Royal College of Surgeons of England
ADVANCING SURGICAL CARE

ENT SURGERY

Ann R Coll Surg Engl 2021; **000:** 1–5
doi 10.1308/rcsann.2020.7034

The changing face of rhinology in the NHS: a study of septoplasty, septorhinoplasty and rhinoplasty hospital episode statistics

E Balai, K Jolly, N Bhamra, MS Osborne, J Barraclough

Department of ENT, New Cross Hospital, Royal Wolverhampton NHS Trust, Wolverhampton, UK

ABSTRACT

Introduction In 2011, septorhinoplasty and rhinoplasty were reclassified as procedures of limited clinical value in the NHS. The criteria for funding these operations varies across England. We used hospital episode statistics and freedom of information requests to review the total number of rhinology procedures performed across the previous decade, looking at trends in practice related to time, demographics and commissioning policy.

Materials and methods Hospital episode statistics for 2012–2019 were used to calculate the number of septoplasty, septorhinoplasty, rhinoplasty and reduction rhinoplasty procedures performed in children and adults. Freedom of information requests were also made to all clinical commissioning groups in England asking for number of procedures performed and number of individual funding requests made.

Results A total of 158,031 procedures were performed over this period; the majority were in adult (99.0%) men (65.7%). Septoplasty was the most frequently performed operation; however, the total numbers declined by 5.4% over this period. There was a yearly reduction in the overall number of septorhinoplasty, rhinoplasty and reduction rhinoplasty operations. Four clinical commissioning groups provided a detailed breakdown of data by year and procedure. Those that required individual funding requests for all cases saw septorhinoplasty numbers fall by 81% and 75% over the period. Those that did not, saw numbers increase or remain the same.

Conclusions We found an overall year-on-year reduction in the number of rhinology operations being performed in the NHS, but variation in trends between different clinical commissioning groups. A reduction in operative activity likely represents the effect of underlying restrictions on commissioning rather than reduced clinical need.

KEYWORDS
Otolaryngology – Rhinology – Trends – Surgical training

Accepted 15 July 2020

CORRESPONDENCE TO
Edward Balai, E: edward.balai@nhs.net

Introduction

Septoplasty is a procedure to correct a deviated nasal septum with the aim to improve nasal airway function; it is one of the most common procedures performed in the UK.[1] Rhinoplasty describes removing or reshaping cartilage or bone of the nose for functional gain in traumatic or congenital cases or to improve cosmetic appearance. Septorhinoplasty involves a combination of the two operations and is used in cases where aspects of both are required.[2]

Despite significant evidence demonstrating these procedures are clinically effective, the 2010s saw the NHS commissioning guidelines undergo regular scrutiny.[3–5] The 2011 Audit Commission report on reducing spending on low-value treatments listed septorhinoplasty and rhinoplasty as procedures of limited clinical value in the NHS. They were grouped under 'potentially cosmetic interventions' and considered low priority procedures.[6]

Clinical commissioning groups were created following the Health and Social Care Act 2012, replacing primary care trusts to become responsible for planning and commissioning health services for their local area in April 2013.[7] The Getting It Right First Time (GIRFT) national specialty report of November 2019 found vast variation in the rates of septoplasty across clinical commissioning groups in the UK.[1] A recent survey conducted by Ross and Anari also found disparity between individual clinical commissioning groups in England regarding their criteria for approval and funding of septorhinoplasty and rhinoplasty procedures.[8]

While concerns from the profession have been voiced as to the need for national consensus,[9] no study has yet looked at the total numbers of these procedures being performed in the NHS and whether this is subsequently changing.

The Hospital Episodes Statistics (HES) database is maintained by the Department of Health and contains details of all procedures performed at NHS hospitals across England.[10] While private hospitals are not included, private patients treated in NHS hospitals are. Each surgical procedure and its related statistics can be isolated for analysis by selecting its unique four-character

OPCS-4 code. This study used HES to review the total number of these procedures performed in both adults and children across England and to identify whether there were any trends across the study period related to time or patient demographic. Through direct freedom of information requests, we also aimed to get an insight into the number of septorhinoplasty and rhinoplasty procedures performed at an individual clinical commissioning group level.

Materials and methods

'Main procedures and interventions' data for the available years (2012–2019) were downloaded in Microsoft Excel format from the HES database. The operative (OPCS-4) codes E02.3, E02.4, E02.5, E02.6, E07.3 and E03.6 relating to 'septoplasty', 'septorhinoplasty using implant', 'septorhinoplasty using graft', 'septorhinoplasty not elsewhere classified (NEC)', 'rhinoplasty' and 'reduction rhinoplasty' procedures were considered for analysis. The codes for 'total reconstruction of the nose (E02.1)' and 'reconstruction of the nose (E02.2)' were excluded. HES data are divided into 24 age categories; data for children (0–15 years) and adults (16–90+ years) were amalgamated for comparison.

HES data are based on the number of hospital episodes rather than individual patients. It is possible that a patient will have had more than one of the included coded operative procedures during this period. The data cannot therefore also be taken as an exact count of the total number of individual patients treated. While extremely useful for the analysis of trends, HES data are potentially limited by data entry errors. An assumption is made that each operative procedure has been coded and entered on the database correctly.

Freedom of information requests were made to all clinical commissioning groups in England asking specifically for the number of septorhinoplasty and rhinoplasty procedures performed in each year in the period 2012–2019, as well as the number of individual funding requests approved for these procedures and the number rejected. We also examined the individual commissioning criteria policies for these procedures within each clinical commissioning group.

Results

Between the years 2012–2019, there were 158,031 septoplasty, septorhinoplasty, rhinoplasty or reduction rhinoplasty procedures performed in NHS hospitals in England (Table 1). Over 99% of cases were in adult patients, with only 1,343 procedures performed on children over this period. There were 103,828 (65.7%) procedures performed on male patients compared with 54,203 (34.3%) in female.

Septoplasty was the most commonly performed operation; 67.3% of patients were male, 99% of cases were in adults and it was most frequently performed in patients aged 30–34 years. The total number of septoplasties declined by 5.4% over the study period (Figure 1). The number of cases increased from 17,612 in 2012 to 18,540 in 2013, before steadily falling to 16,662 in 2018. While children made up a minority of the total, the number of procedures in this subgroup fell by 34.9% over the period.

For all septorhinoplasty operations, 62% of patients were male, 98.9% were adults and the procedure was most frequently performed in patients aged 20–24 years. The total number of procedures fell by 9.4% over the study period (Figure 1). Again, we found the number of cases initially increased slightly from 4,677 in 2012 to 4,891 in 2013, before declining each year to 4,237 in 2018. The number of procedures performed in children fell by 43.4%. When each of the septorhinoplasty procedure codes was separated out for analysis, interestingly, we found a 36% increase in the number of 'septorhinoplasty with graft' operations performed. The total number rose each year from 1,290 in 2012 to 1,760 in 2018.

For rhinoplasty operations, 96.7% of cases were in adults with 57.7% performed in female patients. For reduction rhinoplasty, 98.4% were performed in adult patients, 65.3% were performed in females. Both

Table 1 Rhinoplasty procedures performed in England, 2020–2019.

	Septoplasty			Septorhinoplasty			Rhinoplasty			Reduction rhinoplasty		
Study period	0–15 years	16+ years	Total	0–15 years	16+ years	Total	0–15 years	16+ years	Total	0–15 years	16+ years	Total
2012–2013	169	17,433	17,612	53	4,624	4,677	26	595	621	2	48	50
2013–2014	182	18,358	18,540	42	4,849	4,891	26	560	586	1	52	53
2014–2015	166	17,721	17,8876	42	4,800	4,842	13	495	508	1	59	60
2015–2016	102	17,389	17,491	42	4,629	4,671	16	443	459	0	49	49
2016–2017	101	17,236	17,337	41	4,511	4,552	12	428	440	0	31	31
2017–2018	118	16,612	16,730	32	4,246	4,278	6	357	363	1	29	30
2018–2019	110	16,552	16,662	30	4,207	4,237	9	330	339	0	35	35

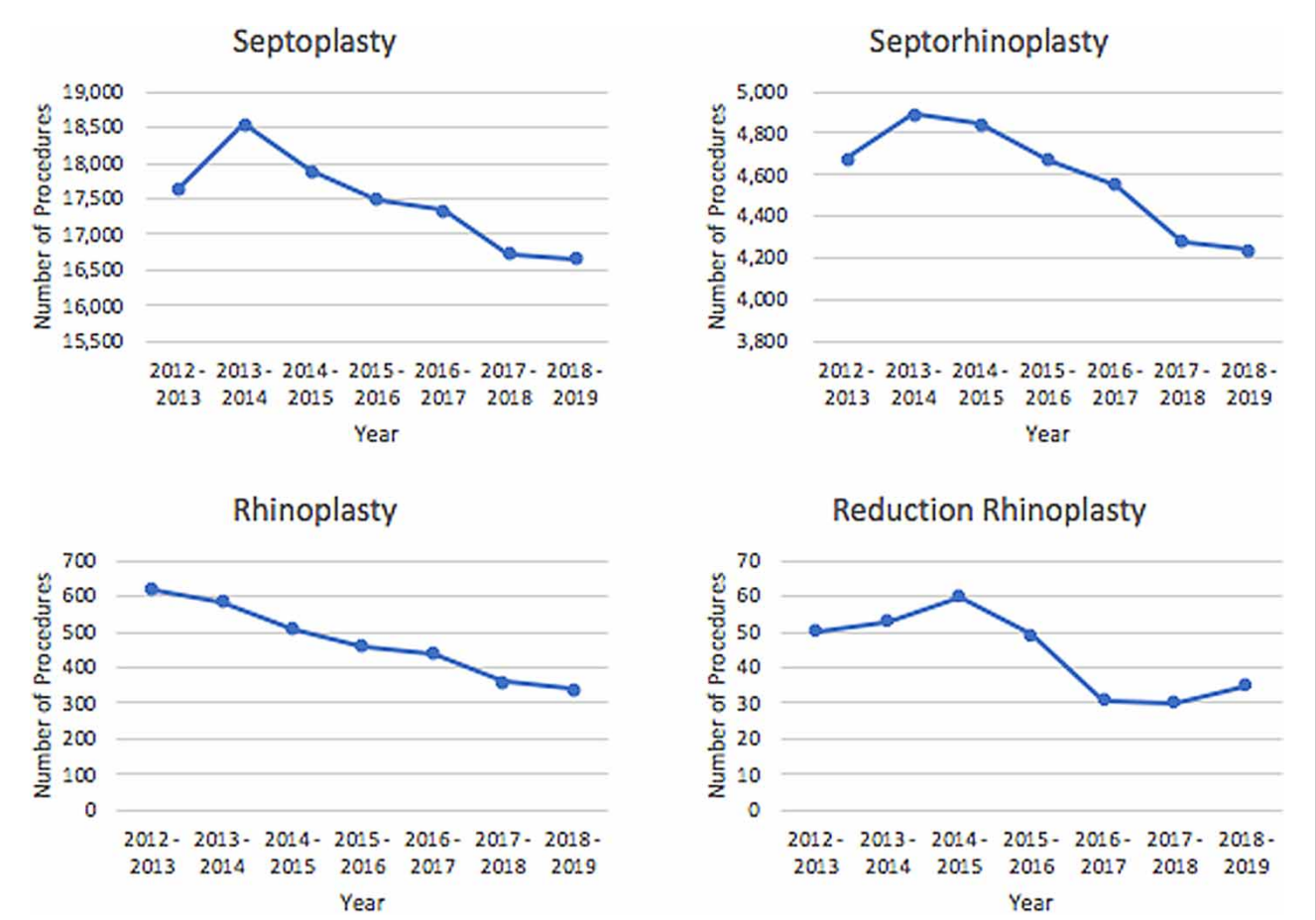

Figure 1 General trends in the number of rhinology procedures performed each year in England, 2012–2019

operations were most frequently performed in patients aged 20–24 years. Rhinoplasty and reduction rhinoplasty operations year totals fell from 621 to 340 (45%) and 50 to 35 (30%) respectively (Figure 1).

There are 135 clinical commissioning groups in England; we received responses to our freedom of information request from 24. Of these, four clinical commissioning groups provided a detailed breakdown of the data by year and procedure that could be used in the analysis.

In the first group of clinical commissioning groups, the commissioning policy required an individual funding request in every instance, including cases of post-traumatic obstruction or septal deviation. All requests needed to be accompanied by four-way-view medical photography. Aside from congenital nasal deformity, requests for rhinoplasty were required to meet five separate clinical criteria. Over the study period, the number of septorhinoplasty procedures fell from 32 in 2012 to 6 in 2018 and the number of rhinoplasty procedures fell from six to one. The percentage of septorhinoplasty individual funding requests that were rejected increased from 12% to 88%.

The second group similarly had a commissioning policy that required an individual funding request for all cases. They did not have an extensive specific list of clinic criteria, but instead stated that cases are considered on an individual and exceptional basis in the presence of nasal obstruction, deformity caused by trauma or for correction of complex congenital conditions. This clinical commissioning group saw a steady decrease in the number of septorhinoplasty procedures performed, falling from 28 in 2012 to 7 in 2018. The number of rhinoplasty procedures was relatively unchanged over the period, with between three and five performed each year. Unfortunately, no data were provided on individual funding requests by the clinical commissioning group.

The third clinical commissioning group had a policy that required an individual funding request for rhinoplasty or septorhinoplasty procedures being considered for severe functional problems. It did not specify exact clinical criteria, but instead stated that cases would be considered on an exceptional basis. However, they did not require funding approval for cases of post-traumatic airway obstruction or septal deviation.

While only 10 individual funding requests were made for both types of procedure over the whole period, the total number that were performed increased. Septorhinoplasty procedures increased from 22 in 2013 to 44 in 2018, and rhinoplasty procedures increased from fewer than 5 to 9.

The fourth clinical commissioning group used a 'prior approval' policy whereby individual funding requests were not required if the case was deemed by a consultant to meet the specific policy criteria. These included problems caused by obstruction of the nasal airway where conservative treatment has been exhausted, post-traumatic nasal deformity and the correction of congenital conditions. The number of septorhinoplasty procedures performed was unchanged over the study period, with 49 performed in 2012 and 46 in 2018. The number of rhinoplasty procedures was consistently low, with fewer than five performed each year over the period. Of a total 305 procedures, individual funding requests were made for just 19, with 53% approved.

Discussion

This study shows that for all these rhinology procedures there has been a general downwards trend in total numbers performed over the past seven years. This was seen for both adult and paediatric cases. While septoplasty procedures made up the vast majority of the workload, the greatest percentage reduction was seen for the rhinoplasty and reduction rhinoplasty operations. Septoplasties tended to be performed in a slightly older group of patients compared with septorhinoplasty and rhinoplasty procedures. Septoplasty and septorhinoplasty procedures were more commonly performed in male patients, whereas rhinoplasty and reduction rhinoplasty patients were more likely to be female.

Interestingly, we found that despite an overall reduction in the total number of septorhinoplasty operations being performed, there was around a one-third increase in the 'septorhinoplasty with graft' subgroup over the study period. It is difficult to draw conclusions about this subgroup as HES do not include any data about the individual cases. It may represent increasing popularity of this type of septorhinoplasty, an increase in the number of patients requiring grafts as part of a revision operation or a change in the procedure coding practice over the study period.

There is significant evidence to support the clinical effectiveness of both septoplasty and septorhinoplasty surgery.[2–4] The literature demonstrates that surgery is more effective than maximal medication for treatment of nasal blockage due to nasal septum deviation, and that it can achieve sustained improvements in objective nasal patency and quality of life. The reduction in operative activity that we have seen may represent declining clinical need, increasingly rigorous case selection or may simply be a consequence of stricter commissioning criteria.

The GIRFT national specialty report 2019 noted national variation in the rates of septoplasty across England, reflecting the fact that there is currently no standardised national guidance on the indications for this procedure.[1] Similarly, Ross and Alani found clinical commissioning group funding criteria for septorhinoplasty and rhinoplasty procedures to be particularly heterogeneous.[6] Some groups were at one end of the spectrum with no restrictions on these procedures, allowing each case to be judged by the consultant ear, nose and throat surgeon, whereas others were the polar opposite, requiring individual funding requests in every case regardless of the functional problems.

In this study, we were able to get a snapshot of practice across a number of clinical commissioning groups that had variable commissioning policies. We found that, while the overall clinical criteria might be similar, groups that required individual funding requests for every single case as a standard were seeing a steady decline in the number of procedures being performed. Interestingly, but perhaps unsurprisingly, the groups found to have the most extensive and specific criteria had seen the greatest fall in the total number of procedures performed and reported the greatest percentage of individual funding requests rejected. The clinical commissioning group that used a 'prior approval' policy instead of a blanket requirement for individual funding requests saw a similar number of procedures performed each year. This would suggest that demand, within this region at least, did not change over the study period.

Unfortunately, we were only able to obtain relevant data from a small sample of clinical commissioning groups following our freedom of information requests; this process was unfortunately hindered by the current COVID-19 pandemic, which led to responses to requests being delayed. To try to understand whether there had been a change in clinic need, we attempted to access data relating to general practitioner referrals and outpatient clinic episodes. Unfortunately, access to these data held by NHS Digital requires payment of a significant data handling fee, payment of which was outside the capacity of this study.

Without a national consensus on the indications and required commissioning criteria for these procedures it is difficult to predict what the future trends are likely to be. The current downward trend is concerning. First, it may be indicative of declining access to these effective surgical treatments due to an underfunded system and thus rationing of healthcare. Second, and of particular importance in the context of the current COVID-19 epidemic, we must consider the significant negative impact a continued downward trend could have on the training of current and future ear, nose and throat surgeons.

References

1. Marshall A. *Ear, Nose and Throat Surgery: GIRFT Programme National Specialty Report*. NHS; 2019. https://gettingitrightfirsttime.co.uk/surgical-specialty/ear-nose-and-throat-surgery (cited November 2020).
2. Rowe-Jones J. *About Septal Surgery*. London: ENT UK; 2015. https://www.entuk.org/sites/default/files/files/2012-2015%20About%20Septal%20Surgery%20(09005).pdf (cited November 2020).

3. Van Egmond M, Rovers M, Hannink G *et al.* Septoplasty with/without concurrent turbinate surgery versus non-surgical management for nasal obstruction in adults with a deviated septum: a pragmatic, randomised controlled trial. *Lancet* 2019; **394**: 314–321.
4. Andrews P, Choudhury N, Takhar A *et al.* The need for an objective measure in septorhinoplasty surgery: are we any closer to finding an answer? *Clin Otolaryngol* 2015; **40**: 698–703.
5. Gerecci D, Casanueva F, Mace J *et al.* Nasal obstruction symptom evaluation (NOSE) score outcomes after septorhinoplasty. *Laryngoscope* 2019; **129**: 841–846.
6. Audit Commission. Reducing spending on low clinical value treatments. Apr 2011 (cited 3rd March 2020).
7. NHS Clinical Commissioners. About CCGs. https://www.nhscc.org/ccgs (cited November 2020).
8. Ross E, Anari S. Clinical commissioning group criteria for rhinoplasty and septorhinoplasty in England: survey of current guidance. *J Laryngol Otol* 2018; **132**: 591–595.
9. Unadkat S, Pendolino AL, Joshi A *et al.* A national survey of functional septorhinoplasty surgery performed in the United Kingdom: a clinician end-user questionnaire to assess current practice and help inform future practice. *Eur Arch Otorhinolaryngol* 2020; **277**: 475–482.
10. NHS Digital. Hospital Episode Statistics. About the HES database. https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics (cited November 2020).