

# The efficiency and quality of the care pathway for adult patients being referred to the East Lancashire and Blackburn with Darwen Oral Surgery Services

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## Key points

The Primary Care Oral Surgery Service provides an efficient service in Lancashire. Of the patients, 92% are seen and treated with eight weeks of referral.

The use of a peer group triage provides an effective method of triaging patients to the correct destination.

The migration of the Oral Surgery Service into primary care is cost effective but there have been no cost savings.

**Objective** To evaluate the quality of the care pathway for adult patients being referred to the East Lancashire Blackburn with Darwen Oral Surgery Service using the referral management system between 2013 and 2014. **Results** In the 2013–14 financial year, of the 5,285 referrals that were made to the Oral Surgery Service, 1,962 (37%) were directed to a primary care location for management. After being referred to a primary care location, 92% of patients had been seen within eight weeks. In total, £232,320 was paid to the providers for their service. **Conclusion** The East Lancashire Blackburn with Darwen Oral Surgery Services delivered in primary care was found to be effective, with a good standard of quality care. There is ease of access in the community, and reduced waiting times for treatment. It is cost effective with a decreased spend to secondary care. However, there were no cost savings to the commissioners, as overall secondary care activity has not reduced.

## Introduction

In 2013, NHS England became responsible for the commissioning of all NHS dental services in England, delivered in both primary and secondary care.<sup>1,2</sup> All care pathways are being reviewed and enhanced to ensure they are fit for purpose for today's and tomorrow's needs. The document 'Securing excellence in commissioning NHS dental services' was published by the NHS Commissioning Board in 2013 to provide a framework on how dental services are to function.<sup>3</sup> Following this the 'Guide to the commissioning of oral surgery and oral medicine' was published by NHS England in 2014, setting out the standards on how an oral surgery service in primary care should function.<sup>4</sup> This may represent a positive step

for patients as treatment may be delivered in a more timely and accessible way. A service provided in primary care would be 'local' and likely to remove the need to travel large distances, thus reducing cost. In a secondary care location, patients may have lengthy waits before their consultation, and subsequently for any needed treatment to be provided. The Oral Surgery Service (OSS) is an example of a service that was effectively migrated from a secondary care location into primary care. This started in a few locations in around England from 2006.

There have been only five published studies that have considered oral surgery services in primary care.<sup>5–9</sup> These are from several regions in the UK. All of which have advocated that there is a need for an oral surgery service in primary care and that it is able to function.

The East Lancashire & Blackburn with Darwen Oral Surgery Service (ELBwD OSS) was established in 2012. The service pathway for ELBwD OSS utilised the Referral Management Centre (RMC) for receiving and managing referrals. The service has been subject to the strategic planning and procurement aspects of the commissioning

cycle. The purpose of this study is to complete the commission cycle by providing an evaluation and monitoring of the service. This study has assessed the quality of the care pathway for adult patients being referred to the ELBwD OSS using a local RMC and paper-based clinical triage.

This is the sixth study that has analysed oral surgery services in primary care. It must be noted that since 2016 the work of the RMC, relating to oral surgery referrals is now being undertaken by a remote referral management service that is now paperless and web-based.

## Aim

To overview the Oral Surgery Service in East Lancashire.

## Objectives

1. Provide an analysis of the service activity provided by the OSS in primary care
2. Describe factors that produce innovations and inefficiencies of the service
3. Provide recommendations to improve the OSS pathway.

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Refereed Paper. Accepted 7 August 2018  
 DOI: 10.1038/sj.bdj.2019.96

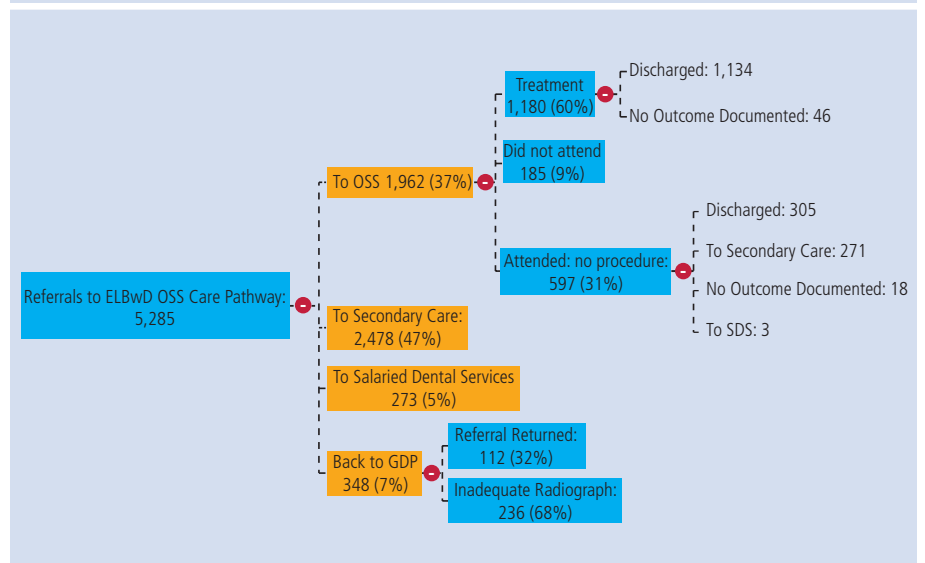
## Demographics and service setup

Lancashire has a population of approximately 1,450,000 people.<sup>10</sup> There are 773 registered general dental practitioners (GDPs) in Lancashire. This equates to 52.7 GDPs per 100,000 patients. In England the average is 50.2 (43.3–59.5).<sup>11</sup> The local authority footprints of East Lancashire and Blackburn with Darwen (ELBwD) serve a population of 531,000 with 83 dental practices.

A procurement exercise was appropriately advertised seeking applications from NHS dental providers who might wish to include OSS services in a local practice. The procurement exercise included an accreditation process which involved named performers submitting evidence of oral surgery skills and letters of support from an oral and maxillofacial consultant. Proposed named performers did not necessarily have to be on the General Dental Council's specialist list in oral surgery. A business case including the treatment pathway was required to be presented to a panel representing the stakeholders. There was an inspection of the premises where the service was planned to take place. Finally a simulated practical skills session is organised. Prospective performers were required to perform a surgical extraction on a pig's head and a soft tissue biopsy from the pig's oral cavity.<sup>12</sup> This process was organised with equality and diversity in mind. Alternative surgical practical skills tests were available if, for whatever reason, the use of a pig's head was not appropriate. Regardless of qualification or experience of the prospective performers applying, they all went through the above accreditation process.

Between 2012 and 2013 the OSS was provided by accredited performers at five locations in the ELBwD area. The OSS performers provide the triage service as part of their contract. The triage process occurs on a weekly block rota. Each day for their week the OSS performer will receive referrals for triaging. Approximately, there are 15–30 referrals sent to the triaging performer per day. The OSS performer used their clinical judgement, referring to agreed criteria, to place the patient on a defined care pathway, based on the content of a standardised form or referral letter and radiographs. The referral can be returned to the referring dentist on the following conditions; the referral being inadequate with the details provided or inappropriate for the OSS; or if the radiograph(s) is inadequate to assist in

Fig. 1 Numbers entering the OSS pathway



the treatment or is absent. The triaging OSS performer then decides whether this patient is suitable for the OSS in primary care, needs to be seen in a secondary care setting or directed to the salaried dental service (SDS).

To ensure consistency of the triage service the OSS performers routinely met for peer review. This included sampling of referral letters to reach an agreement of what is considered appropriate for OSS service. If the patient has been triaged to the OSS service, the referral was sent to the closest OSS performer to the patient's post code, unless the referring GDP has specifically requested an OSS performer.

Before payment is issued by NHS England, the OSS performer is asked to provide activity data on Excel spreadsheet which included the day the patient was seen, the treatment provided, the outcome of the appointment, if the referral was appropriate and any comments related to the episode.

To ensure that data protection requirements were addressed to a high standard all electronic correspondence between the RMC and providers is only transmitted using an nhs.net email address.

## Methodology

Data relating to service activity of the ELBwD OSS were obtained from two sources. Information regarding the referrals and the triaging process was obtained from the RMC based at Preston Healthport. The commissioners at the NHS England (Lancashire) based at the Preston Business Centre provided the activity data collated from the OSS providers.

Activity data from the financial year, 1 April 2013 to 31 March 2014 were analysed. These are the same data that are submitted to the finance officers for the Lancashire Local Area Team for remuneration.

## Results

In the financial year 2013 to 2014, there were 5,285 referrals made to the ELBwD OSS. Figure 1 summaries the pathway, demonstrating that 1,962 (37%) of the patients were direct to an OSS performer. There were 185 patients (9%) who did not attend their appointment and 597 (31%) patients who attended their appointment but no subsequent treatment provided. From the RMC, a total of 1,962 referrals were sent to the OSS whereas the number of treatment episodes that were claimed as valid was 1,772. At £120 per patient claimed as valid, £212,640 was paid out. There were 192 episodes that were not claimed as valid. The cost of triage was £19,680. For the OSS in East Lancashire and Blackburn with Darwen the cost to the commissioners was £232,320. This equates to £131.10 per patient treated. This does not include the costs of procurement and the setting up of the service; contracting of the providers which includes the interviews, provider location inspection and accreditation of the provider and the cost of the RMC.

## Reasons for referrals

The most common referral that was sent to the OSS were for the removal of retained roots that occurred as a result of a failed extraction (13%), this was followed by the request for the

removal of third molars that GDPs thought would be a difficult extraction (10%). The most common reason for a referral being sent to secondary care was due to soft tissue pathology that needed a further opinion and assessment (13%).

Table 1 summaries the individual procedures that had been performed. It is interesting to note the surgical removal of a third molar was the most commonly performed procedure (27%) in OSS despite being the second most common reason for referral.

### Waiting times

Within two weeks, 87% of the referrals received by the RMC had been triaged and sent onto the primary care-based services providers. By six weeks, 96% of referrals had been both triaged and patients attended for their first appointment.

### Attended with no treatment

The patients who attended but did not have any treatment were either referred onto secondary care or discharged back to the referring GDP (Table 2). There were 271 (14%) patients that were subsequently referred onto secondary care. The main reason was due to the patients declining or refusing a local anaesthetic for their procedure. Instead they wanted a general anaesthetic or intravenous sedation. There were 56 (25%) patients that were commented as not being suitable for an oral surgery procedure in primary care.

There were 305 (15.5%) patients that only attended for a consultation and subsequently discharged. There are three main categories of reasons why these patients were discharged. Sixty-six (22%) were related to surgical endodontic treatment. This was either due to the patient being referred for an apicectomy or the patient being asked to return to their GDP for root canal treatment instead of an extraction. Sixty-seven patients (22%) had subsequently declined the treatment they had been referred for. Fifty-seven patients (19%) were referred for an assessment of a lesion for a biopsy that was apparently not needed. Thirty patients (10%) were found to be asymptomatic from the procedure they had been referred for and discharged.

One performer was only providing treatment to 55% of their referrals compared to the other performers in which 87.5% of the patients referred had their treatment provided. Out of this cohort this performer was referring 19% of these patients onto secondary care

**Table 1** Number of procedures performed by the PC OSS providers

Procedure	Number	%
F091 Surgical removal of impacted wisdom tooth	330	27%
F094 Surgical removal of tooth	284	23%
F093 Surgical removal of wisdom tooth	161	13%
F104 Extraction of multiple teeth	128	10%
F095 Surgical removal of retained root of tooth	115	9%
F421 Biopsy of lesion of mouth	115	9%
F121 Apicectomy of tooth	48	4%
F108 Other specified simple extraction of tooth	38	3%
F281 Excision of lesion of palate	4	0.3%
F208 Other specified operations on gingiva	3	0.3%
<b>Total</b>	<b>1,180</b>	

**Table 2** Components of the activity and outcomes of the referrals sent to OSS

	Number	%	
<b>Treatment</b>	1,180	60	
<b>Did not attend</b>	Failed to attend	107	5
	Provider cancelled	43	2
	Patient cancelled	25	2
	<b>Subtotal</b>	<b>185</b>	<b>9</b>
<b>Attended but no procedure</b>	Referred to secondary care		
	Wanted GA/IV sed	151	8
	Not suitable to OSS	56	3
	No comments made	64	3
	<b>Subtotal</b>	<b>271</b>	<b>14</b>
<b>Discharged</b>	Assessment only	76	3.9
	Patient declined treatment	67	3.4
	Related to surgical endodontics	66	3.4
	Asymptomatic	30	1.3
	No outcome documented	18	1
	Not indicated by NICE	13	0.7
	GDP to manage first	3	0.2
	Referral to specialist dental services	3	0.2
	<b>Subtotal</b>	<b>305</b>	<b>15</b>
	<b>Total referrals =1952</b>		

for treatment compared to 10% by the other performers.

There were 488 (9%) patients that had been referred more than once of which 396 had been referred twice; 79 patients had been referred

three times; eight patients had been referred four times and one patient had been referred five times. It is unknown if these referrals were for the same reason or the destination of the referral.

## Discussion

In terms of level of evidence this study is cross-sectional, retrospective and observational (level 4).

A major concern of the study was the overall quality of the data that had been provided for analysis. In the first instance, the data were gathered from two different sources: the RMC and the commissioners. The two data sets could not be matched together due to the unique reference number (URN) for each patient not being passed on to the providers. If there was a need to track an individual patient's journey through the care pathway from referral to completion of the clinical episode, through primary care or secondary care or both, then without a URN, it would be difficult and time consuming to trace the footsteps of the patient along the pathway. Having a URN would have provided information to explain why there was a high number of patients that had been referred more than once in the year. The NHS number would be the ideal URN. Since the completion of this study the NHS number is now provided on all documents.

Furthermore, there were a number of gaps in the data set from both sources. The data from the RMC did not capture the desired destination that the referrer has requested. This was also missing on the referral form.

The commissioning data also had fields which were incomplete. This included information about the procedure to be performed and comments from the provider. There were a significant number of entries that were left blank or the word 'other' had been inserted. Outcome data about complications or patient experiences was also lacking. One explanation is that the activity on the Microsoft Excel spreadsheet had been entered in the interval immediately after the treatment episode. This would fail to document any subsequent issues that may have developed after the activity had been performed.

A significant finding of the study was the number of patients, 597 (31%), that were referred to the OSSs and did not receive treatment by the OSS providers. Of these 51% did not receive any treatment and 45% were referred on to secondary care. This represents a waste of resources but also patient time and further delay in receiving their treatment especially if they have been sent to an inappropriate treatment provider. The reasons for this are multifactorial. These include: the appropriateness of the referral; inadequate

information on the referral; failure of the triaging process; further consultation with the patient and assessment of what the patient had been referred for and the competency of the performer to provide treatment for the patient.

Despite being triaged, there were still a number of referrals going through the system that were deemed inappropriate. NHS England in Lancashire has provided guidelines and held engagement events about the service. There are still a number of referrals that are being sent that do not fit the remit of the service. These would include referrals for third molars that do not meet the criteria of symptoms published by National Institute of Health and Clinical Excellence (NICE). Research published by Worrall<sup>13</sup> (2001) has demonstrated that the publication of third molar guidelines has failed to influence referrals to secondary care. There was a recommendation that the issuing of guidelines should be re-enforced at local dental network meetings. The main barrier is those GDPs that are referring inappropriately are not attending these meetings.

It was observed that there were a number of procedures being referred that providers thought were level one in complexity. A newly qualified dental graduate is expected to perform a level one procedure. However, the OSS performers are still obliged to undertake these level one procedures. GDPs who are commonly referring level one procedures could potentially be breaching their contractual agreements in providing care for their patients. GDPs should declare that they are not competent in performing a level one procedure. In this case further education and teaching is required. It is the responsibility of the commissioners to identify and manage these GDPs that are frequently referring a level one procedure.

There were a small number of patients where the triage had failed to work. From the outset these patients should have been directed straight to secondary care or deemed to be not needing treatment without being seen by the OSS performer. Again, this may be due to the referral letter not providing enough information from the outset or the provider triaging the referral failing to identify where the referral should have been sent. Urgent referrals, orthodontic and restorative opinions should not have been referred on this pathway.

Analysing the comments made by the providers of the 271 patients that were referred to secondary care, 152 patients had refused or

declined to have their procedure performed under local anaesthetic and wanted a general anaesthetic. For patients who were discharged, the apparent themes were: the referral did not meet the criteria removal under the relevant National Institute for Health Clinical Excellence (NICE) guidelines; soft tissue lesions did not warrant removal or reassurance was given based on a clinical diagnosis; or the patient was currently asymptomatic for what they had been referred in for.

A possible reason that may account for these findings may be due to the GDPs not providing enough information on the referral form. This may relate to the patient's anxiety levels about having the procedure performed under local anaesthetic (LA). It was found that there were a low number of referrals stating that the patient specifically wanted a general anaesthetic (GA) or sedation or specifically not wanting a LA. As a result, these patients were being triaged to the OSS as the information provided on the referral doesn't warrant secondary care.

The initial results were presented to the commissioners at the NHS England Local Area Team for Lancashire. Their aim was for 50% of the referrals to be deflected to primary care. They were satisfied with a 41% deflection rate as this may have been underestimated. The actual number may be higher, taking into account the referrals that were sent back to the GDP and subsequently returned.

### The length of time through the pathway

This is one of the successes of this model. Within three weeks, 92% of the patients had their referral received by the RMC, triaged and sent on to the provider. By week five, 93% of patients had been seen by the provider following triage. It would seem that within eight weeks at least 92% of patients had been seen by the provider after having been referred by the GDP. This is a dramatic improvement, compared with the sometimes 18 week wait that prevails in secondary care. This mirrors findings in other literature<sup>6-8,14</sup> of the rationale of having this service in primary care. The pathway is made more efficient by having all communication and correspondence for triaging and processing of the referral between the RMC and the providers sent by secure email.

Having a reduction in the length of time a patient is treated from referral is important. Patients being referred for oral surgery

procedures are often symptomatic. Having symptoms treated in a shorter space of time can only improve the quality of life for the patient. A further benefit is the decreased rates of the patient developing an acute exacerbation of pain or infection in the time period the patient is waiting for their procedure. In a minority of cases these dental infections can be life-threatening.

What should a high quality referral look like? The evidence shows that complex and subtle judgements are involved in making a referral.<sup>15,16</sup> The referring GDP needs to consider the following factors: the social as well as the physical factors of the patient; if the patient's medical history will influence treatment; if the treatment is beyond their competency to perform; and what the patient is requesting.

Publications from the Kings Fund have summarised the characteristics of what a high quality referral would look like.<sup>15,16</sup> A high quality referral is considered to be multidimensional with four main constituents. These are: necessity, timeliness, destination and referral process.

## Necessity

Referrals are made for the following reasons: to establish a diagnosis, for treatment, for an investigation the GDP cannot order, advice on management, for a specialist to take over management, for reassurance and a second opinion for either the GDP or the patient. Deciding on whether a referral is necessary depends on the context of the referral and the criteria that the GDP will use. This will vary from GDP to GDP despite having referral guidance provided by the commissioning team. It would be useful if the above-mentioned reasons were included on the referral form.

The quality of the referral appears to facilitate how well a care pathway works. This has a knock-on effect on how triage decisions are made and if referrals are reaching an appropriate destination. From this study, 11% of the referrals were deemed unnecessary and inappropriate. These were the 229 patients that had been referred to the OSS, not treated and subsequently discharged. This needs to be improved.

Timeliness relates to the GDP's assessment of the urgency of the referral and the shortest interval the patient has to wait. As demonstrated, ELBwD OSS is highly effective in seeing patients in a relatively short space of time compared with secondary care.

## Destination

Having the patient referred to the correct destination for their treatment is a major factor in deciding whether a service is of high quality. This study has shown that 60% of the referrals sent to the providers and having treatment were sent to the correct destination. Delays in reaching the correct destination need to be avoided. It is costly and is a detriment to the patient experience. This aspect of the service can be improved by enhancing the communication between the referring dentist, the RMC and triage. Adequate information needs to be completed on the referral letter to ensure a correct decision can be made. Patient choice as to where they are treated plays a factor. Patients may not be aware of services provided in primary care. It should be the duty of the referring GDP to inform the patient.

The patient needs to have an adequate work up in preparation for the referral. For GDPs this would involve providing appropriate radiographs with the referral. From this study, 7% of the referrals were returned to the referring GDP either because they were inadequate or because appropriate radiographs did not accompany the referral.

These inefficiencies are possible due to a combination of: patient factors, quality of the referral letters, failure of the triage process and competency of the OSS performer.

Patient factors include them not attending. In this study 142 (7%) patients being referred to the OSS did not attend or cancelled their appointment. This rate is lower than what has been documented in the literature. The failure to attend rate at the Doncaster Oral Surgery Service was 14.7%.<sup>5</sup> Devlin reported a failure rate of 9.4% for patients attending routine dental practice appointments.<sup>17</sup> Despite being a relatively low rate of non-attendance, there will be a loss of income and activity for the provider who has allowed time expecting to perform a procedure. Some patients did cancel their appointments, and it is not known if they returned on another day or were referred again into the pathway.

The quality of the referral letter is essential to having a successful service. GDPs should ensure they are kept up to date with guidelines such as the NICE guidelines on third molars<sup>18</sup> and The Faculty of Dental Surgery's publication on surgical endodontics.<sup>19</sup> Using established anxiety scales for dental procedures will also assist in correctly directing the patient to the location that can best manage their needs.

The triage process needs to be robust and uniform across the performers. This can only be achieved with peer reviewed meetings between the performers to develop an agreed protocol on accepting and directing the referral letter.

An important factor is the competency of the performer to provide the service they have been contracted to do. As a recommendation any performer having a rate of 15% of their referrals being forward onto secondary care should be subject to a formal investigation in the first instance. Appropriate management and support plans may need to be implemented, but also may include withdrawal of their contract. This needs to be the responsibility of the Managed Clinical Network (MCN) and should be identified at an early stage.

The effect the OSS has had on secondary care has been investigated by the author (GC).<sup>20</sup> There was a 57% drop in outpatient dentoalveolar procedures reflecting the migration of services. These included patients who are American Society of Anaesthetists (ASA) Class I or II. Despite an initial drop in referrals and activity, over a three year period the number of referrals and activity has returned to levels before the OSS was started. This is due to an increase in activity of non-dentoalveolar (complex oral and maxillofacial) procedures. An example is the management of head and neck cutaneous malignancies. As a result, there has been no cost savings to NHS England even though the OSS is cost effective.

The MCN plays a significant role in the provision of this service by linking the providers with the Local Dental Network (LDN) and NHS England's commissioners. This requires strong leadership. Both the commissioners and MCN need to ensure there is continuous revolution of the commissioning cycle for the oral surgery service. One such cycle for ELBwD OSS has now been completed. For any service that has been commissioned, evaluation is essential. The data captured must be of good quality to allow any accurate meaningful evaluation to be delivered. Commissioners must insist on receiving accurate completed activity data from the providers before remuneration is allowed.

## Conclusion

Overall, NHS England (Lancashire) and its legacy primary care trusts has been successful in implementing an OSS, with the assistance

of a RMC. This emulates the guidance that is offered in the commissioning guide for oral surgery and oral medicine. Being located in primary care, access for patients having an oral surgery procedure has improved. The waiting time from referral to treatment has been significantly reduced. A further positive aspect of the service is that a significant component of the less complex oral surgery procedures has been migrated out of secondary care. This has provided the oral and maxillofacial surgeons with more capacity to deliver a service they have been trained to do.

However, there are still a number of issues that require attention. The number of patients attending their appointment and subsequently being discharged without treatment is a concern, this includes onward referral to secondary care. A major factor may be due to the quality of the referral letters themselves and competency of the performer.

The ELBwD OSS was implemented before the guide for commissioning oral surgery and oral medicine was published. The framework of the service was developed in anticipation of what was to be expected in the commissioning guide. From the results this has proven to be successful, but there is still a large scope for improvement from all the stakeholders.

#### Acknowledgements

The author would like to thank Mr Nick Barkworth and Mr Max Harrison the Dental and Pharmacy Contracts Managers for Lancashire and to the Local Area Team for Lancashire for allowing access to their data.

#### Conflict of interest

The author was a member of the working group developing *The Commissioning Guidelines for Oral Surgery and Oral Medicine*.

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