To accept, or not to accept? A service evaluation to appraise complexity assessment of orthodontic patients referred into a secondary care setting

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Key points

- Highlights the disparity between the outlined orthodontic commissioning complexity levels and how commissioners assess the appropriate acceptance of patients in secondary care settings.
- The significance of this inconsistency is demonstrated in this service evaluation.
- Suggests a change to how complexity of patients is assessed in order to better reflect the NHS commissioning guidance.

Abstract

Introduction Commissioners in England use the Commissioning for Quality and Innovation (CQUIN) payments mechanism to encourage the best provision of orthodontic treatment. However, CQUIN only use the patient's orthodontic need as a measure of complexity, rather than the levels outlined in the orthodontic commissioning guide published by NHS England. A service evaluation was designed to ascertain a secondary care setting's compliance with the commissioning complexity levels, as a new comparator for CQUIN case-mix assessment.

Materials and methods A prospective evaluation was conducted for all new patients referred to the Mid Yorkshire NHS Trust orthodontic department in a 12-month period, using the levels categorised by the commissioning guide. A standard was set to accept no fewer than 80% level 3b patients.

Results Of patients accepted for orthodontic treatment, 89.9% were of the highest level 3b complexity. This was compared to only 69.8% of patients having an Index of Orthodontic Treatment Need, Dental Health Component, 5.

Conclusion The findings support a recommendation that commissioners should consider complexity based on the commissioning guidance, rather than orthodontic need alone; it is important that the economic drivers of commissioning implementation fairly reflect the specialist work being carried out by the workforce.

Introduction

The delivery of orthodontic treatment has changed and developed over many decades and there are now well established networks of primary and secondary care providers. Unlike the delivery of the majority of dental treatment, specialists provide a significant proportion of NHS orthodontic treatment, with almost 90% undertaken by specialist providers in primary care.[1]

There is an aspiration, articulated in the *Introductory guide to commissioning dental specialties*[2] that as much care as possible should take place in primary care because of the perceived improvement in value for money, as well as offering care 'closer to home'.[2] Patients with complex orthodontic problems may require a multidisciplinary team approach and this is often more appropriately offered by an orthodontist at a consultant level. Currently, this service is offered in a secondary or tertiary care setting in either a district general hospital or a dental teaching hospital. Examples of patients requiring multidisciplinary care include patients with cleft lip and palate, those with special medical or learning needs, patients with facial deformity, restorative cases with hypodontia, orthodontic treatment requiring oral surgery, and patients with complex malocclusions.

There are several factors that need to be considered in order to understand the complexity of an orthodontic patient. These include the type of malocclusion, the proposed treatment modality, technical difficulty in improving function and aesthetics, together with any patient modifying factors. The *Guides for commissioning dental specialties: orthodontics* defines complexity levels as follows (Fig. 1):[1]

Level 1

Treatment and care undertaken in NHS primary dental care mandatory contracts and NHS England commissioning expectations of care provided.

Level 2

Treatment undertaken by practitioners, under specialist supervision and with a formal link to a consultant-led managed clinical network (MCN). This includes dentists who have enhanced skills and/or experience; non-specialists who have demonstrated the competencies detailed in the curriculum for the primary care dentist with a special interest in orthodontics, either by obtaining the diploma in primary care orthodontics or by demonstrating equivalence.

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Refereed Paper.
Accepted 18 January 2019
DOI: 10.1038/s41415-019-0384-6

Level 3a

Treatment undertaken by practitioners who are on the specialist list for orthodontics with a formal link to a consultant-led MCN. This is predominantly primary care treatment, which could be delivered in either a primary or secondary care setting.

Level 3b

Treatment undertaken by practitioners who are on the specialist list for orthodontics and have undergone an approved period of further post-specialist training or who can demonstrate equivalence. Level orthodontic treatment is generally delivered within a secondary care setting.

Background

Currently, the training of the future specialist workforce is undertaken in secondary and tertiary care environments, with the resource and funding for these departments being significant. It is accepted that a small number of level 3a or below patients will need to be taken on for treatment in these centres, both as cases for training grades and for breadth of learning.[3] However, the number of patients with this degree of complexity accepted for treatment in secondary/tertiary care should be kept to a minimum, with the vast majority being treated in primary care by a specialist orthodontist practitioner (SOP) or a dentist with specialist interest (DWSI). This will ensure patients receive the treatment they require, in the most appropriate healthcare setting, ensuring quality and value for money for the NHS.

Commissioners in England use the Commissioning for Quality and Innovation (CQUIN) payments mechanism to encourage the best provision of care in secondary care settings. The system was introduced in 2009 to make a proportion of healthcare providers' income conditional on demonstrating improvements in quality and innovation in specified areas of patient care.

Commissioners in Yorkshire and the Humber decided that the CQUIN process should focus on the Index of Orthodontic Treatment Need, Dental Health Component (IOTN DHC) of orthodontic patients accepted for treatment in secondary care. This was to allow comparison of secondary care departments to primary care providers, where these data were already readily available. However, this metric focuses on the patient's orthodontic need as determined by the patient's IOTN DHC and not the overall complexity of treatment. It was felt that the patient's treatment complexity, as defined in the commissioning guides, was a more appropriate measure to ascertain patient complexity and demonstrate the role of secondary care providers. It was, therefore, decided to undertake a service evaluation of the case-mix of patients being referred to and accepted for treatment at the Mid Yorkshire NHS Trust, using the orthodontic commissioning guide's levels of patient complexity as the comparator.

Located in the county of West Yorkshire, the Mid Yorkshire NHS Trust covers a population of approximately 550,000. The orthodontic team includes two orthodontic consultants (part-time), three speciality-training registrars (StRs), an orthodontic therapist (OT) and two dental core trainees (DCTs). There are, on average, 20 clinical sessions a week in the department and 12 of these are delivered by

Fig. 1 Orthodontic complexity assessment and appropriate treatment. Contains public sector information licensed under the Open Government Licence v3.0[1]

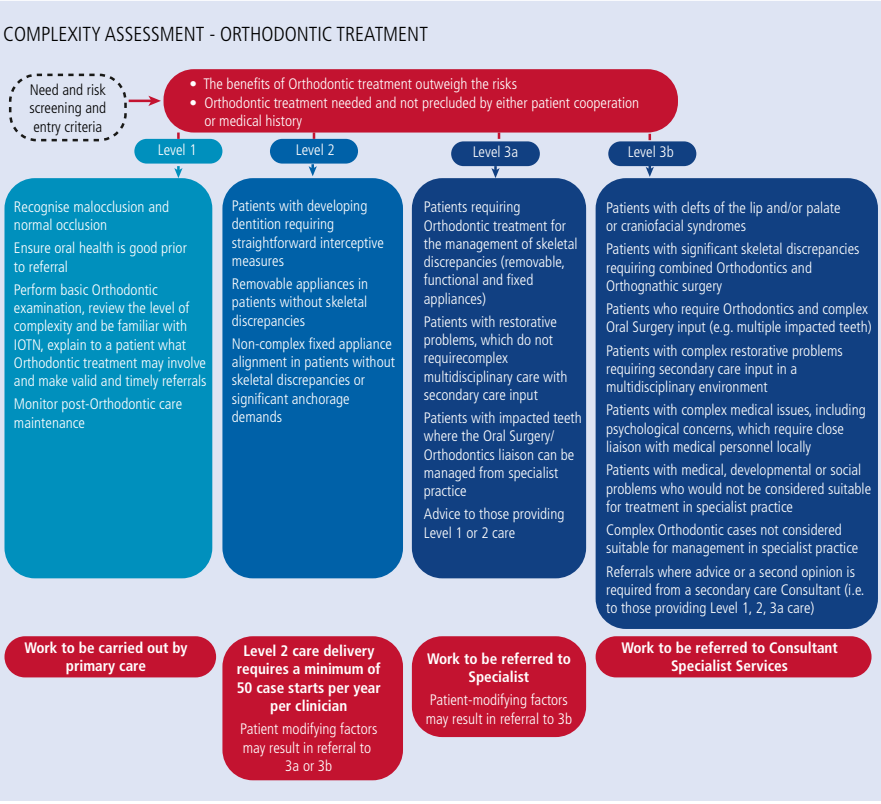


Fig. 2 Outcome of new patient assessment

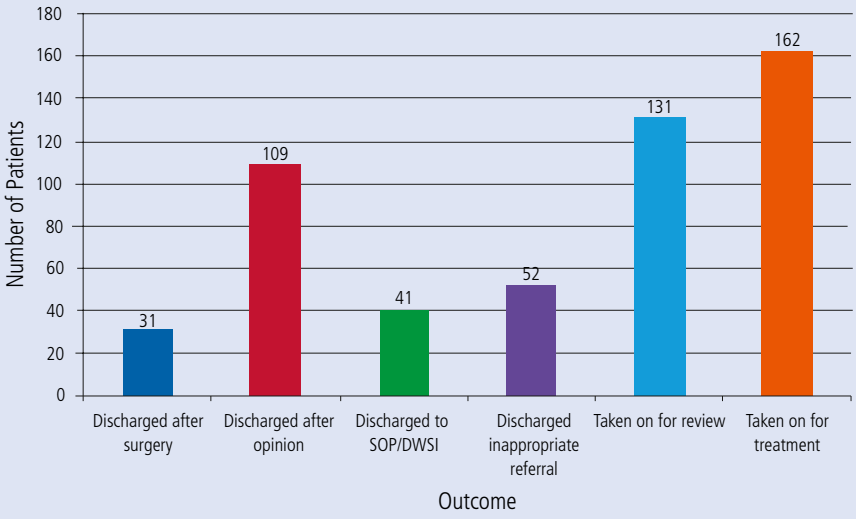
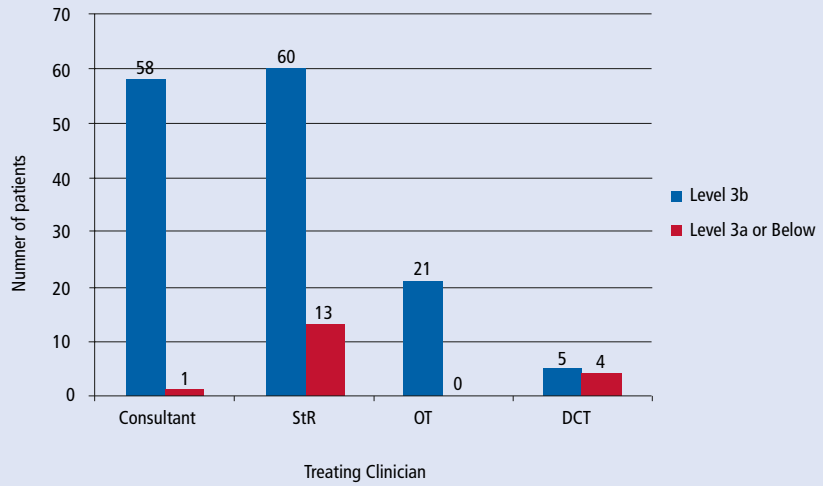


Fig. 3 Complexities of patients treated by different clinicians



trainees. The area has two specialist practices, both with significant waiting lists, and a small number of DWSIs who provide orthodontic treatment in primary care.

Aim

Through this service evaluation, it was hoped to determine the department's compliance with the *Guides for commissioning dental specialties: orthodontics* as a new comparator for CQUIN case-mix assessment.[1] Ascertaining information on outcomes of new patient assessments was listed as a supplementary objective.

Comparator for the evaluation

The orthodontic commissioning guide does not define a set quota for secondary care complexity. However, it was felt that accepting no fewer than 80% level 3b patients into the department, allowing 20% lower complexity patients for training purposes, was adequate based on the number of trainee sessions within the service.

Materials and methods

All new patients referred into the Mid Yorkshire Trust orthodontic department in a 12-month period, between April 2016 and March 2017, were assessed for their suitability of inclusion to this prospective service evaluation. Exclusion criteria included: patients that failed to attend after their new patient assessment; and obstructive sleep apnoea patients referred for treatment with mandibular advancement appliances.

Patient information was gathered using a data capture form designed for the evaluation. It recorded the outcome of the new patient assessment and features of the patient's complexity (orthodontic treatment required, medical conditions, behavioural issues, the need for interdisciplinary management, patient cooperation, motivation and social wellbeing). Each patient was assigned a complexity level by a consultant orthodontist using the descriptors detailed in the commissioning guide. A second member of the team, using the patient notes, verified the complexity ratings separately. If there were any discrepancies, a consensus decision was reached. The principal treating clinician was also noted for each patient. The data were recorded, interpreted and analysed using Microsoft Excel.

The results of the service evaluation were presented to members of the Mid Yorkshire Trust oral and facial team at a local staff meeting. After several months of implementation of the action plan, a second service evaluation will be conducted.

Results

Outcome of new patient assessment

In a 12-month period at Pinderfields Hospital, 572 patients attended an assessment appointment on a new patient clinic. Out of those, 46 patients were taken on for treatment of obstructive sleep apnoea and excluded from the service evaluation. Of the remaining 526 patients, 162 (28.3%) were accepted for orthodontic treatment in the department, 131 (22.9%) of the patients were identified for review or monitoring, and 233 (44.3%) patients were discharged for a variety of reasons (Fig. 2). These reasons included: 52 (9.1%) patients discharged because the referral was inappropriate; 41 (7.2%) patients discharged for treatment by a SOP or DWSI; 109 (19.1%) patients discharged after an orthodontic opinion; and 31 (5.4%) patients discharged back to their GDP or SOP after surgical intervention (after exposure, extraction or surgical extraction of one or more teeth).

Complexity of patients

Level 3b patients constituted 89.9% (144 of 162) of those accepted for orthodontic treatment. Consultants undertook 58 (35.8%) patients' treatment and 21 (14.6%) patients were seen by an OT. The majority of complex patients were taken on by StRs (60 patients, 37%). A minority were treated by a DCT (five patients, 3.1%). Eighteen of the 162 patients (11.1%) taken on for treatment were identified as being of complexity level 3a or below. Nearly all were taken on for treatment by trainees: 80.2% (13 patients) by StRs and 22.2% (four patients) by a DCT. A consultant treated one patient and no low-complexity patients were seen by the orthodontic therapist (Fig. 3).

Comparison of commissioning complexity and IOTN grade 5

The IOTN data for the patients accepted for treatment were also analysed. Of the 162 patients taken on for treatment, only 113 patients (69.8%) scored an IOTN DHC 5. This is compared to the acceptance of 89.9% patients scoring level 3b.

Discussion

The department achieved the comparator of accepting over 80% level 3b complexity patients. The implementation of the service evaluation was analysed and an action plan created to address the areas of improvement required. This included an information update on the *Guides for commissioning dental specialties: orthodontics* to increase awareness of the patient case-mix.[1] It was also decided to clearly document the level of complexity (level 1–3b) on every new patient assessment sheet, for ease of review of the notes in future evaluations. Furthermore, it was realised that setting a comparator of 90% of level 3b complexity patients could be achievable; this will be the comparator for the second cycle of the service evaluation. In future, it is also anticipated that all low-complexity patients will be treated by trainees.

The majority of patients referred into the department were taken on for active treatment, which was a positive finding from the evaluation. A minority of patients were taken on for monitoring. Certain patients with complex treatment needs often benefit from monitoring their condition to assess whether the condition is worsening, and others are referred too early to consider immediate treatment. The proportion of inappropriate referrals (9.1%) to the Mid Yorkshire NHS Trust orthodontic department was lower than the reported regional Yorkshire and Humber 'discharge after assessment' rate of 13.2%.[4]

When comparing 'IOTN DHC grade 5' and 'level 3b' as the highest complexity level descriptors, there is a significant difference (19.9%) between the numbers of patients identified. It is well-known that the complexity of treating an orthodontic patient is not merely determined by their IOTN but also by other factors such as medical complexity, behavioural issues, the need for interdisciplinary management, patient cooperation, motivation and social wellbeing. It is, therefore, clear from the results that using an IOTN grading would not correctly reflect that appropriate patients were being accepted by the department. This is a flaw in the CQUINS payment mechanism and could be seriously affecting the funding to secondary care providers.

There has long been a desire to move care for those patients, where it is appropriate, from secondary to primary care. It is envisaged that this will enable treatment to be delivered more cost effectively and closer to home. Secondary services should be there to treat those patients who required consultant-led care and to continue to train the workforce of the future. This aspiration has yet to be realised for a number of reasons: there is no effective mechanism to triage referrals to the most appropriate clinical environment; long waiting times in primary care; and difficulty in accurately defining those patients who should be treated in secondary care.

Conclusion

The findings from the evaluation support a recommendation that commissioners and consultant-led services should consider complexity based on the commissioning guidance, rather than IOTN alone, when determining acceptance criteria for treatment. *Guides for commissioning dental specialties: orthodontics* describes the aspiration of delivering better outcomes for patients, through the effective commissioning of dental care by the most appropriate part of the workforce.[2] The document describes itself as a 'framework of implementation'; it is important the economic drivers of this framework fairly reflect patients' needs and the specialist work being performed. The synthesis of these two concepts will help to drive the change to improve patient care. This service evaluation shows that modern secondary care departments can effectively deliver this aspiration while training tomorrow's workforce. The development of an integrated primary and secondary care service will be strengthened with the continued development of referral systems and managed clinical networks.

Acknowledgements

The authors would like to acknowledge the efforts of all members of the orthodontic department for their input in collecting data.

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