carcinoma service demonstrates that a coherent pathway of care is delivered. Evidence shows good surgical outcomes and patient satisfaction.

Direct consultation by the nurse consultant with experienced preoperative assessment reduces the risk of error and inconvenience to the patient. This approach also reduces unnecessary biopsies of lesions by junior doctors and improves timelines for complete treatment.

Now that the service is well known and established, the waiting time for first consultations has increased, however this is offset by there being only a two-week wait for surgery with the nurse consultant after initial assessment.

Recommendations from this evaluation

Extra BCC clinics should be provided to deal with capacity issues. This would need proper resourcing and integration into the existing skin cancer service.

It is also recommended that other dermatology centres consider appointments of Nurse Consultants in Skin Cancer to manage the predicted rise in skin cancer incidence in the UK. **DN**

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