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Short Communication

The Recovery of Skin Cancer Services Following the COVID-19 Pandemic, Using Combined Speciality Clinics to Decrease Waiting Times and Improve Cost Efficiency

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The unprecedented COVID-19 pandemic continues to have significant ramifications for non-urgent medical treatment and cancer care globally. Provision of healthcare for non-communicable disease has been dramatically curtailed across the world, in order to redirect resources in a bid to gain control of the coronavirus. There are multiple reports internationally of significant reductions in urgent cancer referrals [1-4]. In England, patients diagnosed with a stage I primary fell for all types of cancer in the first 4 months of the pandemic compared to pre-pandemic levels (March to June 2019 vs 2020; 18400 vs 12400), equating to a drop of approximately 1500 people per month [5]. Skin cancer primaries are amongst the most impacted¹, as by September 2020 the estimated number of malignant cancer diagnoses had reached 95% of pre-pandemic activity in all groups except non-melanoma skin cancer [5].

A Canadian study examined the pandemic's influence on skin biopsies and demonstrated a precipitous drop to just 15% of expected biopsy numbers compared to the same period in the year prior to the pandemic [4]. Furthermore, the elderly, females and patients living in areas of greater socioeconomic deprivation were disproportionately affected and less likely to attend for skin biopsies when suspicion of cutaneous malignancy was present [4]. Whilst substantial improvements in biopsy rates have been noted, it is expected that a large backlog of cases will still remain [4]. Diagnostic delay attributed to the pandemic has led to increased Breslow thickness in primary melanomas in Italy [6]. The knock-on effects to cancer care cannot be

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overstated and are likely to be further compounded by increased workloads coupled with global staff shortages in Dermatologists [7-9]. Furthermore, as the World Health Organisation calls upon countries to find innovative ways to ensure other services can continue during the fight against the coronavirus, health providers are being stretched [11]. The cost of COVID-19 has pushed the budget of the National Health Service (NHS) in England alone £5.1 billion above its pre-COVID-19 budget in the first four months of the financial year [10].

In the United Kingdom (UK) skin cancer referrals may be made to either Plastic surgery or Dermatology depending on the services provided by the local Clinical Commissioning Groups (CCGs), for an appointment with either of these tertiary specialists within 2 weeks. In 2019, one UK tertiary centre adopted a collaborative approach to 2-week-wait (2 ww) skin cancer clinics by providing joint Plastic surgery and Dermatology 2 ww clinics in addition to the single speciality clinics. The aim was to improve the efficiency of the patient journey by reducing overall attendances to hospital. We compared the outcomes of these combined clinics with single speciality clinics and reviewed the financial incentives to determine whether, in the aftermath of COVID-19, a combined speciality approach should be adopted more widely by institutions where possible, to help manage the backlog of skin cancer patients and the ongoing needs of the population going forward.

This retrospective analysis compared 2 ww skin cancer clinics run jointly by Dermatology and Plastic surgery with single speciality Plastic surgery and Dermatology 2 ww clinics at a single UK tertiary centre across the same 3-month period (May-July) in 2018 and 2019. Data was collected and analysed from electronic patient and clinic records.

A total of 283 patients were reviewed in the same 3-month period in 2018 and 2019, (n=53 in six Plastic surgery clinics (Plas), n=158 in 12 Dermatology clinics (Derm), n=72 in four joint clinics). Patient demographics were similar across all clinics. The highest average number of patients per clinic were seen in joint speciality clinics (n=18.0 vs Derm n=12.1, Plas n= 8.8). Joint speciality clinics demonstrated a comparable average number of hospital attendances when compared to Plastic surgery clinics (n=1.51 vs Plas n=1.51), but fewer attendances compared to Dermatology clinics (n=1.95). Average time from referral to surgery decreased in patients attending joint clinics with suspected Squamous Cell Carcinoma (SCC) or melanoma (MM), compared to those attending single speciality clinics (29.8 vs 37.8 days (median 14 vs 40 days).

The proportion of patients listed for surgery was lowest in joint speciality clinics when considered against the combined total of patients listed for surgery from the single speciality clinics, although this failed to reach statistical significance (41.7% vs 48.3%, X² n=30/42 vs 102/210, p=0.31). More patients were discharged from the joint clinics on first presentation, 47.2% vs 39.9%, X²(n=34/72 vs 79/198, p=0.28). Of those patients requiring simple excisional

biopsies, 42.9% were performed on the same day in clinic in joint speciality clinics compared to a combined mean of 18% across the individual clinics X2 ($n=9/21$ vs $n=18/84$, $p=0.14$).

Increasing numbers of patients undergoing same day surgical intervention also had cost saving implications for the trust. UK hospitals may be able to charge a ‘tariff’ to local CCGs for services provided. Our analysis shows that joint 2 ww tariffs allow the hospital to ‘charge’ up to £69.94 more per patient for a new consultation and £13.19 for follow up appointments when compared to single speciality clinics

As well as attracting a higher tariff per patient, the cost of treatment to the healthcare provider may be dramatically reduced by employing joint speciality clinics. We followed 3 patients’ treatment, using clinical coding and length of stay to determine differences in the cost of their management to the trust. Patient A attended the Plastic surgery clinic with a possible Basal Cell Carcinoma (BCC) on the back. They attended for excisional biopsy and direct closure on a separate date as a day case procedure under local anaesthetic (LADC). The total length of stay for their treatment was 280 minutes at an estimated cost to the trust of £1,019. Patient B attended the Dermatology clinic with a possible SCC to the lip. They were subsequently referred to Plastic surgery due to the cosmetic sensitivity of the area and seen in a second clinic before attending on a third date for an excisional biopsy and direct closure as LADC. Their total length of stay was 195 minutes and treatment cost to the trust was £2,873. Patient C attended a combined speciality clinic with a possible lower lip SCC. They were reviewed by both clinicians and underwent LADC excision biopsy and direct closure in the clinic procedure room all at the same attendance. They have an estimated cost to the trust of £342.

Prior to COVID-19, skin cancer referral numbers to our tertiary centre had increased by over 300% across five years (3004 in 2014 to 9447 in 2019), a trend which anecdotally is experienced globally. We have demonstrated that combined Dermatology and Plastic surgery 2 ww clinics may improve the efficiency of cancer care by increasing patient numbers seen per clinic, reducing numbers of patients undergoing surgery and increasing discharges from services at first presentation. Consequently, overall attendances to hospital and patient numbers added to already ballooning surgical waiting lists may be reduced. One of the biggest achievements in our cancer care provision is reducing time from referral to surgery in those patients requiring further intervention. Simultaneous contribution from both specialities allows us to streamline inter-speciality referrals, ensuring prompt and definitive management plans of lesions in cosmetically sensitive areas or in which there is diagnostic uncertainty. The shared decision making between specialities may empower us as clinicians to advocate for earlier discharge or list fewer equivocal lesions for surgery as well as expediting surgical management. This is of particular benefit to patients who may struggle to make multiple appointments, particularly the elderly, those who have care responsibilities or patients from lower income families that may struggle with travel costs and whom have been shown to have

been disproportionally affected in the management of skin cancer as a consequence of the pandemic [4].

Rising new referral numbers mean that an average enhanced tariff of nearly £70 per patient in clinics that can see more patients per session is a significant financial incentive to drive more joint speciality cancer care. Whilst we acknowledge this model may not be generalisable to other healthcare systems and that local populations, health economics and procedures performed as standard vary from one hospital to another, as well as the clinical benefits there are undoubtedly financial incentives to all publicly funded healthcare models by increasing clinic capacity for new referrals whilst reducing overall numbers of attendances and length of stay per patient. Furthermore, if fewer lesions are booked for surgical intervention and more patients are discharged from first presentation, healthcare institutions not only face reducing pressures on waiting list but patients avoid unnecessary surgery and angst surrounding the uncertainty of a diagnosis is reduced.

We believe these results to be generalisable to any tertiary centre where both plastic surgery and dermatology services are run. Our results support the limited literature available with regards multi-disciplinary skin cancer clinics increasing clinic capacity for new referrals, as well as McLaughlin's work on 'see and treat' clinics reducing the time from referral to treatment [12,13]. However, we have added to the discussion by demonstrating that with combined approach we can expediate surgical intervention or discharge from services when appropriate, thus reducing attendances and driving down associated costs as well as waiting times which are even more relevant in the recovery of skin cancer services in the aftermath of COVID-19.

Conflict of Interest

There is no conflict of interest to declare.

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